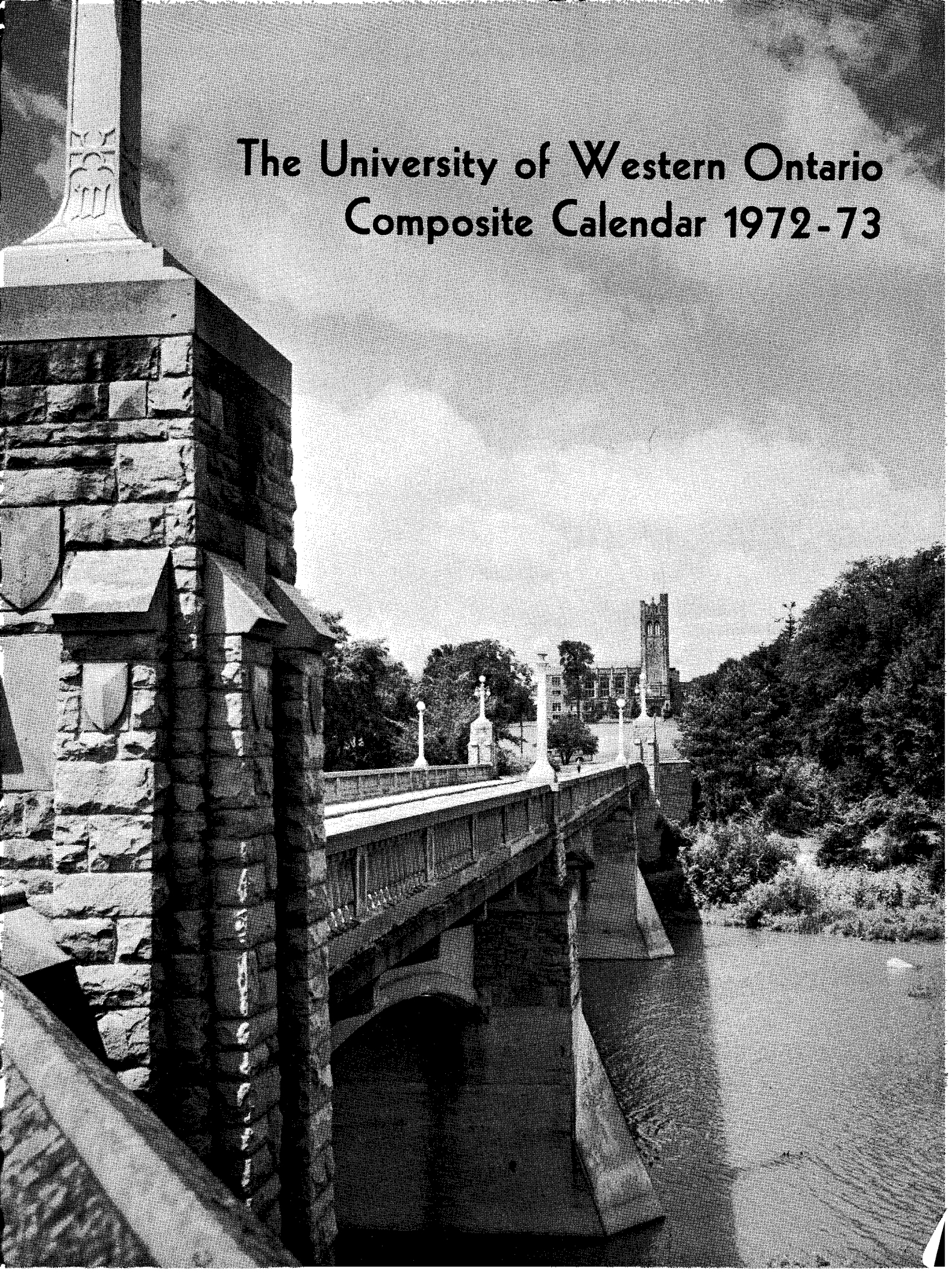
The University of Western Ontario
Composite Calendar 1972-73



1972

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Undergraduate Academic Calendar

Faculties of Arts, Science, Social Science, Physical Education and Music

1972

June 2, Friday	Last day for receiving admission applications for Summer Day Session from students applying for the first time. All supporting documentation must be submitted within seven days of this date.
June 16, Friday	Last day for receiving registration forms for Summer Day Session.
June 30, Friday	Last day for receiving admission applications for Winter Session 1972/73 (full and part-time intramural) from students applying for the first time.
July 4, Tuesday	Summer Day Session begins.
July 15, Saturday	Last day for dropping a Summer School Course without penalty.
August 11, noon Friday	Summer School lectures end.
August 11, p.m. Friday - August 17, Thursday	Summer School examinations.
August 31, Thursday	Last date for return of Mail Registration in Professional Programs.
September 1, Friday	Last day for receiving admission applications for Winter Extension and Correspondence Courses 1972/73 Session from students applying for the first time. All supporting documentation must be submitted within seven days of this date.
September 11, Monday	First Day Freshmen Registration.
September 12, Tuesday	*Second Day Freshmen Registration.*
September 13, Wednesday	Registration in all courses in Honors Programs - Faculties of Arts, Science, Social Science. Registration in Upper Years - Faculties of Engineering Science, Music, Nursing; Departments of Home Economics, Secretarial Science, Communication Disorders, Occupational Therapy, Physical Therapy.
September 14, Thursday	Registration in all courses in Three Year Programs in Social Science (2nd & 3rd Years). — Last day for receiving registration forms for Extension and Correspondence Courses
September 15, Friday	Registration in all courses in Three Year Programs in Arts and in Science (2nd & 3rd Years).
September 18, Monday	Classes begin.
September 23, Saturday	Extension Classes begin in out-of-town Centres.
September 25, Monday	Extension Classes begin on London Campus.
October 9, Monday	Thanksgiving Holiday.
October 13, Friday	Last day for late registration of full-time students. — Last day for adding any course.
October 27, Friday	Autumn Convocation.
November 3, Friday	Last day for dropping a First Term half course without penalty.
December 16, Saturday	Classes end, First Term ends for all Faculties except Dentistry, Medicine and Law.

1973

January 8, Monday	Classes resume.
January 15, Monday	Last day for dropping a full course without penalty.
February 1, Thursday	Last day for receiving admission applications for the Faculty of Medicine.
February 23, Friday	Last day for dropping a second term half-course without penalty.
February 26 - March 3	Conference Week.
March 1, Thursday	Last day for receiving admission applications for the Faculty of Dentistry. Last day for receiving applications for graduation.
March 31, Saturday	Last day for receiving admission applications for *Program in Occupational Therapy.*
Friday, April 6	Last day for receiving admission applications for Evening Summer School from students applying for the first time. All supporting documentation must be submitted within seven days of this date.
April 14, Saturday	Last day of classes; Second Term ends for all Faculties except Dentistry, Medicine and Law.
April 16 - May 8	Examinations.
April 20	Good Friday.
April 23, Monday	*Last day for receiving registration forms for* Summer Evening Session.
April 30, Monday	Last day for receiving admission applications for Program in Physical Therapy.
May 9, Wednesday	Summer Evening Classes begin.
May 31, Thursday	Last day for receiving admission applications for Program in Communication Disorders.
Friday, June 1	Last day for receiving admission applications for Day Summer Session from students applying for the first time. All supporting documentation must be submitted within seven days of this date.
June 4 - 8	Spring Convocation.
Friday, June 16	Last day for receiving registration forms for Day Summer Session.

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General Information

Notice

1. The Senate and the Board of Governors of the University of Western Ontario reserve the right to make changes in this calendar without prior notice.

2. Information and faculty listings herein are effective January 1, 1972. For up-to-date information, see the Faculty or Department concerned.

The University of Western Ontario

The University of Western Ontario is composed of the Faculties of Arts, Science, Social Science, Music, Dentistry, Engineering Science Graduate Studies, Law, Medicine, Physical Education and Nursing; the Schools of Business Administration, Library and Information Science; and Althouse College of Education. The Faculties of Arts, Science, Social Science and Music were established in 1968 following a reorganization of the Faculty of Arts and Science which had been in existence since 1943. "The Western University of London, Ontario" received its charter from the Legislature of the Province of Ontario in 1878. The first classes graduated in Arts and in Medicine in 1883. In 1923, by Act of the Provincial Legislature, the name of the University was changed to "The University of Western Ontario". By an Act of 1955 its powers were further defined and these were revised by The University of Western Ontario Act of 1967.

In 1912 control of the Medical School by a joint stock company ended and it became the Faculty of Medicine, under the direction of the University Board of Governors.

The Faculty of Arts was closed from 1885 to 1895. In 1908 its charter was amended so that it became undenominational and was permitted to receive financial assistance from the City of London and later from the Province.

In 1924 the Faculty of Arts was moved to the present campus and in 1943 was renamed the Faculty of Arts and Science.

Middlesex College in 1958 and Talbot College in 1965 were established within the Faculty of Arts and Science.

Music Teachers' College was founded in 1945 and affiliated with the University. In 1958 it became a college of the Faculty of Arts and Science and its name was changed to the College of Music in 1961. In 1969 it was renamed the Faculty of Music.

The Institute of Public Health was opened in 1915, and in 1917 became the Faculty of Public Health. In 1946 one section became a Provincial Laboratory and the other section the School of Nursing which was relocated on the main campus in 1951. In 1969 it was renamed the Faculty of Nursing.

A separate Faculty of Graduate Studies was created in 1947, although postgraduate degrees had been conferred for many years.

The School of Business Administration was founded in 1950. Business Administration had been an honors program offered in the Faculty of Arts from 1920 to 1950.

The Faculty of Law was established in 1958.

In 1960 the Faculty of Engineering Science was established. From 1954 to 1960 Engineering Science was an honors program in the Faculty of Arts and Science.

The Faculty of Dentistry was established in 1965.

Althouse College of Education was established in 1965.

The School of Library and Information Science was established in 1966.

Huron College became affiliated in 1878.

Brescia College became affiliated in 1919 as Ursuline College.

Christ the King College became the Arts section of St. Peter's Seminary College of Arts in 1955. Its name was changed to King's College in 1966 when it became directly affiliated with the University.

University Constitution

Under the *U.W.O. Act, 1967,* (presently under review), the University Senate is responsible for academic affairs, while the Board of Governors controls financial affairs. The Board is partly appointed by the Lieutenant Governor in Council, partly by London City Council, partly by the Board of Governors, partly elected or appointed by the Alumni Association and partly elected by the Senate; one member (non-student) is elected on such terms as the Board of Governors may determine. The President of the University, Mayor of the City of London, Warden of the County of Middlesex and the Chancellor are *ex officio* members of the Board.

The Senate is composed mainly of elected and *ex officio* faculty members, partly of members from the Board of Governors, affiliated colleges, student body, and members of general community elected by the Senate. The President and Vice Chancellor is Chairman of the Senate.

CALENDAR FOR SENATE ELECTIONS — 1972

Student Representation

Call for nominations of eligible candidates to represent the student body as required by The University of Western Ontario Act, 1967; up to October 16th, 1972.
Polling of Ballots: October 25 — 31, 1972.

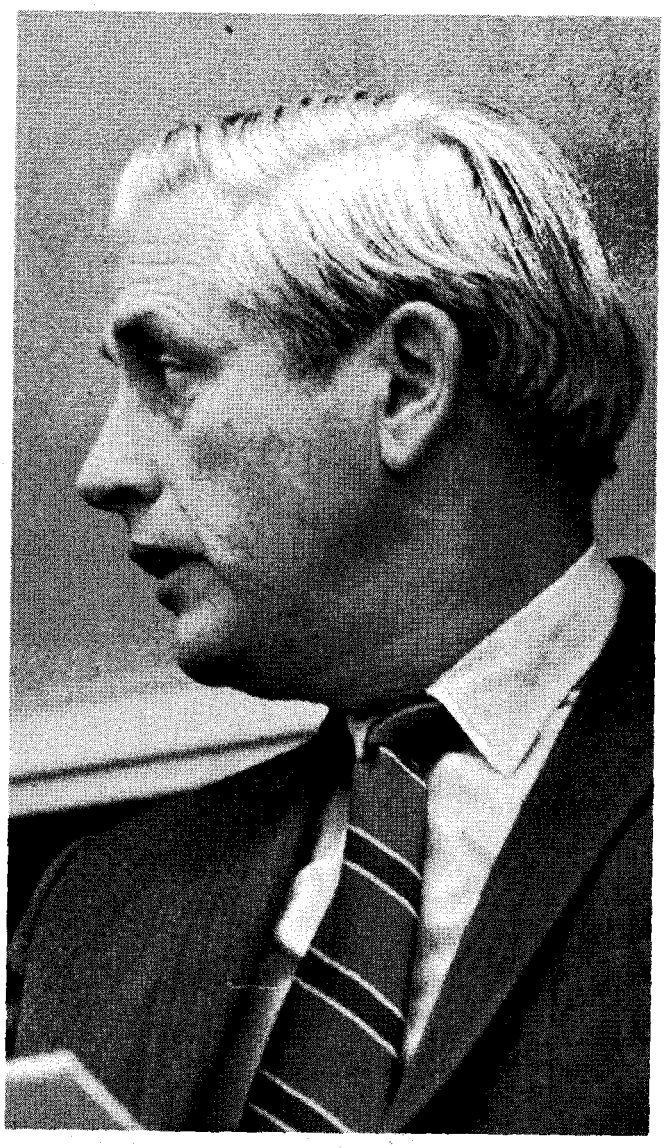
Faculty Representation

Call for nominations of eligible candidates to represent the academic units, other than the Faculty of Graduate Studies, as required by The University of Western Ontario Act, 1967: up to September 15, 1972.
Polling of Ballots: September 25 — 29, 1972.

Faculty of Graduate Studies Representation

Call for nomination of eligible candidates to represent the Faculty of Graduate Studies as required by The University of Western Ontario Act, 1967; up to October 16, 1972.
Polling of Ballots: October 25 — 31, 1972.

GENERAL



OFFICERS OF THE UNIVERSITY

Official Visitor: His Honour, the Lieutenant Governor of Ontario

Chancellor: The Hon. John P. Robarts, PC, QC, LLD

President and Vice-Chancellor: D. Carlton Williams, BA, MA, PhD, LLD

Vice-President (Academic) and Provost: R. J. Rossiter, BSc, DM, MA, DPhil, BMBCh, FRIC, FCIC, FRSc

Vice-President (Health Sciences): O. H. Warwick, MA, MD, CM, MRCP, FRCPC, FACP, LLD

Vice-President (Administration and Finance): A. K. Adlington, BA

Executive Assistant to the President: R. N. Shervill, BA, MA, PhD

Assistant to the Vice-President (Academic): W. S. Turner, BA, LLD

Registrar and Secretary of the Senate: J. K. Watson, MA, PhD

Chief Librarian: R. E. Lee, BA, BSLS, MFA, PhD

Comptroller: R. R. Glover, BA

THE BOARD OF GOVERNORS

Officers of the Board

Captain J. Jeffery, Chairman
Mr. R.M. Ivey, Vice Chairman
Mr. C.F. Way, Secretary

Chairman Emeritus

Colonel D. B. Weldon

Honorary Members

Mr. A.E. Shepherd

Ex-Officio Members of the Board

The Chancellor, The President, The Mayor of the City of London, The Warden of Middlesex County

Appointed by the City Council of London

Mr. W.C.P. Baldwin, Mr. W.J. Evans, Mrs. J.D. Harrison, Captain Joseph Jeffery

Appointed by the Lieutenant Governor in Council

Brigadier W.H. Hemphill, Mr. R.M. Ivey, Dr. W.H. Rea, Colonel D.B. Weldon

Alumni Representatives

Miss J. MacFarlane, Dr. C.S. Ward

Elected by the Senate

Professor C.C. Bigelow, Professor J.T. Nicolson, Dr. J.G. Rowe, Professor R.W. Wightman

Elected by the Board of Governors

Vice-President A.K. Adlington, Mr. W.J. Blackburn, Dr. A.H.J. Lovink, Vice-President R.J. Rossiter, Mr. J.A. Taylor, Vice-President O.H. Warwick, Vacant

ADMINISTRATIVE OFFICERS OF THE UNIVERSITY

Associate Registrar: Margaret P. May, BA
Deputy Registrar: W. G. Nediger, BA
Assistant Registrar: D. G. Henderson, BA
Assistant Registrar: I. P. Suttie, BASc, MSc
Registrar, Althouse College: G. L. Hartsell, BA
Director of Admissions: J. W. T. Wilgar, BA, MA(A.B.D.)
Secondary School Liaison Officer: W. A. Barill, BA
Assistant Secretary of Senate: A. G. R. Sweeny, BA, PhD

Director, Summer School & Extension: Angela M. Armitt, BA, MA
Director, French/English Summer School at Trois-Pistoles: Gilles Gagnon, BA, LesL, MA CREDIT
Dean of Men: T. L. Hoskin, MA
Dean of Women: Leola E. Neal, MA, PhD
Director, Alumni Affairs: G. Campbell McDonald, BA
Director, Athletics: J. P. Metras
Director, Computing Centre: G. T. Lake, BSc
Director, Health Services: R. J. Bowen, BA, MD
Director, Information Analysis and Systems: B. G. Hartwick, BComm
Director, Information Services and University Publications: G. Campbell McDonald, BA
Director, Office of International Education: D. G. Simpson, MA, PhD
Director, Physical Plant: R. M. Yeo, BSc, PEng

Director, Space Analysis and Planning: H. J. Schulz, Dipl.Ing (Arch.), MRAIC
Director, Student Financial Aid: E. J. McLeod, BA
Director, Student Placement: D. W. Klinger, BA, MA
Executive Director, University Community Centre: Philip Ranke, MA
Foreign Student Advisor: R. W. McGraw, BA
Libraries, Assistant Director, Libraries/Library Operations: J. F. Macpherson, BA, MA, ALA
Assistant Director of Libraries/Technical Services: R. E. Stierwalt, BA, MLS
Assistant Director of Libraries/Public Services: Donna Lee Berg, BA, BLS
Residences and Housing, Business Manager: R. A. Virtue, psc
Wardens: Men's: W. C. Henry, PhD
Women's:
Manager, Married Students Apartments: E. M. Laing
Director, Off Campus Housing: D. W. Klinger, BA, MA
Director, Food Services: G. A. Bullas
Manager, Bookstore: D. R. Mason, BA

DEANS

Arts, Faculty of: J. G. Rowe, AB, MA, PhD, BD
Business Administration, School of: J. J. Wettlaufer, MBA, LLD
Dentistry, Faculty of: W. J. Dunn, DDS, FACD
Education, College of: E. Stabler, BA, MA, EdD
Engineering Science, Faculty of: A. I. Johnson, BASc, MChe
Graduate Studies, Faculty of: W. S. Turner (Acting Dean), BA, LLD
Law, Faculty of: R. S. Mackay, QC, BA, LLM
Library and Information Science, School of: W. J. Cameron, MA, PhD
Medicine, Faculty of: D. Bocking, MD, DTM, FRCP(C), FACP
Music, Faculty of: C. von Kuster, MusBac, LRCT
Nursing, Faculty of: R. Catherine Aikin, BA, BN, MA
Physical Education, Faculty of: E. F. Zeigler, BA, MA, PhD
Science, Faculty of: A. E. Scott, DSc, PhD
Social Science, Faculty of: G. L. Reuber, BA, AM, PhD

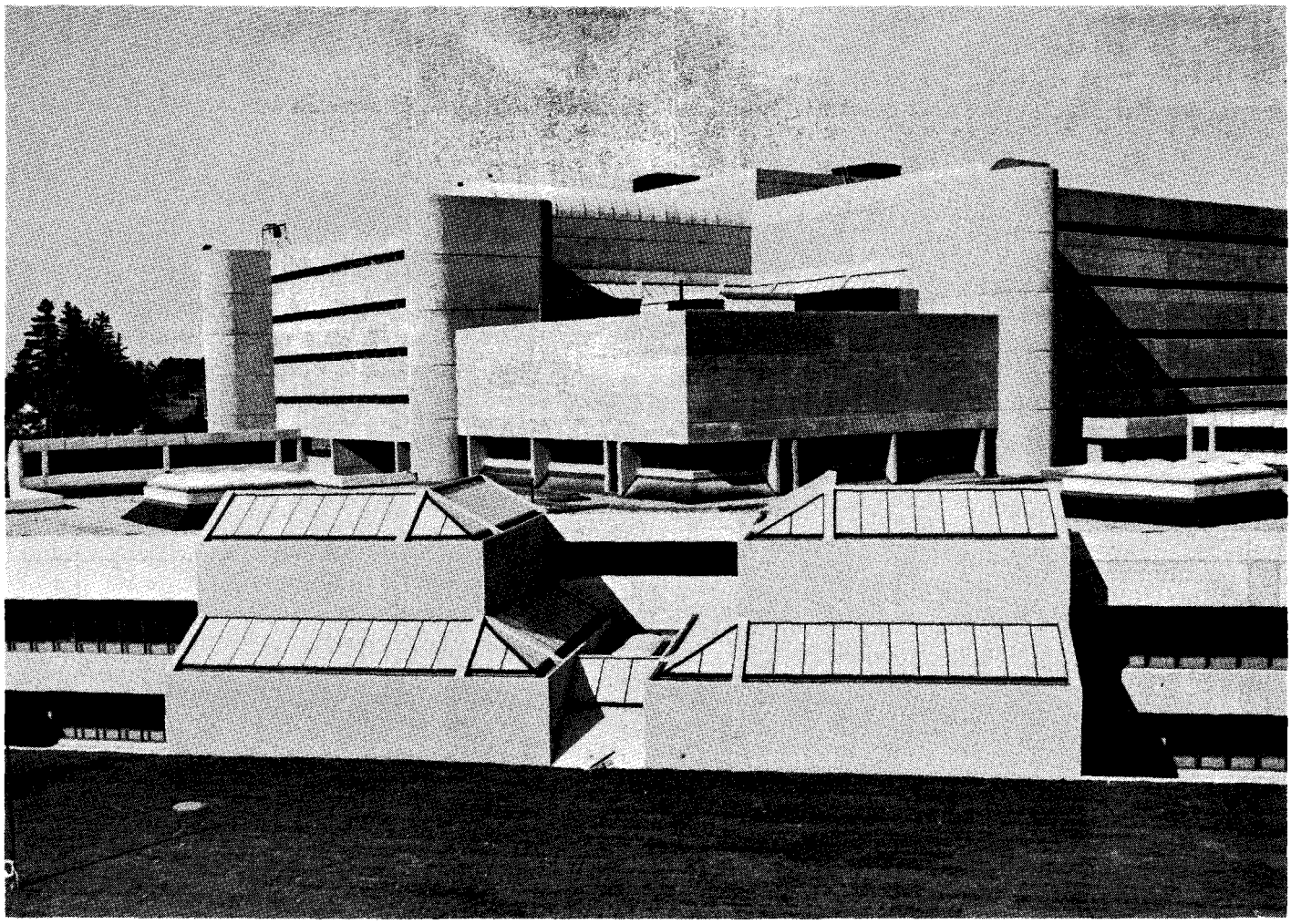
AFFILIATED COLLEGES

Brescia College,
Western Road,
London 72, Ontario.
Dean:
Sister Arleene Walker, BA, MA

Huron College,
1349 Western Road,
London 72, Ontario.
Principal:
J. G. Morden, BA, LTh, DD, STM, DTh

King's College,
266 Epworth Avenue,
London 11, Ontario.
Principal:
A. F. McKee, BA, MA, MSc, PUP

The University Library System



The University Library System

The University of Western Ontario Library System consists of the general library, housed in The D. B. Weldon Library, and seven Divisional/Professional libraries. Almost two million items consisting of monographs, periodicals, various kinds of microforms, and other library materials make up the collection which is available to all members of the university community.

The D. B. Weldon Library — Opened in June, 1972, The D. B. Weldon Library houses the general collections which were in the Lawson Memorial Building and the College Reading Rooms. With 2,119 seats located on six levels, the new building can accommodate twice the number of users as the former library and the Reading Rooms and will make possible improved service to users. Entrances are located at the end of the tunnel from Somerville House and at the North end of the building, opposite the University Community Centre.

The Lower Level of the building houses the periodicals collection — both bound and current. The General Library currently subscribes to approximately 2,500 periodicals, with 11,000 titles received in the University Library System as a whole. Bound periodicals are arranged by Library of Congress classification number and are located in the North lobe of the lower level. Current, unbound, periodicals are arranged alphabetically by title and are shelved in the South lobe.

The First (main) Floor houses the Reference, Interlibrary Loan, and Circulation Departments as well as the Spencer Room for the Reserve/Heavy Demand Collection. The public catalogue and national bibliographies, such as those of the British Museum, the Library of Congress, and la Bibliotheque Nationale, together with publishing trade bibliographies are also on this floor in close proximity to those people whose work requires their frequent use.

On the Mezzanine overlooking the first floor are located the administrative offices for the Library System and the Order/Receiving Unit of Technical Services.

The Second Floor is devoted to Special Collections. These include Rare Books, Regional History and County Records, Maps, all Art material, and Government Publications. Microforms and microform readers are also located on this floor.

The top three floors contain the general collection for Arts and Social Sciences and are arranged by the Library of Congress classification system:

Third Floor: A-F — General Works, Philosophy-Religion, History and Topography.

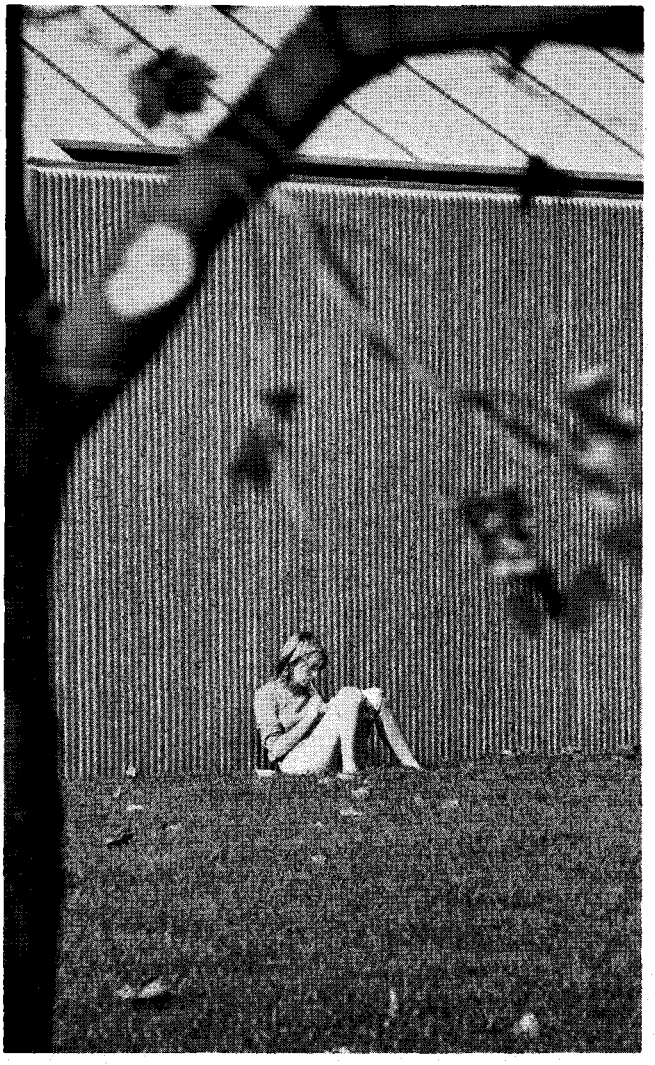
Fourth Floor: G-M — Geography, Anthropology, Economics, Sociology and Political Science.

Fifth Floor: P-Z — Language and Literature, Agriculture, Technology, Military and Naval Sciences and Bibliography and Library Science. The bulk of this "Z" class will be located in the Reference Collection on the main floor.

The bookstacks are open to all library users — undergraduate and graduate students, faculty and staff. Materials which circulate may only be charged out by individuals holding a University identification card (student, faculty, or staff). For further details, the current Lending Code for the General Library is available at the circulation desk.

Coin-operated photocopiers for public use are located on the Lower Level, and on the Second, Third, Fourth and Fifth Floors. There is also an over-the-counter service where extensive copying service is provided by the Circulation Department staff. Copies can be made from all types of microforms at this service point — microfilm, microfiche, microprint and microcard.

Information Desks are located at the Somerville House tunnel entrance and at the First Floor entrance, providing general directional information. Reference librarians located on the First Floor, and subject and form specialists servicing the collections for fine arts, government documents, rare books, regional history, maps, and periodicals, located through the building, are sources of more specialized assistance.



Divisional/Professional Libraries

In addition to The D. B. Weldon Library, there are seven other libraries in the University Library System which offer specialized materials and reference service to students and faculty working in particular subject fields. Each has a separate card catalogue and with the exception of the Health Sciences Centre Library, for which there is a duplicate of its card catalogue in The D. B. Weldon Library, the holdings of the Divisional/Professional Libraries are also listed in the main catalogue. A list of these libraries, with their locations, is indicated below:

1) Education Library, Althouse College of Education, Room 303.
2) Business Library, Richard Ivey School of Business Administration, Room 129.
3) Engineering Library, Alexander Charles Spencer Faculty of Engineering Science Building, Room 1001.
4) Health Sciences Centre Library, Medical Sciences Building, Room 139.
5) Law Library, Josephine Spencer Niblett Faculty of Law Building, 2nd floor.
6) Library, Faculty of Music, Talbot College, Room 234.
7) Natural Sciences Library, Natural Sciences Centre, Room 106.

Libraries in the affiliated colleges are located in Brescia College, Huron College and King's College.

GENERAL



SUMMER SCHOOL AND EXTENSION

In the summer of 1971, 3770 students attended day and evening classes on the London Campus where over 130 courses were offered. In addition to the Summer School in London, summer classes were held at Owen Sound and Stratford. Two hundred and fifty-four students attended the Owen Sound Summer School where 16 courses were offered. A number of students participated in courses in Fine Art and Music offered at the Stratford Summer Session.

More than 3,275 students registered with the Summer School and Extension Department in 1971-72 for Extension courses offered during evenings and on Saturdays throughout the fall and winter on the London Campus and in nine Western Ontario centers. In addition, many courses, as well as seminars, workshops and conferences, were offered on a non-credit basis in the Continuing Education Program of the Summer School and Extension Department.

For further information, write to The Director, Summer School and Extension Department, The University of Western Ontario, London 72, Ontario.

TROIS-PISTOLES SUMMER SCHOOL

Since 1933 the University of Western Ontario has conducted a six-week Summer School at Trois-Pistoles, 145 miles from Quebec City on the south shore of the St. Lawrence River. The courses offered include French for English-speaking students and English for French-speaking students, as well as painting courses, credit and non-credit, in both French and English. Two hundred and three students took courses in the summer of 1971.

A number of bursaries are available to students in language courses for the summer of 1972.

For further information, write to The Director, Trois-Pistoles Summer School, The University of Western Ontario, London 72, Ontario.

Living Accommodation

RESIDENCES FOR WOMEN

The University of Western Ontario has three residences for women, Spencer Hall, Delaware Hall and Maitland Hall. Spencer Hall, 551 Windermere Road, with accommodation for 86, is situated on a 35-acre landscaped property less than two miles from the main campus. Regular bus service is provided to and from the University campus at no charge to residents. Delaware Hall, located on the main campus, accommodates 452 students. The Glenmore Residences complex on campus has accommodation for 600.

At Spencer Hall, two, three or four students occupy a room, while at Delaware Hall and Maitland Hall, there are single and double rooms only. The residences are handsomely appointed with dining facilities, study rooms and lounges. Towels and bedding, including two blankets, are supplied, with no charge for laundering of these items. Coin-operated washers, dryers and ironing facilities are available.

Application forms for admission to women's residences of the Constituent University may be obtained from the Dean of Women. Acceptance is granted after a student has received an offer of admission to the University. Priority is given to undergraduate students.

RESIDENCES FOR MEN

Medway Hall and Sydenham Hall are Western's two men's residences and are located near the main campus of the University. Medway Hall accommodates 300 students and Sydenham Hall accommodates 292. In addition, the Glenmore complex has accommodation for 600. Medway Hall and Sydenham Hall are located on University Drive; the Glenmore Residences complex is located on Windermere Road, within five minutes' walking distance of the main campus.

Although the residences differ in design, each has its own kitchen and dining room. Each also contains study rooms, lounges, music rooms, laundries, TV rooms, hi-fi rooms, and single and double bedrooms. All residences are air-conditioned.

Three meals are served daily in the residences during the term. Towels and bedding are supplied, and there is no charge for the laundering of these items.

Application forms for the men's residences mentioned above may be obtained from the Residence Admissions Office, Saugeen Hall, 289 Windermere Road, London 72, Ontario.

NOTE, *Students must be registered in the Constituent University to be eligible for accommodation in any of the above women's and men's residences.*

OTHER RESIDENCES

Westminster College

Westminster College is a co-educational residence for students at The University of Western Ontario. It is located on the north side of the campus and has accommodation for 118 men and 118 women. The College has its own dining room and the usual furnishings and facilities of a university residence. For information write to: The Dean of Residence, Westminster College, London 72, Ontario, or telephone 434-8471 (area code 519).

OFF-CAMPUS HOUSING SERVICE

The Off-Campus Housing Service provides current listings of a wide variety of accommodations available to students in the London area. Categories of accommodations include:

Apartments
Light Housekeeping Units
Rooms
Room and Board
Houses

There are no standard rental rates. Costs vary according to the type of accommodation, facilities, privileges provided, and food arrangements.

The service is located in the University Community Centre. It operates on a self-serve basis with unit descriptions posted for student's perusal. The student or his representative **must** visit the service **in person** any time Monday to Friday, 9 a.m. - 5 p.m. from April through October.

NOTE: As numerous accommodations are registered and rented hourly, **printed lists of accommodations are not made available for mailing or transmission by telephone.**

Students registered in an Affiliated College should apply to the Dean of Residence of their College for assistance in finding private accommodation.

MARRIED STUDENTS' APARTMENTS

The student housing complex, Windermere Road, has accommodation for married students, including 300 one-bedroom apartments and 100 two-bedroom apartments. For information and application forms write to The Business Manager, Married Students' Apartments, The University of Western Ontario, London 72, Ontario.

AFFILIATED COLLEGE RESIDENCES

Brescia College, for women, Western Road, has accommodation for 128 students. Only students enrolled in Brescia College are accepted for residence. For information write to: The Dean, Brescia College, Western Road, London 72, Ontario.

Huron College, adjacent to the University campus on Western Road, has accommodation for 200 men and 100 women registered at Huron College. A few students of other colleges are accepted. For information write to: The Warden, Huron College, Western Road, London 72, Ontario.

King's College, near the main campus, has accommodation for 310 students (men and women). For information write to: The Business Office, King's College, 266 Epworth Avenue, London 11, Ontario.

The University Community Centre

The University Community Centre is located between the D. B. Weldon Library and the Social Science Complex. Planned on the premise that much of the individual's learning experience extends beyond the lecture room, the 7.2 million dollar U.C.C. will be more than just a building. It will:

1. Foster interaction, dialogue and co-operation among the members of the University community.
2. Aid in the development of the cultural, social, intellectual and recreational activities of the individual and the University community.
3. Promote involvement and participation by the University community within the University.
4. Facilitate integration of the University community and the community-at-large.
5. Provide a central location for essential services.

Phase 1 of the U.C.C. opened its doors to the University community in January, 1971 and houses the following facilities and offices:

1. Awards
2. Education — Vocational Counseling
3. Dean of Women
4. Dean of Men
5. Housing & Placement
6. Health Services
7. Religious Counseling
8. Games Area
9. Bookstore
10. General Store
11. Barber Shop
12. Multi-Media (Arts and Crafts)

The U.C.C. Directorate is charged with the responsibility of running the U.C.C. in an orderly and proper manner, such as will best serve the interests of the entire University community.

To properly represent these interests, the members of the Directorate are selected by the University Students' Council, Society of Graduate Students, Master of Business Administration Association, Faculty Association, Alumni Executive Council, Staff Members, the Senate and Board of Governors.





Phase II of the U.C.C., which has a projected completion date of November, 1972, will house the following facilities and offices:

1. Office Facilities — University Students' Council, Society of Graduate Students, Master of Business Administration Assoc., Alumni Assoc., Faculty Assoc., Staff Assoc., U.C.C. Staff.
2. Student Publications Office
3. Club Facilities
4. Lounge Facilities — Music Listening, International, Television, General
4. Multi-Use Hall
6. Conference Rooms
7. Party Room
8. Closed Circuit Radio Station
9. Campus Tavern
10. Recreational Facilities — Gymnasium, Squash/Handball Courts, Pool
11. Food Services — Snack Bar, Cafeteria, Service Dining Room
12. Bank
13. Information Centre

Counselling

Secondary School Liaison

The University of Western Ontario has, within the Admissions Office, two Admissions and Secondary School Liaison Officers. Their duties include University Information Programs across the province of Ontario, close contact with Principals and Guidance Officers in individual schools and a prompt response to all inquiries from students and teachers at the secondary school level.

Due to the changing cirriculum in many of the high schools and the wide range of choice available to most pre-university students, the "Liaison Officers" provide initial academic and program counselling. Because of their extensive contacts with various faculties and schools within the university community, the "Liaison Officers" are well suited to handle the problems of individual students. Should students choose to visit the campus, the Liaison Office maintains a Campus Guide Service to provide both a physical orientation to the University of Western Ontario, as well as information on student life at Western.

It is the desire of the university that the Secondary School Admissions and Liaison Office be a "communications centre" for effective dialogue between teachers and students at the secondary school level and faculty and administrators at the university level.

This office may be reached by telephone or mail:

Secondary School Liaison Office
The University of Western Ontario
London 72, Ontario
Telephone: (519) 679-2327

Educational and Vocational Counselling Service

The Educational and Vocational Counselling Service is for students who are experiencing difficulties in making decisions about their university and career plans. Such difficulties may include: trying to pick a satisfactory university program, choosing between two equally appealing programs, narrowing down the wide choice of fields at university, inability to establish a career goal, indecision about interests and abilities, or poor study habits.

Many of the above decisions that often confront students are usually best dealt with early in their university careers. Flexibility of program is greatest in first and second years and questions concerning a satisfactory program to pursue are best explored at this time.

The service provides individual counselling by a professionally trained staff who are experienced in the educational and vocational choice problems faced by many university students. These counsellors interview students and also use, when appropriate, valid and reliable ability and interest tests to aid the student in his decision making. There is also an extensive occupational-vocational library available to students. The library can provide information about occupations that is related to the student's interests and abilities. Such information includes: qualifications for various occupations, job activities in occupations, and some information on employment opportunities.

Our offices are located in the new University Community Centre. Students wishing to use the service may stop by or phone to arrange a convenient appointment.

Academic Counselling Service

The University provides an Academic Counselling Service during the summer months to advise incoming Freshmen on their choice of courses in their first year programs. In 1972, this service will be offered from June 12 to August 31. All prospective First Year students who have been admitted by the University are encouraged to avail themselves of this service. Interview appointments may be arranged by completing the Academic Counselling Service form (which each student who has been admitted will receive from the Registrar) and mailing it back to the University.

In addition to Freshman Academic Counselling, the offices of the Deans of the Faculties and the various Departments of the University offer academic counselling to all students throughout the year. Students are encouraged to make use of this counselling service.

Student Placement Service

The Student Placement Service offers a year-round program to assist students and graduates with their summer, part-time, and permanent employment needs. Located in the University Community Centre the service provides the following:

An On-Campus Recruiting Program, bringing over 200 firms and agencies to the campus to interview students for permanent and summer jobs in three phases:

Phase I	Engineering and Sciences — November and December
Phase II	Arts, Social Sciences, and Law — January and February
Phase III	Education — February and March

Details of this program are advertised throughout the campus.

A Listing Service, providing details of numerous current, summer, part-time and permanent employment possibilities for which students may submit applications directly.

A Career Counselling facility for any student who would like to explore his interests and possible vocations, in terms of his own career decisions and employment possibilities with an interested, objective person.

A Career Information Library, offering (1) general literature on careers, (2) individual presentations on hundreds of firms and agencies, (3) up-to-date undergraduate and graduate calendars from all Canadian colleges and universities and selected universities throughout the world, and (4) a host of further information as it applies to careers and the employment process.

UNIVERSITY CHAPLAINS

The Religious needs of the University Community are attended to by Chaplains from the various denominations:

ANGLICAN: Canon Vernon Blake, 432-4222

CHRISTIAN REFORM: Rev. John Van Til, 432-8035

LUTHERAN: Rev. Ray Christensen, 433-0975

MENNONITE: Rev. Rudy Janzen, 652-5784

ROMAN CATHOLIC: Rev. Richard Murphy, O.P., 433-6884

UNITED: Rev. George Rousom, 433-1462

The Chaplains are housed in the new University Community Centre, Room 1106. Phone: 679-3114.

GENERAL



COUNCIL FOR UNIVERSITY THEATRES AND ART

During its brief history, CUTA (Council for University Theatres and Art) has become synonymous with "what is happening at Western." The CUTA symbol signifies to both the University and London community complete information about activities in theatre, music and fine art that form a vital and varied spectrum of University life.

The Council for University Theatres and Art was established in the spring of 1970 by the Senate of The University of Western Ontario who realized that the ever growing cultural activities on The University campus needed a central body through which these events could be co-ordinated and publicised.

The Council is a policy making body, comprised of members from Senate, Faculty, the student body and community. Working sub-committees deal with the budgets, events and specific problems pertaining to events in Alumni Hall, University Theatres, and Fine Art - primarily the McIntosh Gallery.

Operating within their individual identities but under the umbrella of CUTA are student groups of long standing on the university campus: Sunday Nine O'Clock Concerts; Players' Guild; Purple Patches; and the Gilbert and Sullivan Society. Produced by students, these highly professional organizations are open to all students on campus and afford an opportunity for involvement and participation in drama and musical theatre that is as rewarding as it is varied. Recent theatre productions include Thurber's "Carnival," "Caucasian Chalk Circle," "Camelot," "West Side Story," "Gondoliers," "H.M.S. Pinafore." The budgets of these organizations have risen to cover increased costs and along with financial support from the University Students' Council they receive subsidization from CUTA.

In 1967 the Alumni sponsored Great Artists' Concerts Series acquired a home - Alumni Hall, and during the subsequent years has expanded its concert series both in quality and in quantity to make it second to none in Canada. Great Artists' Concert Series presents an infinite variety, appealing to the taste of all concert goers. The list of international solo artists, symphony orchestras, dance troupes and jazz groups performing in Alumni Hall reads like a "Who's Who" of the musical world.

Paralleling the expansion of the University, faculties and departments have greatly increased their contribution to university and community audiences in the area of the performing arts.

The Faculty of Music, with its many fine individual faculty performers, offers an endless variety of solo, chamber and large ensemble recitals and concerts with no audience admission charge. The superb Recital Hall in the new Faculty of Music building is one of the busiest facilities on the campus. Highlighting the performances from the Faculty of Music in the 1971-72 season was the performance of Mendelssohn's "Elijah" and the presentation of two operas "Night Blooming Cereus" by John Beckwith and James Reaney, and the "Old Maid and the Thief" by Gian Carlo Menotti.

The Department of French continues its tradition of bringing to the campus professional French theatre productions including "Amedee ou Comment s'en Debarrasser" and "Le Bourgeois Gentilhomme." These productions played to full houses and offer a unique opportunity to students of the French, language at all levels. The Department of French also presents an annual play in French performed by students and faculty. In the 1971-72 season two series of French films: "Films from France" and "Films from Quebec" alternated weekly and proved to be a highly successful addition to French Culture on the campus.

Students of English and Drama at Western continue to benefit from the opportunity to both see and participate in the theatre productions and rehearsed readings of the Department of English. The Department offers plays covering a wide repertoire of traditional, contemporary and avant guarde theatre. Recent productions include "Alcestis"; "Touch of the Poet" and "La Mandragola."

In the fall of 1971 the Department of English in conjunction with the Department of Fine Art, the McIntosh Gallery and the Faculty of Music, presented a series of lectures, art exhibits and recitals focused on the theme "Humanism" that brought to the campus speakers and performers of international reputation.

One of the most rapidly emerging centres at Western is the McIntosh Art Gallery. Tremendous increase in attendance and interest at the Gallery may be attributed to several factors, not the least of which is the enthusiastic and vital support of the CUTA University Art Committee, the Department of Fine Art and the dedicated gallery staff. Exhibitions of great interest and variety are shown, along with a regular film series and gallery tours. The exhibition program moves through historical and geographical zones; from Durer to Lorcini, from Japan and France to Canada, complemented by the University and McIntosh Collections.

Talbot Theatre Centre, the young and experimental summer theatre offering of the University began in the summer of 1969 by presenting semi-professional repertory theatre. In the summer of 1971 still seeking its most effective role, Talbot Theatre Centre formed a company of student actors under professional and student direction. Pursuing its function of "an experiment in theatre" Talbot Theatre Centre carried over its operation into the 1971-72 academic year by importing two theatre offerings and mounting a production in the early spring. Talbot Theatre Centre is a unique venture by The University of Western Ontario and its growth and development will be observed by theatre amateurs and professionals across the country.

Alumni Involvement on Campus

Alumni Hall is one of the most striking contributions Western's graduates have made to the University. Financed by one million dollars in gifts from Western alumni, and matched dollar-for-dollar by the Ontario Government, this multi-purpose building houses one of the finest concert halls in North America.

From its opening in March of 1967, Alumni Hall has become the cultural hub of the campus. The Alumni Great Artists' Concerts series has brought many of the world's most famous orchestras and entertainers to Western.

Much of student life centers around Alumni Hall. This is where the first year students begin their experience at University with the Formal Welcoming; on their final day, at graduation, they receive their degrees on its stage at either the Spring or Fall Convocations.

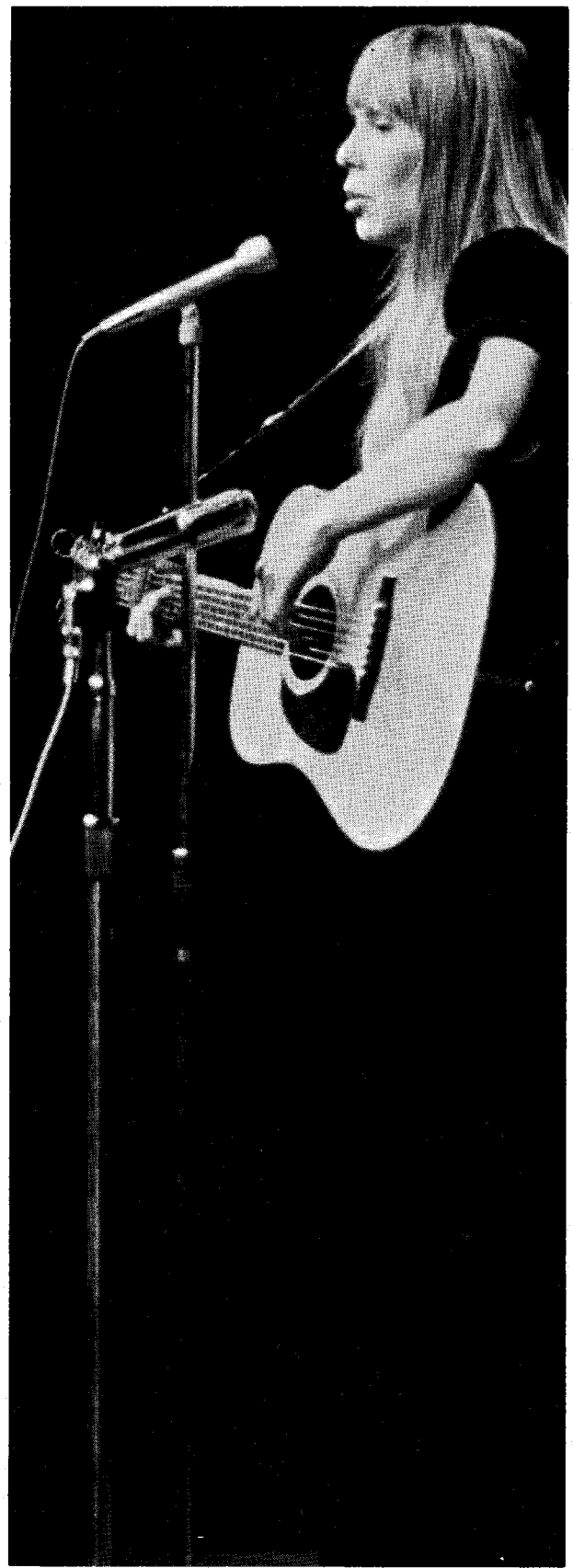
The hall itself, being multi-purpose, converts from its cultural uses to an excellent basketball court. Other athletic facilities in the building include a general activities room in the basement, as well as a number of handball courts and a rifle range.

Alumni Hall is also the headquarters of the Alumni Association, the organization that unites all Western graduates. The addresses, family and career data of Western's 33,600 graduates are kept on file here on a confidential basis. An informative magazine for the alumni, the Alumni Gazette, provides a communications link between the University and its graduates and between the alumni themselves. Homecoming Weekend, organized by the Alumni Association, is one of the highlights of campus social life, combining many social and cultural events and continuing education opportunities for returning alumni.

Decisions on alumni policies and activities are made and put into effect through a working body of alumni known as the Alumni Executive Council. Alumni members of this Council are elected and represent the various schools and faculties of the University. The Alumni Executive Council has working relations with all members of the University community, including students, faculty and administration, through the Department of Alumni Affairs and Information Services.

Western alumni have won recognition and representation on the University's two main decision-making bodies, namely the Board of Governors and the Senate. The Alumni Association alternately elects or appoints two voting members to the Board, while at least four of the six general community representatives on the academic Senate are alumni; one of these is always the Alumni Association President.

In general, the Alumni Association is ready to assist the activities of Western students individually and through their clubs and organizations, as well as their Students' Council. The Alumni Executive Council meets monthly to discuss matters of importance to the University, and is always willing to hear proposals from the students and help them achieve goals to the benefit of the University community.



Athletics

All athletics at the University of Western Ontario are supervised and controlled by the University of Western Ontario Faculty of Physical Education and Athletics. Its purpose is to foster athletic contests and recreational activities, both Intercollegiate and Intramural, for the development of playing skills, good sportsmanship and social relationships among the students of this university.

It is being increasingly recognized that physical fitness plays a most important role in modern-day life. To this end, we believe that in addition to providing the pleasures of fellowship and fun, active participation in competitive athletics offers the individual an opportunity to complement the academic side of his university life toward a well-rounded personality encompassing spirit, mind and body.

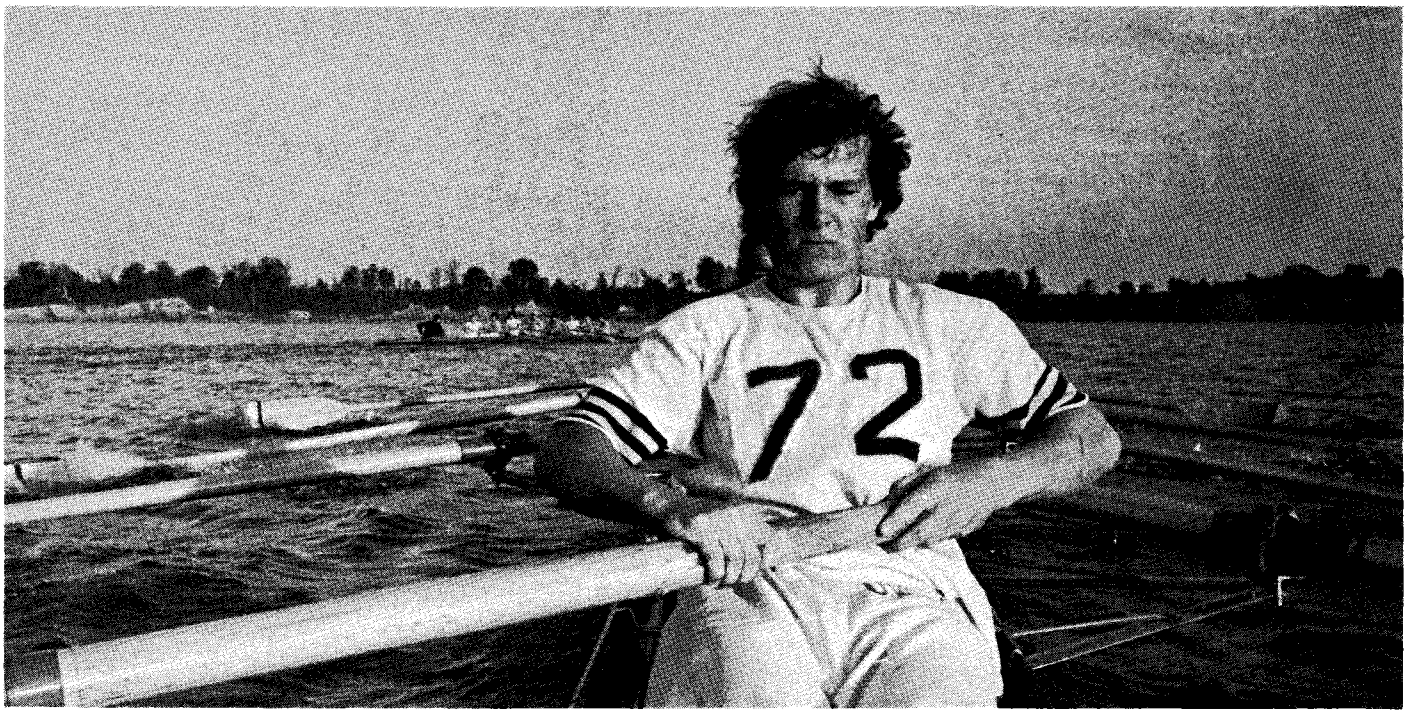
All full-time students at the university are active members and have the privilege of voting, holding office and participating in the athletic programs.

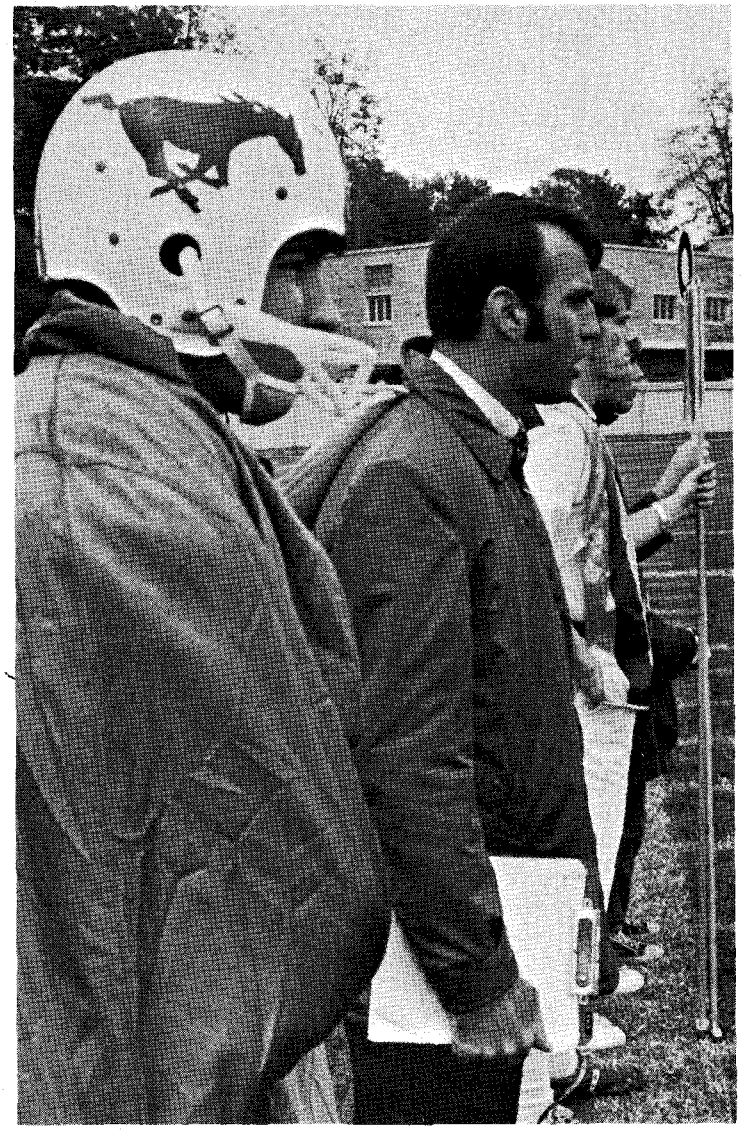
On the Men's Intercollegiate level, Western is represented in all 20 different sports as a member of the Ontario Universities Athletics Association. Teams or individuals wear the Purple and White in Badminton, Basketball, Curling, Fencing, Football, Golf, Cross-Country, Rowing, Soccer, Squash, Swimming, Tennis, Track and Field, Wrestling, Gymnastics, Hockey, Rugger, Volleyball, Water Polo, and Skiing.

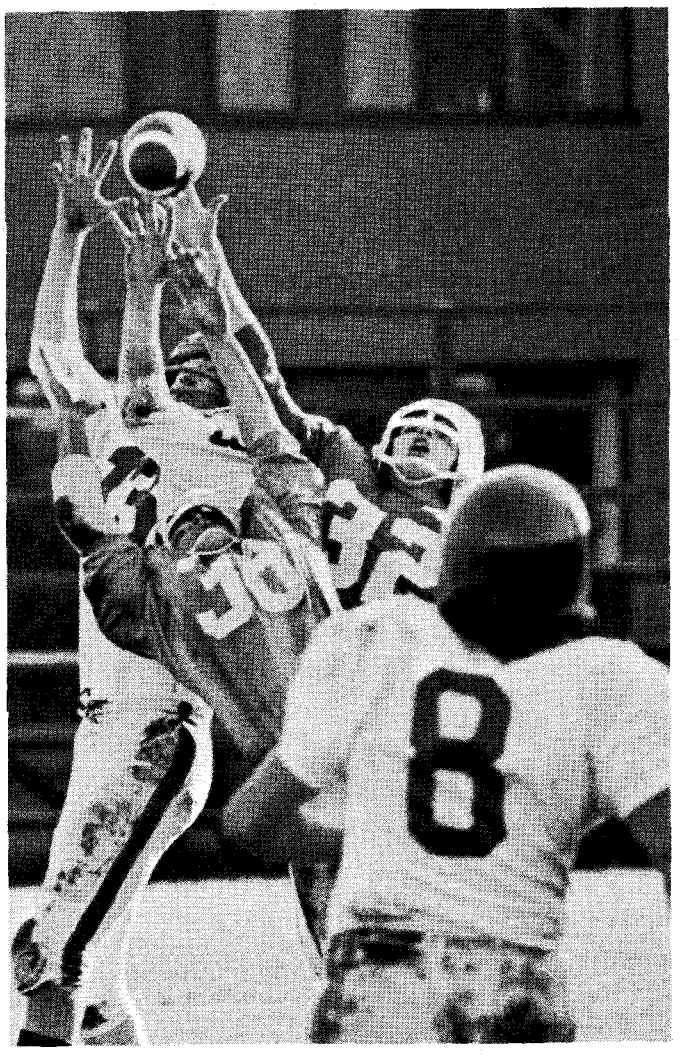
The girls are represented in the Ontario Women's Intercollegiate Athletic Association in Indoor and Outdoor Archery, Tennis, Speed Swimming, Badminton, Volleyball, Basketball, Synchronized Swimming, Track and Field, Field Hockey, Curling, Skiing, Fencing, and Diving.

The Intramural Recreational Program provides an opportunity for any student to make use of the fine facilities for activity during free time. This activity may be on an informal basis or may be on a more highly organized level of Club Activities ranging from Dance to Judo, instructional classes including a large aquatic and racquet sports program or a competitive program involving a full calendar of Men's, Women's and coeducational sports.











Excellent facilities on campus include, in Thames Hall, The William Melville Spencer Memorial Swimming Pool, The Colonel George Eric Reid Memorial Gymnasium, a combatives room, squash and handball courts, and an individual exercise room.

Alumni Hall presents one of the best facilities in Canada for inter-collegiate basketball and squash (6 courts). In addition, a combatives room for wrestling and judo and a permanently set-up gymnastics room are included.

The new University Community Centre provides an excellent centre for all campus recreation activities and includes three gymnasia, a triple-area pool, individual exercise room, squash, handball and paddleball courts, table tennis room, billiards room and lounge areas. The J. W. Little Memorial Stadium, nine tennis courts, an outdoor artificial rink for ice hockey and skating, soccer and field hockey pitches and numerous practice fields on campus are also available. Present plans are being made for construction of a Winter Complex which will include a hockey arena with seating for 4,500, plus several sheets of curling ice.

GENERAL

Health Services

PHYSICAL EXAMINATION

An Admission Medical Record completed by a practising physician is required of all students who are enrolling in this University for the first time as intramural students in the winter session. The submission of the Record on the form provided is the responsibility of the incoming student prior to registration.

Health Services on Campus

The Health Service clinic is in the University Community Centre where students, while at University, may consult the University physicians for general medical care. A counselling service for students with personal problems is also available.

Testing for Tuberculosis

All students must take a skin test for tuberculosis at the time arranged during the school year. Students showing a positive reaction must have a chest X-ray which is to be repeated each year. No further skin testing will be carried out on previous known positives. Students showing a negative reaction are to have the skin test repeated each year.

Medical Services Insurance

The only medical services insurance allowed in Ontario at the present time is the Ontario Health Services Insurance Plan (OHSIP) administered by the provincial government. This plan is comprehensive and may be purchased through OHSIP directly or through one of its agents. Coverage does not become effective for three months from time of application. The premium is $17.70 for three months for a single person, $35.40 for three months for a couple, and $44.25 for three months for a family, payable in advance. Persons who have been resident in the Province for twelve months may receive assistance in paying premiums in accordance with regulations relating to personal income. More detailed information may be obtained from Health Insurance Registration Board, 2195 Yonge Street, Toronto 7, Ontario, telephone 482-1111 (area code 416).

Hospital Services Insurance

Hospital insurance is NOT provided by the University. Hospital insurance offered by the Ontario Hospital Services Commission is the only form of basic hospital insurance permitted in Ontario. It is the student's responsibility to obtain the necessary coverage under the Ontario Hospital Insurance Plan. Coverage does not become effective for three months from time of application for Ontario Hospital Insurance. The premium is $16.50 for three months for a single person and $33.00 for three months for a family, payable in advance.

Students from other provinces who already have hospital insurance are urged to ascertain, before coming to Ontario, if their policies will be honored in Ontario hospitals and for how long.

Students from outside Canada should apply for Ontario Hospital insurance as soon as possible after arriving in Ontario.

Students are reminded that, if they do not hold hospital services insurance and are required, by reason of accident or illness, to enter hospital, they will incur charges of approximately $65.00 per day.

Food Services

The Department of Food Services, of the University of Western Ontario, extends to all freshmen students a sincere welcome. We are glad you are here and hope that your year is successful on all levels of endeavour.

We are aware that we cannot replace the "comforts of home", but we will do all that we can to create a relaxed, pleasant atmosphere in our dining facilities, which we supply with the most nourishing, varied and tasteful food that it is possible for us to offer. Our managers and supervisors are constantly vigilant on your behalf, and consider your welfare of prime importance. If you have special diet problems, please contact one of our Food Service supervisors; they will make every effort to assist you.

Food Services is a department of, and operated by, the University on a non-profit basis. This department is also required to meet all costs of operating. We are constantly growing, and incorporate the most modern equipment and methods in our kitchens. Our staff is well trained and we have a staff continuing education program.

If you should ever have cause to complain, and because of the nature of student-body composition and human error this will occur, we want you to advise us, either directly to a Food Service supervisor, or the Director of Food Service, or in writing, with specific details.

The following is a list of types of food service available, the buildings in which they are located, and tentative times we are open for service. Somerville House Coffee Shop is open on Sundays for the convenience of students using library facilities.

Complete Meal Service

Althouse College of Education, 8 a.m. - 4 p.m., No Saturdays.
Somerville House Dining Hall, 11-2 & 4:30-7:30 p.m., No Saturdays.
Delaware Hall (Residents only)
Glenmore Residence (Residents only)
Medway Hall (Residents only)
Spencer Hall (Residents only)
Sydenham Hall (Residents only)

Snacks and Light Meals

College of Music Snack Bar, 8 a.m. - 4 p.m., No Saturdays.
Middlesex College Terrace Room, 8-9 Mon.-Thurs., 8-4:30 Fri., No Saturdays
Natural Sciences Coffee Shop, 8-9:30 Mon.-Thurs., 8-4:30 Fridays, Sat. 9:30-1:30 p.m., Open Sundays after Jan. 1
Somerville House Coffee Shop, 7:45-11 p.m. Mon.-Fri., Sat.8-8, Sundays 12-8
Somerville House Dining Hall, 11-2 & 4:30-7:30 p.m., No Saturdays.
Talbot College Coffee Shop, 8 a.m.-4:30 p.m., Saturdays 9:30-1:30 p.m.

Snacks Only

Alumni Hall Snack Bar, 9:30-3:30 p.m., No Saturdays.
Engineering Sciences Snack Bar, 8 a.m.-4 p.m., No Saturdays.
Medical Sciences Snack Bar, 8 a.m.-4 p.m., No Saturdays



The University Students' Council (USC)

Western's student government provides more services and is involved in more programs than any student organization of its type anywhere in Ontario. All major policy decisions on its activities are made by a 48-member Council, which includes representatives of all under-graduate faculties, the graduate faculty, and the affiliated colleges. The President of the Council is elected by the student body to serve a one-year term beginning annually in March, and does so on a full-time basis to meet the many responsibilities of the Council.

Five Vice-Presidents attend to external affairs, educational development, the many operations of clubs and organizations, legal and housing matters, publications and radio, and the budget of over $600,000 that the many student-sponsored programs demand.

The more than 200 activities under the umbrella of the USC offer many diversified opportunities for students at Western to learn and participate outside of the classroom setting. Student leadership in the newspaper, the radio, the social committees, the recreational clubs, the student pub, the coffeehouse, the theatrical groups, the Community Centre, and the departmental and faculty academic development, to name a few, is all fostered by the University Students' Council and provides the campus with a much enriched environment.

Initiation

"Hazing" and/or "initiation" of University students is prohibited by virtue of a 1934 resolution of the Board of Governors.

Students may not engage in any public activity as a group or body representing the University or any organization within the University without the express permission of the Board of Governors; nor may the name of the University be used in the title of any publication without the permission of the Board.

Traffic and Parking

Information on traffic and parking on campus may be found in the University publication "Vehicle Parking and Traffic Regulations".

Academic Information

Degrees Offered

The University of Western Ontario offers Programs leading to the following degrees:

Bachelor of Arts (BA)

Bachelor of Engineering Science (BESc)

Bachelor of Laws (LLB)

Bachelor of Music (MusB)

Bachelor of Musical Arts (AMusB)

Bachelor of Science (BSc)

Bachelor of Science in Medical Rehabilitation (Communication Disorders) (BScMR(CD)

Bachelor of Science in Medical Rehabilitation (Occupational Therapy) (BScMR(OT))

Bachelor of Science in Medical Rehabilitation (Physical Therapy) (BScMR(PT))

Bachelor of Science in Nursing (BScN)

Bachelor of Social Welfare (BSW)

Master of Arts (MA)

Master of Business Administration (MBA)

Master of Clinical Science (MClSc)

Master of Engineering (MEng)

Master of Engineering Science (MESc)

Master of Library Science (MLS)

Master of Music (MusM)

Master of Science in Nursing (MScN)

Master of Science (MSc)

Doctor of Dental Surgery (DDS)

Doctor of Medicine (MD)

Doctor of Philosophy (PhD)

NOTE, *For information regarding Programs in Theology, consult the Affiliated Colleges Section.*

Admission Procedures and Requirements

General

All applicants who have not previously attended The University of Western Ontario **must** submit a completed application form with the required supporting documentation before the application deadline date as indicated in the Academic Calendar. Students are urged to forward applications and supporting documentation well in advance of the deadline date.

Re-admission

Students who have been required to withdraw from the University for a period of one year or longer following failure to achieve minimum satisfactory standing must complete an application form for re-admission. Re-admission will be determined on an individual basis following rustication by the Senate Admissions Committee.

HOW TO APPLY FOR SPECIFIC PROGRAMS

Undergraduate Programs

Full-time intramural, part-time intramural, Summer School, Winter Extension, and Correspondence Sessions. Application forms should be obtained from:

Admissions Office
Stevenson Hall
The University of Western Ontario
London 72, Ontario, Canada

Students applying for First Year undergraduate studies at The University of Western Ontario are required to hold standing in subjects appropriate to the program to which admission is sought in studies at the level of Ontario Grade 13 (or equivalent). Applicants from outside Ontario may apply for admission to First Year at this University if their academic records meet, in subject matter and standing, the requirements for admission to this University as well as to a recognized university in their home province or country. Specific admission requirements are outlined in the General Information Booklet and the information for Foreign Students.

It is the applicant's responsibility to ensure that the following information in support of an application is forwarded to the Admissions Office well in advance of the application deadline date:-

1. All pertinent academic documentation
Such documentation must be forwarded to the Admissions Office directly from the previously attended institutions (e.g. Secondary School, University, College transcripts; Teaching Certificates for Teacher Applicants).

2. Letters of Reference (if applicable)
Such letters must be sent from the referee directly to the Admissions Office. The use of University supplied forms is preferable.

3. Marriage Certificate(s) (For Women Only)
Official Certificate(s) of Marriage must be submitted for confirmation of name change(s).

4. Birth Certificate (For Mature Applicants)
An official Certificate of Birth must be submitted if proof of age is required.

5. Employment Resume (if applicable)
An applicant must present a resume of employment for the period of time during which he has not been in attendance at an academic institution.

6. Test of English Proficiency (if applicable)
A test of English proficiency may be required. Further information may be found in the General Information Booklet.

Professional Programs

Dentistry, Law, Medicine, Communication Disorders, Occupational Therapy, Physical Therapy, Nursing and Engineering Science. Appropriate application forms should be obtained from:

Admissions Office
Stevenson Hall
The University of Western Ontario
London 72, Ontario, Canada

Faculty of Graduate Studies

Students who wish application forms or additional information should write to:

The Dean
Faculty of Graduate Studies
The University of Western Ontario
London 72, Ontario, Canada

Graduate Programs in Business Administration

Students who wish application forms or additional information should write to:

The Dean
School of Business Administration
The University of Western Ontario
London 72, Ontario, Canada

Faculty of Education

Students who wish application forms or additional information should write to:

The Registrar
Althouse College of Education
Western Road
London 72, Ontario, Canada

ACADEMIC

STANDARDIZED TESTS

All applicants to the First Year of all programs are required to present the results of an appropriate admission test series. The required tests, together with the agency to which a student should write for information, are:

All First Years of Undergraduate Programs

Tests required: Scholastic Aptitude Test (verbal and mathematical) AND three Achievement Tests where available

Agencies: SACU (Service for Admission to College and University)
151 Slater Street
Ottawa 4, Ontario, Canada.

OR CEEB (College Entrance Examination Board)
P. O. Box 589
Princeton, New Jersey 08540, U. S. A.
OR
P. O. Box 1025
Berkeley, California 94701, U. S. A.

First Year Dentistry

Test Required: Dental Aptitude Test (D.A.T.)

Agency: Canadian Dental Association
234 St. George Street
Toronto 5, Ontario, Canada

Graduate Studies

Test Required: Graduate Record Examination (G.R.E.): Miller Analogies Test (M.A.T.)

NOTE: The requirement for these tests varies according to the Department to which admission is being sought. For further details, consult the Faculty of Graduate Studies Section of this Calendar.

Agencies: Educational Testing Service
P. O. Box 944
Princeton, New Jersey 08540, U. S. A.

The Psychological Corporation
304 East 45th Street
New York, New York 10017, U. S. A.

First Year Law

Test Required: Law School Admission Test (L.S.A.T.)

Agency: Educational Testing Service
P. O. Box 944
Princeton, New Jersey 08450, U.S.A.

First Year Medicine

Test Required: Medical College Admission Test (M.C.A.T.)

Agency: The Psychological Corporation
304 East 45th Street
New York, New York 10017, U.S.A.

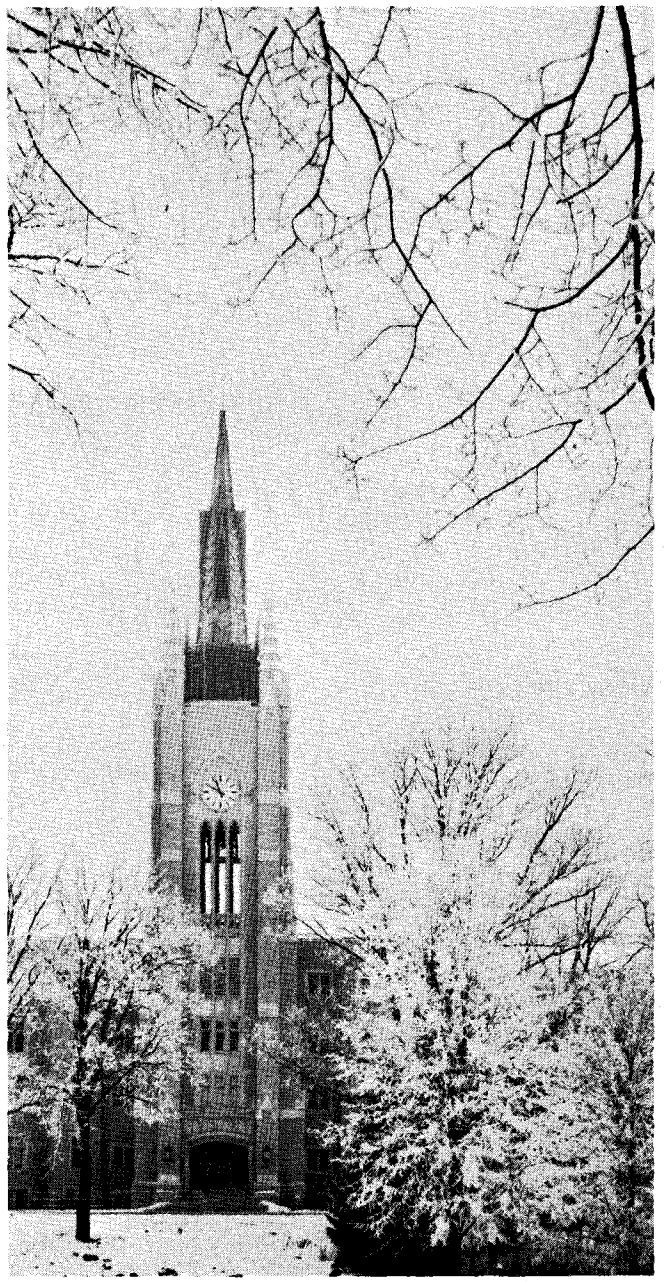
First Year MBA

Test Required: Admission Test for Graduate Studies in Business

Agency: Educational Testing Service
P. O. Box 944
Princeton, New Jersey 08450, U.S.A.

Enrollment in undergraduate programs is restricted by limitations on the size of the Freshman class.

The recommendations of Secondary School principals or guidance officers, scores in aptitude and achievement tests, and formal academic records are each considered carefully in the final selection of applicants. Possession of the academic qualifications stated in this publication or elsewhere guarantees the applicant consideration for admission only.



Students Applying from Other Universities or Colleges

A student applying to transfer to The University of Western Ontario must be eligible, without condition, to register as a full-time intramural student at the previous college or university attended.

Each application for admission to this University with advance standing will be considered by the Admissions Committee of the Faculty to which application is made. Advance standing is not normally granted for:

(a) A course in which the final grade is not at least one grade above the lowest passing grade;

(b) A course passed as part of a failed year;

(c) A course passed as part of a year's program in which the overall average is not at least one grade above the lowest passing grade;

(d) A course within a program which has already been completed by the conferring of a Bachelor's degree.

NOTE: All applicants for admission at all levels of placement whose primary language is not English are required to present proof of competence in English. The results of either of the following tests are accepted as proving such competence:

The Test of English as a Foreign Language.

Agency: College Entrance Examination Board
P. O. Box 899
Princeton, New Jersey 08540, U.S.A.

OR

The English Language Proficiency Test.

Agency: The English Language Institute
University of Michigan
Ann Arbor, Michigan, U.S.A.

Final Application Dates 1972

February 1	Faculty of Medicine
March 1	Faculty of Dentistry
March 31	Program in Occupational Therapy
April 7	Evening Summer School
April 30	Program in Physical Therapy
May 1	Faculty of Law
May 31	Program in Communication Disorders
June 2	Day Summer School
June 30	Winter Session Intramural, full time and part time
September 1	Winter Extension and Correspondence

Academic Regulations (Undergraduate)

Class and Laboratory Attendance

Freshman and sophomore students are required to attend 80 per cent of their lecture and laboratory classes. Any student who, in the opinion of his instructor is absenting himself too frequently from class or laboratory periods will be reported to the Dean of his Faculty. On recommendation of the Department concerned, and after due warning has been given him by the Dean, the student may be debarred from taking the regular examination in that course.

Term Work

Term work in a course will not be credited to a student beyond the academic session in which the course is taken.

Half-Courses

Two half-courses are equivalent to one full course and may be from different subjects.

Extra Courses

Permission to take an extra full or half-course must be obtained in writing from the Dean of the Faculty in which the student is registered.

Adding and Dropping Courses

Students are not permitted to add courses any later than two weeks after the commencement of lectures except with special permission of the department and the dean.

A student may drop a course only with the joint approval of the Dean of the Faculty or his designate, and the Chairman of the Deaprtment concerned. A full course dropped after January 15, 1973 will be considered a failure. A first term half-course dropped after November 1, 1972, will be considered a failure. A second term half-course dropped after February 21, 1973, will be considered a failure.

SUBSTITUTIONS

A student may substitute for a prescribed course only with the consent of the Chairman of the Department of his Honors program or area of concentration. All substitutions must conform to the basic requirements as laid down by the Senate.

Prerequisite for Senior Courses

A First Year student who has successfully completed an introductory course at The University of Western Ontario, or its equivalent elsewhere, will be permitted to enroll in a senior course upon the recommendation of the Department concerned and with the approval of the student's Dean.

Unsatisfactory Knowledge of English

Any student who shows an inadequate command of spoken and written English must improve his style until his work satisfies his instructor.

WITHDRAWAL

A student who wishes to withdraw from the University should consult the Dean of his Faculty or School. After consultation, withdrawal forms must be completed for the Office of the Registrar. A student who withdraws without providing official notice to the Registrar will not be eligible for any refund of fees nor for exemption from unpaid fees. Fee adjustments will be made a pro rata basis. Refunds will be authorized if cancellation of registration is approved prior to March 15th for full-time students in the Winter Session.

Academic Rights of Students

The Senate has established procedures for petitions and appeals.

Petition

A petition is an instrument whereby a student may seek to have a regulation of the University waived on academic or compassionate grounds.

Procedure: The student may initiate a petition in the Office of the Dean of his Faculty on a form provided for the purpose. He will be notified later of the Dean's decision.

Reconsideration by Senate: A Student shall have the right to require the Senate to consider the decision of the Dean by making application to the Secretary of the Senate on a form provided for the purpose.

Appeal

An appeal is an instrument by which a student may be protected against an error in grading or final standing, unfair prejudice of a professor, or serious negligence in instruction.

Procedure: A student is required to make a formal complaint to the Chairman of the Department concerned. If the problem cannot be solved in this way, a written appeal setting forth the grounds of the complaint may be instituted to the Dean of the academic unit concerned. The Dean may appoint or request an appropriate committee composed of faculty and students to advise him.

Reconsideration by Senate: A student shall have the right to require the Senate to consider the decision of the Dean by making application to the Secretary of the Senate on a form provided for the purpose.

Undergraduate Fees

FEES

Full-time Students (all years)

Faculty of Arts	$542.50
Faculty of Science	542.50
Faculty of Social Science	542.50
Faculty of Business Administration	542.50
Faculty of Engineering Science	*542.50
Faculty of Dentistry	†727.50
Faculty of Medicine	727.50
Medical Rehabilitation	517.50
Faculty of Nursing	517.50
Faculty of Music	552.50
Faculty of Law	552.50

*Second, third and fourth year $602.50

†Additional instruments fee is not included in this amount. For details, see the Faculty of Dentistry Section of this Calendar.

NOTE: *The above fees include a $54.00 non-academic charge for the University Community Centre, University Students' Council, Athletics and Health Services. This sum may not, by law, be included in the student income tax certificate. The certificate will be available by the last day of February each year.*

A $50.00 non-refundable tuition deposit is required of all intramural students and of first year students in the Faculties of Dentistry, Law and Medicine.

Part-time Intramural Students (three courses or fewer)

Tuition, each course	$105.00
Audit (non-credit), each course	50.00
Laboratory fee (where applicable), credit or audit	10.00

PAYMENT OF FEES (Subject to Change)

Fees for fullt-ime undergraduates are due and payable at the time of registration. A student may pay a minimum of $300.00 ($400.00 for students in the Faculty of Medicine or the Faculty of Dentistry; $325.00 for an upperclassman in the Faculty of Engineering Science) at the time of registration and the balance on or before the first day of the second term. There is a charge of $5.00 for payment of fees in two installments. If a $50.00 tuition deposit has been paid prior to registration, this amount will be applied against the first term's tuition installment.

Students are advised to establish accounts in London banks well in advance of registration to ensure banking privileges for the payment of fees.

OTHER CHARGES

Application from outside Canada	$25.00
Late registration fee	$10.00 or 25.00
Transfer from Constituent University to Affiliated College	50.00
Withdrawal during registration week	(minimum penalty) 50.00
Supplemental examination	10.00
Supplemental examination at outside centre	15.00
Special examination	15.00
Transcript of Academic record	1.00

The Board of Governors reserves the right to amend fees after the printing of this list.

Except by permission of the Dean of their Faculty and the Comptroller of the University, students may not attend lectures or examinations, nor may they be recommended for any degree or diploma until tuition fees, fines and other accounts owed to the University are paid.

The Three Year Programs for BA and BSc Degrees

THREE-YEAR PROGRAMS WITH OPTIONS

No student will be admitted to the degree of Bachelor of Arts in the Three Year Program with Home Economics, Secretarial Science, Music Options or Bachelor of Musical Arts who has not obtained a minimum of 50 percent on all the prescribed and elective work of his program, and a minimum of 60 percent in half the courses of his senior year.

FIFTEEN-COURSE PROGRAM FOR THE DEGREE OF BACHELOR OF ARTS

NOTE: Two half courses are equivalent to one full course and may be from different subjects.

YEAR I

Five courses from 1 to 29 and including courses from at least two of the Faculties of Arts, Science, Social Science, with no more than one course from each subject.

YEAR II AND III

Ten courses, including at least seven seniors (numbered 30 or above).

An area of concentration of four senior courses specified by the Department concerned as meeting its requirements may be elected and declared by the student at the beginning of Year II. The area of concentration, if any, will be designated on official transcripts of academic record issued after graduation.

Of the fifteen courses of Years I, II, III, no more than eight may be chosen from any one subject.

GRADUATION: An average of 60% or higher is required on the fifteen courses. Requirements for graduation must be completed within the first twenty courses (or equivalent) attempted, including repeated courses.

The normal full-time Winter Session load of five courses (or equivalent) may be reduced to four courses or increased to six courses with the consent of the Dean of the Faculty in which the student is registered.

Residence Requirements:

—two academic years or one year and two summer sessions or five summers; reduced to a MINIMUM OF ONE WINTER OR THREE SUMMERS by attending extension classes of The University of Western Ontario or by transfer of credit from an approved College or University.

—Five or more SENIOR courses must be completed at The University of Western Ontario.

Requirements for Continued Registration

Following admission to the University and initial registration, continued registration is subject to the following limitations:

(a) a Grade Point Total of at least six in the first five full (or equivalent) courses attempted must be accumulated;

(b) a Grade Point Total of at least 14 in the first ten full (or equivalent) courses attempted must be accumulated;

(c) not more than five failures in either full or half courses (i.e., Grades of E, F, DNW, DRP, FTW, INC)* may be accumulated;

(d) a minimum average of 60 per cent must be achieved in the 15 full (or equivalent) courses completed within the first 20 attempts (or equivalent) which includes repeated courses.

An ATTEMPT is a full course registration not formally cancelled with the Registrar by January 15th in the Winter Session, Extension and Correspondence; and by July 15th in the Summer Session. An attempt in a first term half course will be considered a registration if not formally cancelled with the Registrar by November 1st, and in a second term half course if not formally cancelled by February 21st.

When a student's achievement is such that any one of the above minimum requirements is not met, the student must withdraw from the University for one year or longer at the discretion of the Senate Admissions Committee.

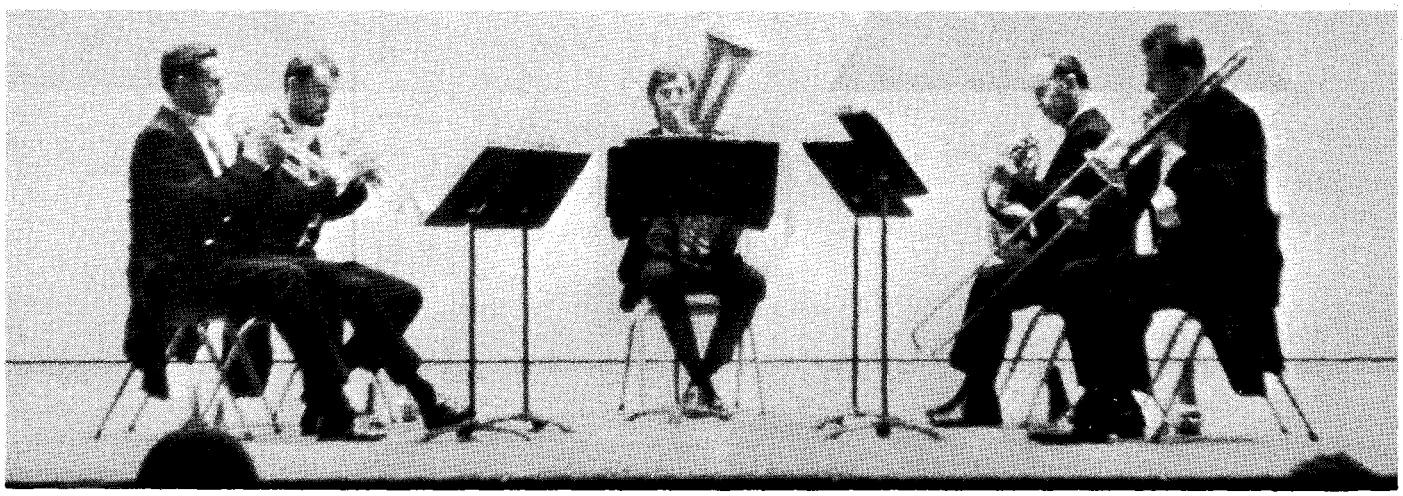
Full Course Grade Points	Half Course Grade Points	Letter Grade	% Range
5	2.5	A+	90—100
4	2.0	A	80— 89
3	1.5	B	70— 79
2	1.0	C	60— 69
1	0.5	D	50— 59
0	0.0	F	0— 49

Student records prior to 1970-71 will be assessed by the Grade Point system in conjunction with the work of the 1970-71 and later sessions. Failed years of 1969-70 and earlier will not be used in the compilation of courses passed, grade points earned and attempts accumulated.

*Explanation of Examination Report Comments
DNW Did not write final examination.
DRP Dropped after final date for dropping a course without penalty.
FTW Failed term work.
INC Grade not received.



ACADEMIC



FIFTEEN-COURSE PROGRAM FOR THE DEGREE OF BACHELOR OF SCIENCE

NOTE: Two half courses are equivalent to one full course and may be from different subjects.

YEAR I

Five courses from 1 to 29 and including courses from at least two of the Faculties of Arts, Science, Social Science, with no more than one course from each subject.

YEARS II AND III

Ten courses, including at least eight seniors (numbered 30 or above).

Before entering Year II, an approved subject or area of concentration must be elected. At least four senior courses as specified by the Department concerned will be required in the concentration.

Of the fifteen courses of Years I, II, III, ten or more must be from the Faculty of Science. A minimum of two courses must be from outside the Faculty of Science. Senior courses from the Faculty of Science must be chosen in consultation with the Department of concentration or the Advisor for the area.

GRADUATION: An average of 60% or higher is required on the fifteen courses, with at least 60% in the four courses of the concentration. Requirements for graduation must be completed within the first twenty courses (or equivalent) attempted, including repeated courses.

The normal full-time Winter Session load of five courses (or equivalent) may be reduced to four courses or increased to six courses with the consent of the Dean of the Faculty in which the student is registered.

Residence Requirements:

—Two academic years or one year and two summer sessions or five summers; reduced to a MINIMUM OF ONE WINTER OR THREE SUMMERS by attending extension classes of The University of Western Ontario or by transfer of credit from an approved College or University.

—Five or more SENIOR courses must be completed at The University of Western Ontario.

Requirements for Continued Registration

Following admission to the University and initial registration, continued registration is subject to the following limitations:

(a) a Grade Point Total of at least six in the first five full (or equivalent) courses attempted must be accumulated;

(b) a Grade Point Total of at least 14 in the first ten full (or equivalent) courses attempted must be accumulated;

(c) not more than five failures in either full or half courses (i.e., Grades of E, F, DNW, DRP, FTW, INC)* may be accumulated;

(d) a minimum average of 60 per cent must be achieved in the 15 full (or equivalent) courses completed within the first 20 attempts (or equivalent) which includes repeated courses.

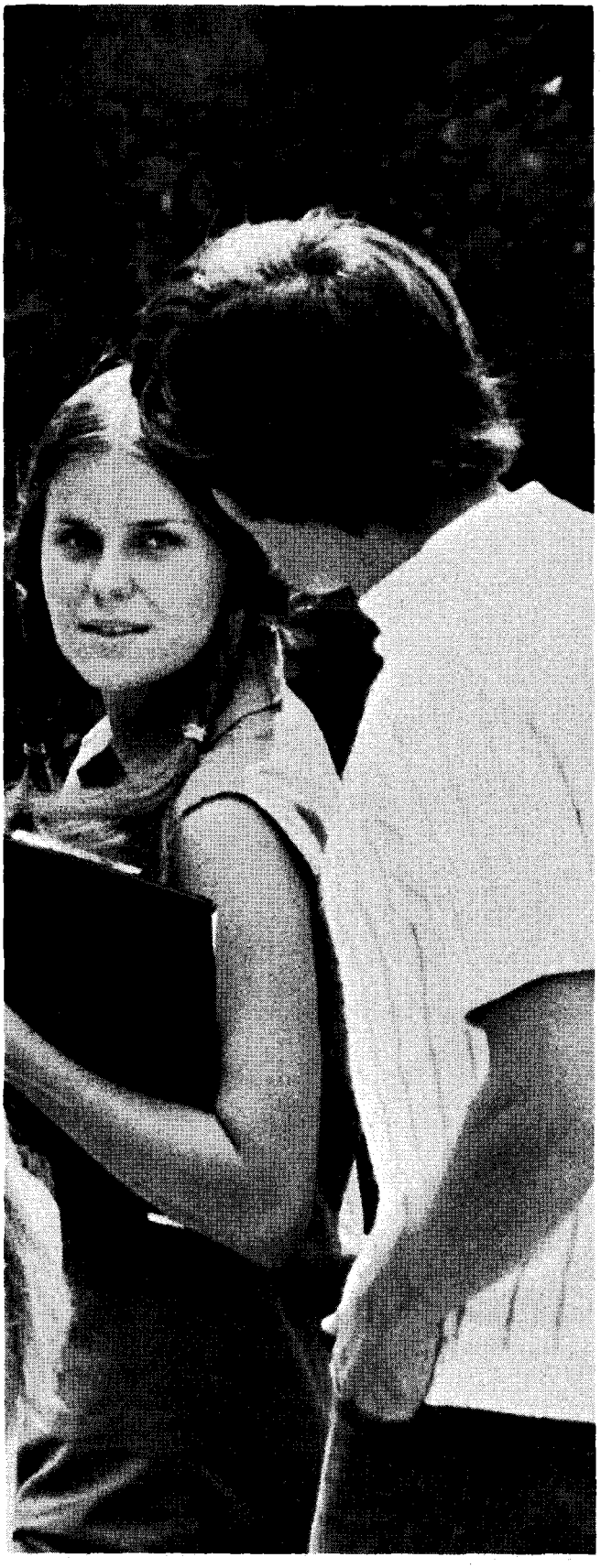
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When a student's achievement is such that any one of the above minimum requirements is not met, the student must withdraw from the University for one year or longer at the discretion of the Senate Admissions Committee.

Full Course Grade Points	Half-course Grade Points	Letter Grade	% Range
5	2.5	A+	90—100
4	2.0	A	80— 89
3	1.5	B	70— 79
2	1.0	C	60— 69
1	0.5	D	50— 59
0	0.0	F	0— 49

Student records prior to 1970-71 will be assessed by the Grade Point system in conjunction with the work of the 1970-71 and later sessions. Failed years of 1969-70 and earlier will not be used in the compilation of courses passed, grade points earned and attempts accumulated.

*Explanation of Examination Report Comments
DNW Did not write final examination.
DRP Dropped after final date for dropping a course without penalty.
FTW Failed term work.
INC Grade not received.



Honors Programs

Students in the Arts, Music, Science and Social Science Programs are not registered in specific honors programs during their first year at this University.

There are specific requirements for admission to the Second Year of all four-year Honors Programs based upon the courses selected and the standing obtained in the First Year.

The four-year Honors Programs are offered in the Faculties of Arts, Music, Physical Education, Science and Social Science, leading to the degrees of Bachelor of Arts, Bachelor of Music and Bachelor of Science.

The Department of Education accepts a degree in an Honors Program as the academic qualifications for a High School Assistant's Certificate, Type B, for teaching in the elementary and secondary schools of Ontario.

A student expecting to enter an Honors Program should consult that program before selecting his options in his first year.

In all years of all Honors Programs options must be approved by all departments concerned.

Honors Programs — Admission to Second and Subsequent Years

A student will be automatically accepted if he has an average of at least 70 per cent with no grade of less than 60 per cent in the courses listed as principal courses by the Department(s) of the subject(s) in which he is specializing. He must also have a passing grade in each of the courses listed as subsidiary courses by the Department(s) concerned.

A student with an average of 60 to 69 per cent in the principal courses of his Honors Program, and a passing grade in each of the subsidiary courses, may be accepted by special permission of the Department(s) concerned.

Honors Graduation Requirements

The graduating average is the grade average of all principal courses in the Third and Fourth years. A student will automatically graduate with an Honors degree if he has a graduating average of at least 60 per cent, a grade average of at least 60 per cent in the principal courses of the Fourth Year, and a passing grade in every course.

A student who has a graduating average of at least 60 per cent and a passing grade in every course, but whose grade average in the principal courses of the Fourth Year falls below 60 per cent may graduate with an Honors degree only on the recommendation of the Department(s) concerned.

A student who passes all courses in the Fourth Year of an Honors Program for the degree of Bachelor of Arts or Bachelor of Science and satisfies all other requirements for graduation, but fails to qualify for an Honors degree, shall be awarded a BA or BSc degree without designation. Such a student may write a subsequent examination in order to qualify for an Honors degree.

Examinations

Regular Examinations

Examinations for students registered in intramural, extension and correspondence courses are conducted in April and May, and for those in the Summer School in August.

Comprehensive Examinations

Students should observe that the purpose of their university work is not simply the creditable passing of courses term after term, but the gradual acquisition of a broad and deep knowledge of the chosen subjects and an intelligent appreciation of their bearing upon general knowledge and culture. Some Departments have comprehensive examinations for Honors students. These examinations, which may be written, or oral, or both, are given at the end of the senior year to cover the broad aspects of the student's Honors Program. They are additional to the course examinations.

Deferred Examinations

Permission to defer an examination may be given by a Dean on compassionate grounds. A student must petition his Dean for this privilege. A deferred examination is normally written during a regular examination period. No fee is charged for deferred examinations.

A deferred examination may be written only at the University or an Affiliated College.

Special Examinations

A special examination is any examination other than the regular examination, and it may be offered only with consent of the Department concerned and with the permission of the Dean.

A special examination may be written only at the University or an Affiliated College. The examination fee is $15.

Supplemental Examinations

Supplemental examination privileges are not available in courses offered by the Faculties of Arts, Engineering Science, Music, Nursing, Physical Education, Science and Social Science.

All supplemental examinations offered by other Faculties must be written at The University of Western Ontario or at another Canadian university located more than 150 miles from London. The examination fee is $10 if written at the University; $15 if written at an outside center.

Transcripts:

A transcript is a photocopy of your permanent academic record at this university, duly certified by the Registrar, and bearing the embossed seal of the university. It is considered to be "privileged information" and is available only upon the written request and payment of a fee by the student.

It is invariably required as one of the supporting documents for application to another University; Graduate School; Canada Council etc., and commonly requested by prospective employers.

Request for Transcript forms are available from the Enquiry Desk, Office of the Registrar, (Room 112, Stevenson Hall). Since official transcripts must be mailed directly from the Registrar to the institutions designated by the student, you must provide their addresses. Unofficial transcripts are issued by mail to students, upon request, for their own use.

Rates:	One copy:	$1.00
	Two copies:	$2.00
	Three copies:	$2.25
	(25c each for additional copies on the same order)	

Failure to Appear at Examinations

A student who fails to appear for an examination at the time set in the timetable will not be allowed to write the examination thus missed. He may, with the approval of the Chairman of the Department concerned, petition his Dean for standing, or permission to write a special examination. Petitions will be entertained only when they are submitted on compassionate grounds with supporting documents.

Examination Timetable

Most courses offered have an examination code number, which will be found in the course description following the designation of the number of class hours (e.g., 3 hours — 1).

Final examinations in 1973 will be held according to the following schedule:

First week		Second Week	
Monday April 16	9 a.m. - 13 2 p.m. - 14	Monday April 23	9 a.m. - 21 2 p.m. - 22
Tuesday April 17	9 a.m. - 15 2 p.m. - 16	Tuesday April 24	9 a.m. - 23 2 p.m. - 24
Wednesday April 18	9 a.m. - 17 2 p.m. - 18	Wednesday April 25	9 a.m. - 25 2 p.m. - 26
Thursday April 19	9 a.m. - 19 2 p.m. - 20	Thursday April 26	9 a.m. - 27 2 p.m. - 28
Friday April 20	Good Friday	Friday April 27	9 a.m. - 29 2 p.m. - 30
Saturday April 21	Easter Holiday	Saturday April 28	9 a.m. - 31 2 p.m. - 32

Third Week		Fourth Week	
Monday April 30	9 a.m. - 33 2 p.m. - 34	Monday May 7	9 a.m. - 9 2 p.m. - 10
Tuesday May 1	9 a.m. - 35 2 p.m. - 36	Tuesday May 8	9 a.m. - 11 2 p.m. - 12
Wednesday May 2	9 a.m. - 1 2 p.m. - 2		
Thursday May 3	9 a.m. - 3 2 p.m. - 4		
Friday May 4	9 a.m. - 5 2 p.m. - 6		
Saturday May 5	9 a.m. - 7 2 p.m. - 8		

COURSE NUMBERING SYSTEM

Courses numbered 1 are equivalent to corresponding subjects of Secondary School Grade 12 (Ontario).

Courses numbered 2 are equivalent to corresponding subjects of Secondary School Grades 12 and 13 (Ontario).

Courses 10 to 19 are equivalent to corresponding subjects of Secondary School Grade 13 (Ontario).

Courses 20 to 29 are First Year Courses.

Courses 30 to 99 are Second and Third Year Courses.

Courses 200 to 299 are Second Year Honors Courses.

Courses 300 to 399 are Third Year Honors Courses.

Courses 400 to 499 are Fourth Year Honors Courses.

Courses numbered 500 or higher are offered within the Faculty of Graduate Studies.

A course number followed by "a" is offered in the first term only; followed by "b" in the second term only.

A half course is one which meets fewer than two hours a week throughout the academic year or fewer than four hours a week in one term.

Unless otherwise indicated, lecture and laboratory hours are listed on a weekly basis throughout the academic year.



Faculty of Arts

Faculty of Arts

Dean

John Gordon Rowe, SB Harvard; BD Episcopal Theological School, Cambridge, Mass.; MA, PhD Toronto; DD Huron College

Assistant Dean

Graham Stewart Rose, BSc, PhD Birmingham

Academic Counsellor

Allen, R. L. BA, MA Mount Allison; LLD UWO

PROGRAMS

General Programs

The Faculty of Arts offers three year Programs leading to a B.A. degree with an area of concentration in Classical Studies, English, Fine Art, French, German, Greek, Italian, Latin, Philosophy, Russian, Spanish.

Honors and Combined Honors Programs and Combinations

The Faculty of Arts offers four year Programs leading to an Honors B.A.

Honors programs in a single subject are designed for students with a special interest in that subject, and provide them with the opportunity to concentrate their work in a particular field. Each program introduces students to the subject as a whole, and gives them some degree of mastery of it. A minimum of fifteen courses (including both principal courses and options) is required in the three senior years. Such programs prepare students for the Ontario High School Assistant's Certificate, Type A, in the principal subject, as well as for admission to graduate work in the subject.

Each honors program has a structure established by the Department concerned. Since there is often choice among the principal courses and since, in general, options are chosen by the student (in consultation with the Department), honors programs are flexible enough to permit a variety of patterns within the regulations outlined above. The following patterns are two examples:

(a) A program of courses which will lead to an Honors Degree in one subject supported by related courses in other subjects. A student may, for instance, take an Honors Degree in English or in French, and in his options concentrate on, say, the modern period, by taking courses in Contemporary Literature, Modern Drama, Modern History, Modern Art, Contemporary Philosophy, Current Topics in Economics, Contemporary Science, and so on.

(b) A program of courses which will lead to an Honors Degree in one subject supported by courses in other subjects which may or may not be related to the honors subject but which are of interest to the student.

Within the Faculty of Arts, any two of the following subjects may be studied in a Combined Honors Program: English, Fine Art, French, German, Greek, Latin, Philosophy, Russian, and Spanish. A Combined Honors Program consists of a maximum of seven courses in each of the two subjects (excluding prerequisites at the 20 level), plus enough options to make up fifteen courses in the three senior years. Combined Honors Programs involving a subject within the Faculty of Arts and a subject in another Faculty are also available, and are listed separately with the Departments concerned.

Combined Honors Programs provide students with the opportunity to do concentrated work in two subjects. These programs are more than the combination of two halves of a single honors program but less than the combination of two single honors programs. As such, a combined program may not qualify a student for graduate work in either principal subject without further course work at the honors level. These programs, in general, are accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate Type A, in the two principal subjects, but students should consult the Registrar at Althouse College of Education for specific requirements.

A combination of Honors courses in two subjects is also available in some departments which will permit a student to study both of them for the first two years at the honors level and, at the end of that period, to decide, after consultation with both of the Departments involved, to take an Honors Degree in one subject and the equivalent of a General Area of Concentration in the other, during the third and fourth years. This combination is possible within the Faculty of Arts and in a number of instances with Departments outside the Faculty. Interested students should consult their departmental advisers.

The Faculty of Arts wishes to encourage every student to find the total program of study which will satisfy his individual needs, but it can help him to work out such a program only when he seeks individual counselling. Both the Dean's Office and the Departments are ready to provide such counselling: it is up to the student to seek it.

Department of Classical Studies

Professors

Gerber, D. E., BA, MA UWO; PhD Toronto, Chairman of Department

Raymond, A. E., BA UWO; MA Toronto; PhD Chicago, W. Sherwood Fox Professor of Classics

Associate Professors

Avotins, I., BA Toronto; AM, PhD Harvard

Littlewood, A. R., BA Leeds; B Litt Oxon

Murison, C.L., MA Edinburgh; MA Cantab, Associate Chairman

Timothy, H. B., MA, BD Galsgow; BA London; PhD Edinburgh

Assistant Professors

Broege, Valerie A., AB Vassar; MA, PhD Bryn Mawr

Crowther, N. B., BA Leeds; MA McMaster; PhD Sheffield

Stanley-Porter, D. P., BA Toronto; PhD London

Lecturer

Carbone, M. E., BA, MA UWO

Honors Programs

CLASSICS

Requirements for Admission. First Year Program (Arts, Science or Social Science) with Greek 20, Latin 20 and one other course as principal courses, English and another modern language as recommended options.

After the First Year the program consists of six honors Greek courses, seven honors Latin courses (Latin 200, 250, 300, and any four others), Classical Studies 275, the Comprehensive Examinations (Greek 495 and Latin 495), and one free option.

LATIN AND GREEK

Requirements for Admission. First Year Program (Arts, Science or Social Science) with Latin 20, Greek 2 or 10 and one other course as principal courses, English and another modern language as recommended options. The requirements for admission to Greek 20 must be completed by the beginning of the second year.

After the First Year the program consists of seven honors Latin courses (Latin 200, 250, 300, and any four others), Greek 20, 200, 250, 300, 350, Classical Studies 275, the Comprehensive Examinations (Latin 495 and Greek 495), and two free options.

LATIN

Requirements for Admission. First Year Program (Arts, Science or Social Science) with Latin 20, Greek 2 (if taken), and one or two other courses as principal courses, English and another modern language as recommended options. If Greek 2 is not taken until the Second Year, the requirements for admission to Greek 20 must be completed by the beginning of the Third Year. After the First Year the program consists of eight honors Latin courses (Latin 200, 250, 300, and any five others), Greek 2 or 10, 20, 200 and 250, Classical Studies 275, the comprehensive Examination (Latin 495), and two free options.

COMBINED HONORS PROGRAMS

Latin or Greek may be combined with English, Fine Art, French, German, Philosophy, Russian or Spanish in a Combined Honors Program.

Requirements for Admission. First Year Program (Arts, Science or Social Science) with Latin 20 or Greek 20 and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the department concerned.

After the First Year the program consists of a total of at least fifteen courses: a minimum of six Latin courses (Latin 200, 250, 300, and any three others) or six Greek courses (Greek 200, 250, 300, 350, 400, 450), Classical Studies 275, the Comprehensive Examination in Latin (Latin 495) or Greek (Greek 495), the required courses in the second subject, as listed by the department concerned, and enough options to complete the total.

General Courses

CLASSICAL STUDIES
(ability to read Greek and Latin not required)

The requirements for a concentration in Classical Studies in the Three-year program consist of Classics 27 (or permission of the Department) and any four senior Classical Studies courses.

27. Classical Literature in Translation. A study of the development of literary genres in the Greek and Roman world, including prescribed reading of specimens of each type in translation, plus lectures and discussions on general background.
3 hours — 8.

30. The Art of Prose. A study of the development of classical rhetoric, its influence on higher education and poetry, and the beginnings of stylistic literary criticism.
2 hours — 1.

33. Classics and the Contemporary Scene. A study of those elements of 20th century thought in the fields of natural science, social science, and arts which owe their ultimate existence to the ancient Greek and Roman civilizations.
2 hours — 33.

35. Greco-Roman Political Theory and Institutions. A study of the theories of leading classical writers on politics and their relationship with the institutions of various states of the Greco-Roman world. (not offered 1972-73).
2 hours —

37. Classical Mythology. A study of Greek and Roman mythology, with some reference to its influence in modern European literature.
2 hours — 18.

39. Greek and Roman Religion. Greek, Roman and Christian contributions to the religious life of the classical world.
2 hours —

40. Greek History. A survey of the history of Greece from the Minoan and Mycenaean period to Rome's ascendancy.
2 hours — 3.

41. Roman History. A survey of the history of Rome from its beginnings to the fall of the Western Empire.
2 hours — 34.

43. Roman Law. The origin and substance of Roman Law and its application in the everyday life of the Roman world.
2 hours —

47. Classical Civilization. Greece and Rome, with emphasis on cultural and social life rather than political history.
2 hours — 21.

GREEK

2. Elementary Greek. An accelerated preparatory course for those who wish to begin the study of Greek at the University, and to have the possibility of proceeding directly to Greek 20.
4 hours — 28.

10. Intermediate Greek. Selections from Freeman and Lowe, Greek Reader; Plato, "Crito"; composition, sight translation.
Prerequisite: Grade 12 Greek or Greek 2.
3 hours — 28.

20. Advanced Greek. Plato "Apology"; a play of Euripides; composition, sight translation.
Prerequisite: Grade 13 Greek, or Greek 10, or Greek 2 with permission of the department.
3 hours — 5.

LATIN

2. Elementary Latin. An accelerated preparatory course for those who wish to begin the study of Latin at the university, and to have the possibility of proceeding directly to Latin 20.
4 hours — 26.

10. Intermediate Latin. Selections from prose and poetry; composition and sight translation (Normally offered only at Brescia College, in Summer School, or by Correspondence).
Prerequisite: Grade 12 Latin or Latin 2.
3 hours — 26.

20. Advanced Latin. Vergil, "Aeneid" IV; Pliny, Selected Letters; composition and sight translation.
Prerequisite: Grade 13 Latin or Latin 10, or Latin 2 with permission of the department.
3 hours — 26.

HONORS COURSES

CLASSICAL STUDIES

275. Greek and Roman History. A survey course emphasizing the 5th century B.C., 1st century B.C. and A.D., with introductory lectures on historical methodology and the Ancient Near East. (Students may not count for credit both Classical Studies 275 and either Classical Studies 40 or 41).
3 hours —

GREEK

200. Greek Epic. Selections from Homer and Hesiod.
Prerequisite: Greek 20.
3 hours —

250. Greek Prose I. Selections from Lysias and Demosthenes; composition and sight translation.
Prerequisite: Greek 20.
3 hours —

300. Greek Drama. One play each of Aeschylus ("Persae" or "Prometheus Vinctus"), Sophocles ("Oedipus Tyrannus" or "Antigone"), Euripides ("Hippolytus" or "Bacchae"), Aristophanes ("Frogs" or "Clouds"). Lectures on the theatre and the drama.
Prerequisite: Greek 200 or 250.
3 hours —

350. Greek Prose II. Selections from Thucydides and Plato's "Republic" (one term on each).
Prerequisite: Greek 250.
3 hours —

400a. Roman Satire. Selections from Horace, Persius, Juvenal and Seneca.
Prerequisite: any two honors Latin courses
half course, first term.
3 hours —

401b. Silver Age Epic. An examination of the genre of epic with readings from Lucan and other representative authors.
Prerequisite: Latin 300.
Half course, second term.
3 hours —

450a. Roman Philosophical Prose. Selections from Cicero and Seneca.
Prerequisite: Latin 250.
Half course, first term.
2 hours —

451b. Roman Philosophical Poetry. Selections from Lucretius.
Prerequisite: Latin 200 or 300.
Half course, second term.
2 hours —

475a. Selected Topics in Ancient History.
Prerequisite: Latin 375.
Half course, first term.
2 hours —

476b. Roman Literary History and Criticism.
Prerequisite: any four honors Latin courses or permission of the Department.
Half course, second term.
2 hours —

477. Latin Composition.
Prerequisite: Latin 250.
Half course.
1 hour —

495. Comprehensive Examination. A three-hour paper in sight translation of Latin authors, to be written in the final year. This is the equivalent of a full course.

400. Greek Lyric and Hellenistic Poetry. Selections. (Not offered 1972-73).
Prerequisite: Greek 200 or 300.
3 hours —

450. Greek Prose III. Selections from Herodotus and Aristotle. (Not offered 1972-73).
Prerequisite: Greek 250.
3 hours —

495. Comprehensive examination. A three-hour paper in sight translation of Greek authors, to be written in the final year. This is the equivalent of a full course.

LATIN

200. Roman Personal Poetry: Lyric and Elegy (Selections from Catullus, Horace, Tibullus, Propertius, Ovid).
Prerequisite: Latin 20.
3 hours —

250. Roman Prose. Cicero, composition and sight translation.
Prerequisite: Latin 20,
3 hours —

300. Vergil. Selections from "Eclogues", "Georgics" and "Aeneid".
Prerequisite: Latin 20
3 hours —

350. Roman Drama. One play each of Plautus, Terence and Seneca, with supplementary readings in translation.
Prerequisite: Latin 20.
2 hours —

375. Roman Historiography. Selections from Livy, Tacitus and other representative authors.
Prerequisite: Latin 20, Classical Studies 275, or permission of the Department.
3 hours —

Department of English

Professors

Atkinson, W.E.D., BA Cantab; PhD Chicago

Barker, A.E., BA, MA Toronto; PhD London, Professor of Renaissance Literature

Bates, R.G.N., BA, MA, PhD Toronto

Conron, A.B., DSO, BA, MA UWO; AM, PhD Harvard

Fleck, P.D., BA, MA UWO; PhD Belfast. Chairman of Department

Graham, J.W., BA Manitoba; MA, PhD Toronto

Hieatt, A.K., AB Louisville; PhD Columbia

Hieatt, Constance B., BA, MA Hunter College; PhD Yale

Klinck, C.F., BA UWO; MA, PhD Columbia; FRSC. Senior Professor

Rajan, B., BA, MA, PhD Cantab. Senior Professor

Rans, G., MA Cantab; PhD Leeds

Reaney, J., BA, MA, PhD Toronto

Sanborn, C.E., BA, MA, PhD Toronto

Woodman, R.G., BA British Columbia; MA Manitoba; PhD Toronto

Associate Professors

Bandeen, Betty, BA UWO; AM, PhD Radcliffe

Bolgan, Anne C., BA D'Youville; MA, PhD Toronto

Buckley, G.E., BA Mount Allison; MA Columbia

Chapin, D.F., BA, MA, PhD Toronto

Collins, T.J., BA, MA UWO; PhD Indiana

Devereux, E.J., BA, MA Newfoundland; DPhil Oxon

Hair, D.S., BA UWO; MA, PhD Toronto. Associate Chairman

Kaula, D., BA Cornell; PhD Indiana

Parker, G.D., BA Acadia; MA Dalhousie; PhD Toronto

Somerset, J.A.B., BA Toronto; MA, PhD Birmingham

Stingle, R.M., BA, MA Toronto

Wilson, H.R., BA, MA Toronto; PhD Michigan

Assistant Professors

Arnold, L.E., BA Leeds; MA Simon Fraser

Auksi, P., BA Toronto; BA Oxon; MA, PhD Harvard

Bieman, Elizabeth, BA, MA UWO

Brown, Mary M., BA, MA UWO

Dragland, S.L., BA, MA Alberta; PhD Queen's

Garber, L., BA, MA Toronto

Gaudet, P.M., BA Toronto; MA Princeton

Good, J.M., BA, MA UWO

Hensley, D.H., BA, MA Oregon; PhD Wisconsin

House, G.S., BA, MA, PhD California (Berkeley)

Lundgren, B.R., BA Manitoba; MA, PhD UWO

Mellamphy, E.N., BA Dublin; MA Manitoba

Redekop, E.H., BA Manitoba; MA Toronto

Smith, M.E., BA Texas; MA Columbia; MA Yale

Straulman, Ann Therese, BA Wellesley; MA Kansas City; PhD Wisconsin

Surette, Leon, BA Queen's; MA, PhD Toronto

Tausky, T.E., BA McGill; BA Cantab; MA, PhD Yale

Young, A.M., BA Toronto

Lecturers

Baker, P.G., BA, MA Toronto

Fox, Maureen E., BA, MA Toronto

Shroyer, R.J., BA Yale; MA Toronto

Stanko, S.C., BA, MA Alberta

Willis, G.D., BA Alberta; MA Birmingham

Instructors

Cranston, Phillippa Mary, BA Queens; MA California

ENGLISH LANGUAGE AND LITERATURE

Requirements for Admission. First Year Program with English 20, or English 24, or English 26, and French 20 or a foreign language 20, and one other course as the principal courses. For grades required for admission and progression, see page 31. Students who fail to qualify for automatic admission but who complete the first year with an average of at least 60% in their principal courses, and at least 60% in English 20, 24 or 26 SHOULD APPLY to the Department for consideration.

Five courses constitute a normal load in each of Second, Third, and Fourth Years. Students who wish to take extra courses may do so, after consultation with the Department. In each of Second, Third, and Fourth Years, a student must take at least two honors English courses.

After First Year, the program consists of a minimum of nine honors English courses and six options. The honors English courses may be taken in any sequence, but must be distributed as follows:

at least one of: 320, 321
at least one of: 330, 331
at least one of: 340, 341
at least one of: 350, 360
at least two of: 370, 381, 382, 383
at least one of: 332, 302, 333, 334
any two honors English courses not already chosen.
Additional honors or general English courses may be chosen as options.

English 495 (Comprehensive Examination) is required in Fourth Year in addition to the normal five-course load. Students must obtain a grade of at least 60% in this Examination before they may be admitted to an honors degree in English. A student who fails the examination may repeat it once only.

The Examination is held on the first Saturday in April and on the Saturday which ends the firtst week of lectures in the Fall term (mid-September). Students in the Fourth Year of the Honors English Language and Literature program must write the Examination in April, and may write it in September only if they fail the April Examination. The reading list and any other material on which the examination is based may be obtained from the Department of English.

ARTS

ENGLISH AND DRAMA

Requirements for Admission. First Year Program with English 20, or English 24, of English 26, and French 20 or a foreign language 20, and one other course as principal courses. For grades required for admission and progression, see page 31. Students who fail to qualify for automatic admission but who complete the first year with an average of at least 60% in their principal courses, and at least 60% in English 20, 24 or 26 SHOULD APPLY to the Department for consideration.

Five courses constitute a normal load in each of Second, Third, and Fourth Years. Students who wish to take extra courses may do so, after consultation with the Department. In each of Second, Third, and Fourth Years, a student must take at least two honors English courses.

After First Year, the program consists of a minimum of twelve honors English courses and three options. The honors English courses may be taken in any sequence, but must be distributed as follows:

at least two of: 320 or 321; 330 or 331; 340 or 341.
at least one of: 350, 360, 370
at least one of: 381, 382, 383
at least two of: 302, 332, 333
at least two of: 402, 342, 371

one other honors English course in Drama not previously chosen.

any three honors English courses not previously chosen.

Additional honors or general English courses may be chosen as options.

English 495 (Comprehensive Examination) is required in Fourth Year in addition to the normal five-course load. Students must obtain a grade of at least 60% in this Examination before they may be admitted to an honors degree in English. A student who fails the Examination may repeat it once only.

The Examination is held on the first Saturday in April and on the Saturday which ends the first week of lectures in the Fall term (mid-September). Students in the Fourth Year of the Honors English and Drama program must write the Examination in April, and may write it in September only if they fail the April Examination. The reading list and any other material on which the Examination is based may be obtained from the Department of English.

COMBINED HONORS PROGRAMS

Within the Faculty of Arts, English may be studied with Fine Art, French, German, Greek, Latin, Philosophy, Russian or Spanish in a Combined Honors Program.

Requirements for Admission: First Year Program (Arts, Science or Social Science) with English 20, or English 24, or English 26 and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the department concerned. For grades required for admission and progression, see page 31. Students who fail to qualify for automatic admission but who complete the first year with an average of at least 60% in English 20, 24 or 26 SHOULD APPLY to the Departments for consideration.

After the First Year, a combined Honors Program consists of a total of at least fifteen courses: a minimum of six honors English courses, six or seven courses in the other principal subject, and two or three options. The honors English courses may be taken in any sequence, but must be distributed as follows:

at least two of English 320 or 321; 330 or 331; 340 or 341;
at least one of English 350, 360, 370;
at least one of English 381, 382, 383;
at least one of English 332, 333, 342, 371;

any honors English course not previously chosen.

For courses required in the other principal subject see the listing of the Department concerned.

Five courses constitute a normal load in each of Second, Third, and Fourth years. Students who wish to take extra courses may do so, after consultation with the Department. In each of these years, a student must take at least two honors English courses. Additional honors or general English courses and additional honors courses in the other principal subject may be chosen as options. Options are to be chosen in consultation with the Departments concerned.

ENGLISH AND HISTORY

Requirements for Admission. First Year Program with English 20, or English 24, or English 26 and any course in History 20 series and one other course as principal courses. For grades required for admission and progression, see page 31. Students who fail to qualify for automatic admission but who complete the first year with an average of at least 60% in their principal courses, and at least 60% in English 20, 24 or 26 SHOULD APPLY to the Departments for consideration.

After the First Year, the program consists of a total of at least fifteen courses: a minimum of six honors English courses, six honors History courses, and three options. The honors English courses may be taken in any sequence, but must be distributed as follows:

at least two of English 320 or 321; 330 or 331; 340 or 341;
at least one of English 350, 360, 370;
at least one of English 381, 382, 383;
at least one of English 332, 333, 342, 371;

any honors English course not previously chosen.

Second Year: The Department of History recommends the following courses: History 236; 231 or 234. Students are free to choose others from the 200 or 300 series.

Third Year: Recommended: History 335; one other course in the Honors History 300 series or, with the permission of the instructor, from the Honors History 300 or 400 series.

Fourth Year: two courses chosen from the Honors History 300 or 400 series.

Five Courses constituted a normal load in each of Second, Third, and Fourth Years. Students who wish to take extra courses may do so, after consultation with the Department. In each of these years, a student must take at least two honors English courses and two honors History courses. Additional honors or general English courses and additional honors History courses may be chosen as options. Options are to be chosen in consultation with the Department concerned.

Courses

Detailed description of the following courses may be obtained from the Department of English, University College, Room 173.

All courses in English scheduled for two hours may meet for additional hours at the discretion of the instructor.

20. General Literature and Composition. An introduction to the romance, ironic (or satiric), tragic and comic modes of literature.
3 hours — 11.

24. Forms of Fiction. An introduction to the study of a) a selection of fiction ranging from the Greek epic to the modern novel, including both short and longer forms; b) a variety of fictional modes and narrative techniques.
3 hours — 16.

26. Forms of Drama. An introduction to the study of (a) the main principles of dramatic art; (b) selected aspects of dramatic and theatrical history; (c) the major dramatic genres.
3 hours — 16.

General Courses

These courses are for upperclassmen who wish to take English courses as options, but do not have English 20, or English 24, or English 26; for students in the Three-year Program in English who want a wider variety of senior courses (such students will also have taken English 20, or English 24, or English 26, and can therefore also choose to take Honors courses, or a combination of General and Honors courses); and for students in the Honors English programs who want a greater selection of subsidiary courses.

30. Comparative Literature. A course of reading in English or in English translations of some of the great books of Western civilization from Homer to Joyce with particular emphasis on the growth of epic, drama and fiction.
3 hours — 10.

31. Contemporary Literature. An introduction to the poetry and prose of the contemporary scene.
3 hours — 13.

32. Introduction to Linguistics. An introduction to the chief types of scientific study of language, designed primarily for the student who is either a native speaker of English or whose major field of study is English language and literature. Examples of various language types and systems are studied, with English as a constant point of reference.
3 hours — 35.

35. The Literature of the Bible. A study of extensive readings in the prose and poetry of the Bible, including the Apocrypha, with supplementary readings in later literature. Attention will be given to genres, styles, structural and symbolic patterns, and the use of Biblical materials in later literature.
3 hours — 20.

37. The English Language. A study of the history of the language, dealing with changes in sounds, spelling, and grammar, leading to a detailed study of modern English.
3 hours — 16.

38. Canadian Literature and Culture. An introduction to as many images of our civilization as possible: poetry, prose fiction, social documentaries, autobiographies as well as Eskimo, French and Indian texts in translation. This material is informally related to our painting, music and films through the use of slides and tapes.
3 hours — 17.

Film 40. Film, 1895-1945. A study of the history of the film from 1895 to 1945, through an examination of the works of the major film-makers and of the aesthetic and technological influences on their works. In addition to lectures and tutorial there will be one viewing of a film each week.
3 hours — 28.

Film 41. Contemporary Film, 1945 to the Present. A study of contemporary film through an examination of the works of the major film-makers and of the aesthetic and technological influences on their works. In addition to lectures and tutorial there will be one viewing of a film each week.
3 hours — 3.

Film 42. Problems.
Prerequisite: Film 40 or Film 41, or permission of the Department.
3 hours — 14.

Speech 43. The Major Forms of Oral Discourse. For effective communication of ideas: Public Address, with basic purposes; Group Discussion; Debate; Voice and Diction; Interpretative Reading.
2 hours — 30.

NOTE: Film 40, Film 41, Film 42, and Speech 43 cannot be credited as part of an area of concentration in English in the three-year BA Program.

Honors Courses

The following courses are available to any student regardless of program who has at least a C standing in English 20, or English 24, or English 26, or the permission of the Department.

300. The Novel.
3 hours — 33.

301. Criticism. A survey of the major critics and problems in terminology and practical criticism.
3 hours — 22.

302. Greek and Roman Theatre and Drama.
3 hours — 28.

303. Dramatics. Studies in the principles and theories of directing, acting and design.
2 hours lectures, 2 hours laboratory.

320. Old English Language and Literature. With special emphasis on Beowulf.
3 hours — 2.

321. Chaucer and His Age.
3 hours — 36.

330. Literature of the Sixteenth Century. Excluding drama.
3 hours — 24.

331. Literature of the Seventeenth Century. Excluding drama.
3 hours — 12.

332. Shakespeare.
3 hours — 11.

333. Medieval to Jacobean Drama (1300-1642). Excluding Shakespeare.
3 hours — 33.

340. Literature of the Restoration and Early Eighteenth Century (1660-1727).
3 hours — 31.

341. Literature of the Eighteenth Century (1727-1790).
3 hours — 20.

342. The Drama: Restoration to Romantic.
3 hours — 26.

350. Literature of the Romantic Revival (1798-1832).
3 hours — 8.

360. Literature of the Victorian Period (1832-1900).
3 hours — 7.

370. Modern Literature (1890-1945).
3 hours—9.

371. Modern Drama.
3 hours—23.

381. Canadian Literature.
3 hours—10.

382. Literature of the United States to 1885.
3 hours—6.

383. Literature of the United States from 1885.
3 hours—27.

401. Problems Course. Prerequisite: English 20, or English 24 or English 26, and permission of the Department.
3 hours—4.

402. Problems Course: Drama. Prerequisite: English 20, or English 24, or English 26, and permission of the Department.
3 hours—1.

490. Thesis. Individual instruction in the selection of a topic, the preparation of materials, and the writing of a thesis. Students who wish to take this course must apply to Professor C.E. Sanborn, Chairman, Committee on Undergraduate Studies, Department of English. This course is restricted to students in Year Four of an Honors English Program.

Department of Fine Art

Professor

Dale, W.S.A., BA, MA Toronto; PhD Harvard; FRSA. Head of Department

Associate Professors

Hart, W.S., BA, MA California (Berkeley)

Urquhart, A.M., BFA Buffalo

Assistant Professors

Bonario, B., BS Texas; MA Michigan

Cameron, M.A.S.., BA, MA Liverpool

de Kergommeaux, D.

Fenwick, W.R.

Lecturers

Becker, H.J., BA Sask., MS Wisconsin

Handy, A.E., BFA, MFA Alfred (New York State College of Ceramics)

Stubbs, M.C., AOCA (Part-time)

HONORS PROGRAM

Requirements for Admission: First Year Program (Arts Science or Social Science) with Fine Art 20 and two other courses as principal courses.

SECOND YEAR

Principal Courses

Four courses from the Fine Art 200 series with at least one from art history and one from studio practice.*

Subsidiary Course

One option selected in consultation with the Fine Art Department.

THIRD YEAR

Principal Courses

Four courses from the Fine Art 300 series, with at least one from art history and one from studio practice.*

Subsidiary Course

One option selected in consultation with the Fine Art Department.

FOURTH YEAR

Principal Courses

Four full courses from the Fine Art 400 series, with at least one from studio practice and the equivalent of one course from art history.*

Subsidiary Course

One option selected in consultation with the Fine Art Department.

COMBINED HONORS PROGRAMS

Fine Art may be combined with English, French, German, Greek, Latin, Philosphy, Russian or Spanish in a Combined Honors Program.

Requirements for Admission. First Year Program (Arts, Science or Social Science) with Fine Art 20 and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the department concerned.

After the First Year the program consists of a total of at least fifteen courses: a minimum of seven Fine Art courses including at least two from art history and two from studio practice, the required courses in the second subject, as listed by the department concerned, and enough options to complete the total.

FINE ART PORTION OF COMBINED HONORS PROGRAM

SECOND YEAR

Principal Courses

Fine Art 220, 230 and 232

THIRD YEAR

Principal Courses

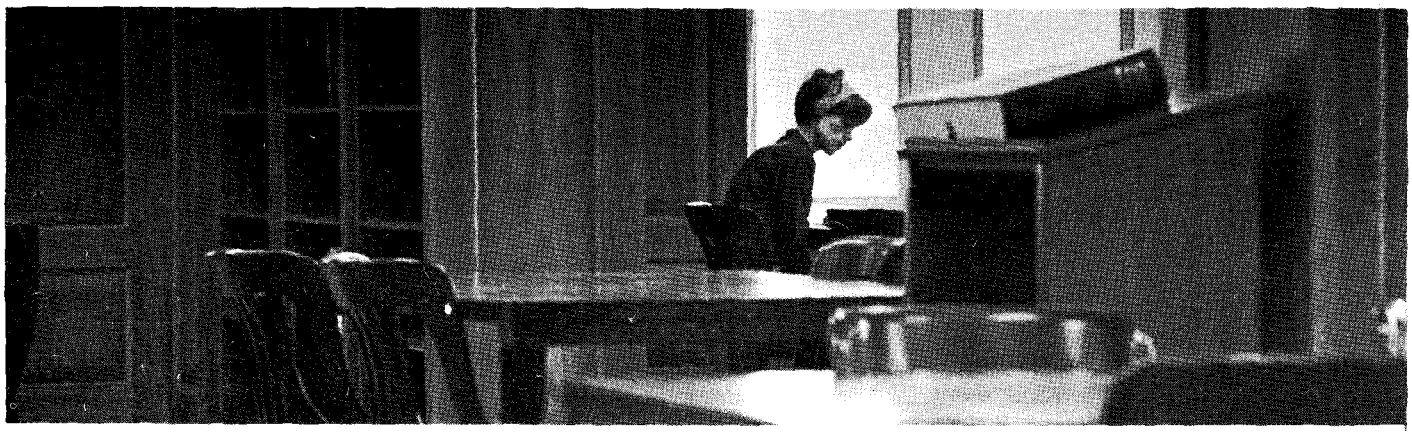
Two courses from the Fine Art 300 series

FOURTH YEAR

Principal Courses

One course from the Fine Art 400 series One course from either the Fine Art 300 or the Fine Art 400 series

* To meet the requirements of the Department of Education for the High School Assistant's Certificate, Type A, in Art, students are expected to take a roughly equal number of Principal Courses in art history and studio practice.



General Courses

20. Introduction to the Study of Art. An introduction to the formal and historical analysis of the visual arts, with particular reference to contemporary forms; studio exercises in the basic elements of design and the visual analysis of works of art.
2 lecture hours, 3 studio hours — 21.

NOTE: Registration will be limited to 50 students, selected on the basis of an interview and a small portfolio. Priority will be given to students who intend to enter The Honors Program in Fine Art or to concentrate in Fine Art. Fine Art 20 is the prerequisite for all studio courses.

21. Art History Survey. A chronological survey of Western Art, including architecture, painting and sculpture. For students who do not intend to enroll in the Honors Program or to concentrate in Fine Art in the Three-year Program.
3 hours — 21.

NOTE: Students in the Three-year Program may enroll in senior Honors courses with the permission of the Department, provided that they have already taken Fine Art 20 or Fine Art 21. Students in other Honors programs may take Senior courses in art history with the permission of the Department.

Honors Courses

220. Contemporary Expression I. The exploration of basic modes of visual expression in two and three dimensions, and the acquisition of skills in various media.
4 studio hours.

221. Basic Drawing. Drawing from the live model as an exercise in the perception and control of contour, volume and mass.
4 studio hours.

222. Basic Ceramics. A studio course in the creative use of clay. (Not offered 1972-73)
4 studio hours.

230. Ancient and Mediaeval Art. Architecture, sculpture, painting and minor arts from prehistoric times to the end of the 14th century.
3 hours — 14.

232. Renaissance and Modern Art. Architecture, painting and sculpture in Europe and North America from the fifteenth century to the present day.
3 hours — 4.

237. Art in North America. Painting, architecture and sculpture in the United States and Canada from the 17th century to the present.
3 hours — 1.

310. Art Theory. An introduction to art theory and criticism, with particular reference to present-day art. (Not offered 1972-73)
3 hours — 2.

320. Contemporary Expression II. A continuation of the three-dimensional aspect of 220, with greater emphasis on originality and quality.
4 studio hours.

321. Painting I. A continuation of related aspects of 220 and 221.
4 studio hours.

323. Print-Making I. The expressive use of silkscreen, still photography and lithography.
4 studio hours.

330. Classical Art and Archaeology. Architecture, sculpture, painting and minor arts of Greece and Rome from the Bronze Age to the reign of Constantine.
3 hours — 10.

331. Gothic Art. Architecture, sculpture, painting and minor arts in Northern Europe from the early 12th century to the end of the 14th. (Not offered 1972-73)
3 hours — 32.

332. Italian Renaissance Art. Architecture, painting and sculpture in Italy from Giotto to Titian. (Not offered 1972-73)
3 hours — 28.

333. Baroque Art. Painting, architecture, and sculpture in southern and northern Europe in the 17th century.
3 hours — 22.

336. Modern Art. Architecture, painting, sculpture and graphic arts in Europe and North American since 1850.
3 hours — 16.

337. The Group of Seven. The rise of the national school of painting in Canada. (Not offered 1972-73)
3 hours — 19.

338. Oriental Art. The art of China, Japan and India. (Not offered 1972-73)
3 hours — 33.

410. Museology. Seminar on the history and function of Art Museums with practical exercises in curatorial duties
3 hours — 2.

420. Contemporary Expression III. Advanced 3-dimensional projects.
4 studio hours.

421. Painting II. Advanced projects in painting and drawing.
4 studio hours.

423. Print-Making II. Etching and experimental techniques, including use of film.
4 studio hours.

430a. and b. Selected topics in Ancient Art. Subjects to be announced. Half courses. Fall and Spring terms.
3 hours — 33.

431a. and b. Selected topics in Mediaeval Art. Half courses. Fall and Spring terms.
3 hours — 13.

432a. and b. Selected topics in Renaissance Art. Subject to be announced. Half course, Fall term.
3 hours — 17.

433a. and b. Selected topics in Baroque Art. Subject to be announced. Half course. Spring term.
3 hours — 17.

436a. and b. Selected topics in Modern Art. Half courses. Fall and Spring terms. (Not offered 1972-73)
3 hours — 26.

Department of French

Professors

Bush, W.S., BA John B. Stetson University; MA South Dakota; DU Paris

Sanders, J.B., BA, MA Manitoba; DU Paris

Tuchmaier, H., PhD Laval

Venesoen, C., DesL Laval, Chairman of Department

Associate Professors

Balse, M.L., BA, MA, PhD Bombay; DU Paris

Creighton, D.G., BA, MA Toronto; PhD Columbia

Forsyth, Louise H., BA Sask.; MA, PhD UWO

Heller, L.M., BA, MA, PhD Wisconsin

Jones, Dorothy F., BA Smith; MA Columbia; PhD Brown

Walters, R.L., BA Oberlin; MA PhD Princeton

Assistant Professors

Arnold, I., BA London; MA British Columbia; PhD Toronto

Atance, F.R., BA Toronto; MA Nebraska; DU Nancy

Baguley, D., BA Nottingham, MA Leicester, DU Nancy, Assistant to Chairman

Brunet, J.P., LesL, DES Sorbonne

Cameron, J.L., BA New Zealand; MA Canterbury; MA, PhD Princeton

Davies, B., BA McMaster; MA Harvard

Gagnon, G., BA, LesL Laval; MA Aix en Provence

Holder, M.A., B.A., M.A., PhD Toronto

Ly, Thi N., DU Paris

Ross, Margaret H., BSc Dalhousie; LesL Orleans-Tours; MA Dalhousie; D Ille C Orleans-Tours

Saraydar, Alma C., BA California (Los Angeles); MA Chicago; PhD California (Berkeley)

Tatilon, C.D., LesL Aix-en-Provence

Vilquin, J.C., LesL Paris

Youssef, Zobeidah, LesL Lausanne, DU Paris

Lecturers

Andrieu, Jacqueline, LesL, DES Aix-en-Provence

Bednarski, Helen E., BA London, MA Dalhousie

Bowker, Carolyn, BA, MA Toronto

Dupraz, J.Y., LesL, MesL Grenoble

Goldschlager, A.J., LesL Agreg. Brussels

Holmes, G., BA Leeds

Jones, R.F., BA Dublin; MA Queen's

Vikar, A.B., BA, MA Toronto

FRENCH LANGUAGE AND LITERATURE

Requirements for Admission. First Year Program (Arts, Science or Social Science) with French 20 and two other courses as principal courses. For grades required for admission and progression see page 31. Options are to be chosen in consultation with a Departmental adviser.

SECOND YEAR

Principal Courses

French 232, 271, 290

Subsidiary Courses

Two Options

THIRD YEAR

Principal Courses

French 381, 396, 378, 398

Subsidiary Course

One Option

FOURTH YEAR

Principal Courses

French 400, 410, 450, 491, 495*

Subsidiary Course

One Option

COMBINED HONORS PROGRAMS

Within the Faculty of Arts, French may be combined with English, Fine Art, German, Greek, Latin, Philosophy, Russian or Spanish in a Combined Honors Program.

Requirements for Admission: First Year Program (Arts, Science or Social Science) with French 20, and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the department concerned. For grades required for admission and progression, see page 31.

After the First Year, the program consists of a total of at least fifteen courses, a minimum of seven honors French courses, six or seven courses in the other principal subject, and one or two options. The French courses must be taken as follows:

Second Year:	French 271, 290
Third Year:	French 381 and one or two of 378, 396, 398
Fourth Year:	French 491, 495 and one or two of 400, 410, 450 or any of 378, 396, 398 if not previously taken.

*Comprehensive Examination in the Spring.

COMBINATIONS

French make be taken in combination with other subjects to allow the student to take an Honors Degree in one subject and the equivalent of a General Degree Area of Concentration in the other.

French may be combined with such subjects as English, Fine Art, German, History, Journalism, Latin, Music, Philosophy, Political Science, Russian, Spanish and Italian.

In all these combinations the French Department requires that French 271 and French 290 be taken in the second year. For required second year courses in the other subject of the combination, the student should consult the Department concerned.

In the third and fourth years, should the student opt for Honors French with an Area of Concentration in the other subject, his French courses will be the third and fourth year principal courses in the French Language and Literature Program. Should the student choose to take Honors in the other subject and an Area of Concentration in French, the required French courses will be two from the following: French 232, 278, 381 (strongly recommended), 396, 398.

Students interested in registering in combinations should consult their Departmental Advisers in both Departments before choosing their courses.

COURSES

The requirements for a concentration in French in the Three-year Program consists of: French 271, 290 and at least 2 of the following 232, 378, 381 (strongly recommended), 396, 398.

A student will normally proceed to a French concentration with French 20 as the prerequisite, in the absence of which he may register in a French concentration only with the approval of the Department.

2. Intensive French for Beginners. Grammar, composition, oral practice. This course is designed for students beginning French at University. Prepares the student directly for French 20.
5 hours — 16.

10. Intermediate French. Grammar review, composition, translation, oral practice. (One hour per week in the *Language Laboratory may be required.*)
Prerequisite: Grade 12 French.
3 or 4 hours — 23.

20. French Language and Literature. This is the basic Freshman course in French, providing training in Language and Literary studies and an introduction to French institutions. In the initial stages, English will be used; thereafter the course will be given in French. Lectures, tutorials and language laboratory.
Prerequisite: French 2, 10 or Grade 13 French.
4 hours per week — 23.

30. The French Novel. A study of typical examples of the novel taken from French literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20 or by permission of the Department.
3 hours — 21.

31. Language. Grammar, composition, translation, oral practice. (One hour per week in the language laboratory may be required).
Prerequisite: French 20 or by permission of the Department.
3 or 4 hours — 23.

32. French Civilization and Conversation. See French 232.

34. French Drama. A study of typical examples of French dramatic literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20 or by permission of the Department.
3 hours — 31.

36. French Poetry. A study of representative French poems from the Mediaeval *period to the present.*
Prerequisite: French 20 or by permission of the Department.
3 hours per week — 36.

38. French-Canadian Literature. A study of typical examples of French-Canadian Literature.
Prerequisite. French 20 or by permission of the Department.
3 hours per week — 9.

39. Modern French Literature in translation. A study of novels and plays from the last half century.
3 hours. (Not offered 1972-73)

41. Advanced Grammar and Composition. (One hour per week in the language laboratory may be required.)
Prerequisite: French 31 or by permission of the Department.
3 or 4 hours — 23.

42. French-Canadian Civilization and French Conversation. A series of readings drawn from material concerned with French-Canadian civilization, and discussion based on them.
Prerequisite: French 20 or by permission of the Department.
3 hours per week — 28.

43. Commercial French. Translation of commercial correspondence, reading. (For students in Secretarial Science).
Prerequisite: French 31, 271 or by permis*sion of the Department.*
3 hours per week — 22.

45. Scientific French. Reading of scientific French from textbooks and journals, supplemented by individual reading in the special field of study of each student.
Prerequisite: French 2, 10 or Grade 13 French.
1 hour; half course — 27. (Not offered 1972-73)

HONORS COURSES

All students in Honors Programs will take a comprehensive examination (French 495) at the end of their final year.

232. French Civilization. A study of modern France, her historical background and political, economic, social and cultural development.
Prerequisite: French 20 or by permission of the Department.
3 hours — 32.

271. Language. Grammar, composition, oral practice, phonetics, introduction to Linguistics. (One hour per week in the language laboratory may be required). This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 or 4 hours — 17.

290. Introduction to French Literature. A study in depth of texts from the 19th and 20th centuries designed to provide intensive training in the skills of literary analysis. This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 hours — 14.

378. Literature of the 17th and 18th Centuries. Selected authors and texts. Prerequisite: French 290.
3 hours — 9.

381. Language. Grammar, composition, translation and oral practice. (One hour a week in the language laboratory may be required). This course is recommended for concentration in French.
Prerequisite: French 271.
3 or 4 hours — 15.

396. History and structure of the French Language.
Prerequisite: French 271.
2 or 3 hours — 4.

398. Literature of the 19th and 20th Centuries and of French Canada. Selected authors and texts, one of which must be in French Canadian Literature.
Prerequisite: French 290.
3 hours — 31.

400. Senior Seminars and Essay. Selected topics and critical essay.
Prerequisites: French 378 and 398.
3 hours.

410. Supplementary Studies. Free choice of selected authors and texts not already chosen by the student for study in 378, 398, 400 or 450.
Prerequisite: French 396, 378 and 398.
3 hours.

450. Literature to 1600. Selected authors and texts.
Prerequisite: French 396.
3 hours — 6.

491. Language. Composition, translation and oral practice; introduction to comparative stylistics.
Prerequisite: French 381.
3 or 4 hours — 12.

495. Comprehensive Examination. A written examination, which will test the students' general knowledge of French language and literature, plus a brief oral examination to test the students' fluency in French.

Department of German

Professors

Immerwahr, R.M., AB Swarthmore; MA Northwestern; PhD California (Berkeley). Chairman of Department

Tracy, G.L., BA Queen's; MA, PhD Wisconsin

Associate Professors

Anderson, A.R., BA Toronto; PhD Brown; Administrative Secretary

Schluetter, H.J., PhD Kiel

Spencer, Hanna, PhD Prague

Assistant Professors

Calbert, J.P., Lic. Agreg. Louvain, PhD Indiana

Purekevich, Renata, BA, MA, PhD UWO

Seufert, G.H., Staatsexamen Tubingen

Instructor

Hess, G., BA, MA Toronto

GERMAN LANGUAGE AND LITERATURE

Requirements for admission. First Year Program (Arts, Social Science, or Science) with German 20 or 22 (or 2 or 10) and two other courses as principal courses. For grades required for admission and progression see page

SECOND YEAR

Principal Courses

German 290 and 291 (or, as recommended by the Department, either 391 or 481)

Subsidiary Courses

Three Options

THIRD AND FOURTH YEARS

Principal Courses

German 333, 390, 391, 420, 425, 430, 444, 480, 481, 482 as required to make a total of nine in the three senior years (see note below)

Subsidiary Courses

Three Options

NOTE: There is to be a total of nine German Honors courses in the three senior years and a comprehensive examination in the spring, designated as German 495. Additional German courses may be taken as options. Students are normally required to take the three language courses 291, 391 and 481. Students fully proficient in spoken and written German are required to include as the only language course German 481.

COMBINED HONORS PROGRAMS

German may be combined with English, Fine Art, French, Greek, History, Latin, Philosophy, Russian or Spanish in a Combined Honors Program.

Requirements for Admission. First Year Program (Arts, Science or Social Science) with German 20 or 22 (or 2 or 10) and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the other department concerned. (Students who take German 2 or 10 in the first year must take German 20 or German 22 along with their second year courses).

After the First Year the program consists of a total of at least fifteen courses: a minimum of seven German Honors Courses, the required courses in the second subject, as listed by the department concerned, and enough options to complete the total.

The German courses must be taken as follows:

Second Year:	290 and 291 (or, as recommended by the Department, either 391 or 481).
Third and Fourth Year:	333, 390, 391, 420, 425, 430, 444, 480, 481, 482 as required to make a total of seven in the three senior years. Literature courses in the 300 and 400 series may be taken in any sequence.

NOTE: There is to be a total of seven German Honors courses in the three senior years. Students are normally required to take the three language courses German 291, 391 and 481. Students fully proficient in spoken and written German are required to include German 481 as their only language course. A comprehensive examination in the spring, designated as German 495, is recommended in addition to the seven German Honors courses for all students planning to do graduate work in German.

GERMAN AND HISTORY

Requirements for Admission. First Year Program (Arts, Science or Social Science) with a 20-level History course and German 20 or 22 and one other course as principal courses. For grades required for admission and progression see page 31. After the First Year the program consists of a total of at least fifteen courses, a minimum of seven honors German courses, seven honors History courses, and one option.

The German courses must be taken as follows:

Second Year:	290 and 291 (or, as recommended by the Department, either 391 or 481).
Third and Fourth Years:	333, 390, 391, 420, 425, 430, 444, 480, 481, 482 as required to make a total of seven in the three senior years.

NOTE: There is to be a total of seven German Honors courses in the three senior years. Students are normally required to take the three language courses German 291, 391 and 481. Students fully proficient in spoken and written German are required to include as their only language course German 481. A comprehensive examination in the spring, designated as German 495, is recommended in addition to the seven German Honors courses for all students planning to do graduate work in German.

History courses must be taken as follows:

Second Year:	History 231, 236
Third Year:	Two of History 330, 335, 337, 346, 356
Fourth Year:	Three of History 330, 337, 356, 436, 456, 460

Subsidiary Courses: One option in the Second Year. (An additional German or History course may be selected).

Courses

The requirements for a concentration in German in the three-year program consist of 4 senior courses in German. These may be one language course (e.g. 291, 391 or 481) and three literature courses, or two language and two literature courses. Courses on German literature in translation (e.g. 36 and 39) may not be counted among the requirements for a concentration in German. The courses must be chosen in consultation with a departmental Advisor. A student will normally proceed to a German concentration with German 20 or 22 as the prerequisite, in the absence of which he may register in a German concentration only with the approval of the Department.

1. Introductory German. Study of the sounds and structure of the language. Intensive oral and written practice. Readings in prose and poetry.
3 hours — 36.

2. Intensive German for Beginners. A more intensive course than German 1. Designed for students who begin German at the University and who contemplate making German their subject of concentration or desire to enter the German Honors courses.
3 lecture hours, 2 laboratory hours — 36.

5. Elementary Scientific German. The elements of German grammar and readings in scientific German.
3 hours — 23.

10. Intermediate German. Further study of the structure and idiom of the language. Readings in modern prose and poetry. Oral and written practice.
Prerequisite: German 1 or permission of the Department.
3 hours — 36.

20. German Language and Literature. Survey of German literature, given in German.
Prerequisite: Grade 13 German or 2 or 10 or permission of the Department.
3 hours (plus optional lab hours) — 36.

22. German Conversation and Contemporary Readings. A course designed to increase proficiency in the use

and comprehension of spoken and written German. Systematic oral practice and discussion of contemporary texts. Conducted in German. This course is a first year alternative to German 20.
Prerequisite: as for German 20.
3 hours (plus optional lab hours).

30. The German Novelle from Goethe to the Present.
Prerequisite: German 20 or permission of the Department.
3 hours — 5.

35. Intermediate Scientific German. The reading of scientific works in German and a review of basic grammar as an aid to reading.
Prerequisite: German 1 or German 5 or permission of the Department.
2 hours — 23

German 36. Modern German Fiction in Translation. This course is designed to introduce the English-speaking student to German writers of the late 19th and 20th centuries who have influenced contemporary literature and thought (e.g. Mann, Kafka, Hesse, Grass). The course will be given in English and may not count towards a German concentration.
3 hours — 29.

German 39. Modern German Theatre in Translation. This course is designed to deepen the English-speaking student's knowledge of 20th-century German theatre. In addition to readings in dramatists such as Brecht, Diirrenmatt, Frisch, Grass, Hochhuth and Weiss and related criticism, there will be consideration of social and political emphases, of the absurdist and documentary theatre, and of the anti-theatre. The course will be given in English and may not count towards a German concentration.
3 hours — 33

40. German Drama from the Classical Period to the Present.
Prerequisite: German 20 or permission of the Department.
3 hours — 24.

42. German Lyric Poetry.
Prerequisite: German 20 or permission of the Department.
3 hours — 15.

44. A study of some major German novels of the nineteenth and twentieth centuries.
3 hours — 20.

45g. Scientific German for Graduate Students. The reading of scientific works in German from textbooks and journals, supplemented by individual reading in a chosen special field of study. This course may be elected by students without a previous knowledge of German.
2 hours — 23.

Honors Courses

Students may enter honors courses only if they have completed German 20 (or German 22, with the approval of the Department). Literature courses in the 300 and 400 series may be taken in any sequence.

29G. German Prose and Poetry of the Nineteenth Century.
Prerequisite: German 20 or 22.
3 hours —35.

291. Conversation and Composition.
Prerequisite: German 20 or 22 or equivalent competence in written and spoken German.
3 hours — 24.

333. History and Structure of the German Language. (An analysis of the sounds and structures of New High German and their historical development.)
3 hours — 4.

390. German Drama of the Nineteenth Century.
3 hours — 26.

391. Conversation and Composition. (Aspects of German intellectual and cultural history will be the basis of the discussion and writing).
Prerequisite: German 291 or equivalent competence in written and spoken German.
3 hours — 34.

420. German literature of the Twentieth Century.
3 hours — 16

425. Mediaeval German Literature. (Selected writings from the period 800 to 1500, read partly in modern German translation, with emphasis on Middle High German lyric and epic poetry).
3 hours.

430. German literature of the Sixteenth and Seventeenth Centuries.
3 hours — 34.

444. The German Novel from the Eighteenth Century to the Present.
3 hours — 25.

480. German Classicism. Goethe.
3 hours — 6.

482. Lessing and Schiller.
3 hours — 10.

481. Advanced oral and written German. (The discussion and writing will centre on contemporary German society.)
Prerequisite: German 391 or equivalent competence in written and spoken German.
3 hours — 19.

German 495. A written examination which will test the student's general knowledge of German literature as well as his critical and evaluative ability. Required for the honors program in German Language and Literature and recommended for all students contemplating graduate study in German.



Department of Hebrew

For course description see Huron College

Department of Linguistics

Associate Professors

Asensio, J., Lic, Dr, Fil y Let Madrid (Spanish)

Avotins, I., BA Toronto; AM, PhD Harvard (Classical Studies)

Bandeen, Betty, BA UWO; AM, PhD Radcliffe (English)

Wilson, H.R., BA, MA Toronto; PhD Michigan (English) Group Chairman

Assistant Professors

Brunet, J.P., LesL, DES Sorbonne (French)

Calbert, J.P., PhD Indiana (German)

Eramian, G.M., BA Brown; MA Columbia (Russian Studies)

Holder, M.A., BA, MA, PhD Toronto

Tatilon, C.D., LesL, Aix-en-Provence (French)

Lecturer

Shamis, S.L., BA California (Berkeley); MA UCLA (Anthropology)

Linguistics at the University of Western Ontario is administered by a Linguistics Group drawn from interested departments throughout the University. The following courses are offered at the undergraduate level by participating departments:

English 32. Introduction to Linguistics.

English 37. History of the English Language.

French 396. History and Structure of the French Language.

German 333. History of the German Language.

Russian 393. History of the Russian Language.

Spanish 461. Spanish Language and Civilization. Outside the Faculty of Arts.

Anthropology 241. *Anthropological Linguistics.*

Department of Philosophy

Professors

Binkley, R.W., BA Colorado; PhD Minnesota. Assistant Chairman.

Butts, R.E., BA, MA *Syracuse; PhD Pennsylvania. Chairman of* Department.

Davis, J.W., BA, MA, PhD Boston

Johnson, A.H., BA Mt. Allison; MA, PhD Toronto; FRSC Senior Professor

Johnson, H.J., BA Alfred; PhD Chicago

Leach, J.J., BA Heidelberg; MA Trinity; PhD Michigan State

Associate Professors

Block, I., BA Vanderbilt; MA, PhD Harvard

Bronaugh, R.N., BA Oregon; MS, PhD Wisconsin

Bub, J., BSc Capetown; PhD London (Birkbeck)

Freed, B., BA Kenyon College; PhD California (Berkeley)

Henry, W.C., BA, MA UWO; PhD Toronto

Hockney, D.J., BA McMaster; PhD Cornell

Hooker, C.A., BSc, BA, PhD (Physics) Sydney; PhD (Philosophy) *York*

Marras, A., BA Colgate; PhD Duke

Maynard, P., BA Chicago; PhD Cornell

Pearce, G., BA William and Mary

Williams, Martha E., BS William and Mary; MA, PhD Bryn Mawr

Assistant Professors

Beaman, E., BA Cincinnati

Harper, W.L., BS Rensselaer

Lennon, T., BA Manhattan; PhD Ohio State

Muehlmann, R.G., BA Indiana; PhD Iowa

Nicholas, J.M., BSc, MSc Sussex

Shorten, Sarah J., MA St. Andrews; MA Washington

Three-year Program

There is no special departmental requirement for concentration in Philosophy. Philosophy 20 is recommended in first year, however, and it is also recommended that the student include at least some courses from Philosophy 31, 36, 47 and 48 in the second and third years. Students concentrating in Philosophy should consult with the assistant chairman of the department each year before registration.

Honors Programs

All selections of courses by students in Philosophy honors programs require written Departmental approval and students must consult with the Department each year before registration for this purpose.

PHILOSOPHY

Requirements for Admission. First Year General Program (Arts, Social Science, or Natural Science) with, at minimum, three principal courses which should include Philosophy 20. With permission of the Department of Philosophy, a student who has not taken Philosophy 20 may enter this program.

After the first year this program requires, at minimum, nine honors Philosophy courses and six options. Some of the options may be additional Philosophy courses and probably should be in the case of a student contemplating graduate work in Philosophy. Philosophy 254 must be taken in the second year and at least three 400 level Philosophy courses must be taken. For the rest, the student makes his own selection of courses in consultation with the Department and with its approval.

The normal load is five courses each year including at least two honors Philosophy courses. These and one other course (which shall be an honors Philosophy course, if taken) shall be considered as principal courses. Additional courses may be taken with the approval of the Department.

PHILOSOPHY with MINOR

Requirements for admission: First year General program (Arts, Natural Science or Social Science) with, at minimum, three principal courses which should include Philosophy 20 and whatever principal courses are required by the Department of the Minor. With permission of the Department of Philosophy, a student who has not taken Philosophy 20 may enter this program.

After the first year the program requires, at minimum, seven honors Philosophy courses, five honors courses in the Department of the Minor and three options. Some of the options may be additional Philosophy or Minor courses, and probably should be in the case of a student contemplating graduate work. Philosophy 254 must be taken in second year and at least two 400 level Philosophy courses must be taken. The selection of Minor courses requires the approval of the Department of the Minor which must be consulted each year before registration, along with the Philosophy Department.

The normal load is five courses each year including at least two honors Philosophy courses and one course from the Minor, which shall be considered as principal courses. Additional courses may be taken with the approval of the Departments.

COMBINED HONORS PROGRAMS

Within the Faculty of Arts, Philosophy may be combined with English, Fine Art, French, German, Greek, Latin, Russian or Spanish in a Combined Honors Programs.

Requirements for Admission: First Year General Program (Arts, Natural Science or Social Science) with Philosophy 20 and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the Combined Honors Program, as detailed under the listing of the department concerned. A Combined Honors Program with English requires that the third principal course be a 20 level course in a language other than English. With the permission of the Department of Philosophy, a student who has not taken Philosophy 20 may enter a Combined Honors Program.

After the first year the program requires a total of at least fifteen courses, which must include at least six honors Philosophy courses, the required courses in the second subject as listed by the department concerned, and enough options to complete the total requirements. Some of the options may be additional Philosophy courses or courses in the second subject, and probably should be in the case of a student contemplating graduate work. The honors Philosophy courses must include Philosophy 254, which should be taken in the second year, and at least one 400 level Philosophy course. For the rest, the student makes his own selection of courses in consultation with the Departments and with their approval. The normal load is five courses each year including, at least, two honors Philosophy courses and two honors courses in the second subject. Additional courses may be taken with the approval of the Departments.

Outside the Faculty of Arts, Philosophy may be combined with History, Mathematics or Psychology in a Combined Honors Program.

PHILOSOPHY AND HISTORY

Requirements for Admission: First Year General program (Arts, Natural Science or Social Science) with three principal courses, including Philosophy 20, if taken, and History 20. With the permission of the Philosophy Department, a student who has not taken Philosophy 20 may enter this program.

After the first year this program requires, at minimum, six honors Philosophy courses, six honors History courses and three options. Some of these options may be additional Philosophy or History courses and probably should be in the case of a student contemplating graduate work. The Philosophy courses must include: Philosophy 254, taken in second year; and at least one 400 level Philosophy course. The History courses must include at least four 300 or 400 level History courses. History 231 and 236 are recommended, but not required, in second year. For the rest, the student makes his own selection of courses in consultation with the Departments and with their approval.

The normal load is five courses each year including two Honors Philosophy and two honors History courses, which shall be considered as principal courses. Additional courses may be taken with the approval of the Departments. A student who wishes to qualify for a Type A certificate in History must choose additional honors or general History courses as options after consultation with the Registrar of Althouse College.

PHILOSOPHY AND MATHEMATICS

Requirements for Admission: First Year General program (Arts, Natural Science or Social Science) with three principal courses, including Mathematics 24 or 27 and Philosophy 20. With the permission of the Philosophy Department, a student who has not taken Philosophy 20 may enter this program.

After the first year, this program requires, at minimum, six honors Philosophy courses, six honors Mathematics courses and three options. Some of these options may be additional Philosophy or Mathematics courses and probably should be in the case of a student contemplating graduate work. The Philosophy courses must include: Philosophy 254, taken in second year; Philosophy 351, taken in second or third year; and at least one 400 level Philosophy course. The Mathematics courses must include: Mathematics 250 and 256, taken in second year; Mathematics 350 and 356, taken in third year; Mathematics 470 and one of 450, 456, or 460, taken in fourth year. Mathematics 278 is recommended but not required. For the rest, the student makes his own selection of courses in consultation with the Department and with their approval.

The normal load is five courses each year including at least two honors Philosophy courses and two honors Mathematics courses, which shall be considered as principal courses. Additional courses may be taken with the approval of the Departments. A student who wishes to qualify for a Type A certificate in Mathematics must choose additional honors or general Mathematics courses as options after consultation with the Registrar of Althouse College.

PHILOSOPHY AND PSYCHOLOGY

Requirements for Admission: First Year General program (Arts, Natural Science or Social Science) with Psychology 20 and Philosophy 20 and one other course as principal courses. If Psychology 20 was not taken in the first year it must be selected as an option in the second year. With the permission of the Philosophy Department, a student who has not taken Philosophy 20 may enter this program.

After the first year this program requires seven honors Psychology courses, six honors Philosophy courses and two options. Some of the options may be additional Philosophy or Psychology courses, and probably should be in the case of a student contemplating graduate work. The Psychology courses must include: Psychology 201a and 203b, 241, 281, 211, 271, 231, and 485, to be taken in fourth year. The Philosophy courses must include: Philosophy 254, taken in second year; and at least one 400 level Philosophy course. For the rest, the student selects his own courses in consultation with the Department and with their approval.

The normal load is five courses each year including at least two honors Philosophy courses and two honors Psychology courses, which shall be considered as principal courses. Additional courses may be taken with the approval of the Departments. A student who wishes to qualify for a Type A certificate in Psychology must choose additional honors or general Psychology courses as options after consultation with the Registrar of Althouse College.

General Courses

20. Introduction to Philosophy. A survey of selected philosophical problems, with reference to both classical and contemporary philosophers. Specimen topics include: the mind-body problem, the existence of God, perception and matter, freedom and determinism. Primarily for Freshmen.
3 hours — 1.

30. Philosophical Classics. An introduction to philosophy through a historical survey of classic writings. Readings will be chosen from Plato, Aristotle, Descartes, Hume, Kant, and one recent or contemporary philosopher.
3 hours — 1.

31. Introduction to Logic. An introduction to Aristotelian logic, propositional logic, and general quantification. Related problems in the philosophy of logic, semantics, and inductive logic will also be examined.
2 hours — 20.

34. Introduction to Philosophy of Science. A critical examination of philosophical issues involved in scientific method, confirmation of scientific hypotheses, scientific explanation, concept formation and theory construction. Normally philosophical problems arising in formal and natural sciences will be examined.
2 hours — 9.

35. Aesthetics. Conceptual problems relating to the production and appreciation of the fine arts. Specimen topics include the nature of the work of art and of artistic expression, artistic criticism, fiction, metaphor, appreciation, and the logic of value judgments.
2 hours — 3.

36. Ancient Philosophy. A survey of the principal developments from the Presocratics (600 B.C.) to Plotinus (250 A.D.). Primary emphasis will be placed on the critical reading of selected original sources.
2 hours — 28.

37. Social and Political Philosophy. A critical study of selected problems in classical and contemporary social and political thought. Specimen topics: social justice, authority and the individual, concepts of democracy, legitimacy of revolution.
2 hours — 8.

38. Existentialism. A course designed to acquaint the student with the fundamentals of the existentialist movement. Among philosophers considered will be: Heidegger, Sartre, Merleau-Ponty, Jaspers, Marcel and Berdyaev.
2 hours — 17.

39. Philosophy of Education. Analysis of major issues of educational theory and policy; the role of education in a culture and in the life of the individual, its ends and means, the contribution of teacher and student and curriculum. Emphasis is placed upon underlying concepts and values.

40. Philosophy of Law. A critical study of some of the main problems in the philosophy of Law. Questions of basic theory will be considered as well as applications to particular issues. Specimen topics: nature of law, law and morality, 'hate' literature, pornography, the insanity defense.

42. Ethics. A critical study of the central issues of moral philosophy, with reference both to classical and to contemporary authors. Specimen topics include egoism, hedonism, utilitarianism, relativism, subjectivism, rationality in ethics, and the nature of moral judgment.
2 hours — 31.

43. Philosophy of Religion. Conceptual problems relating to personal and institutionalized religion. Specimen topics include: the nature of religious experience and knowledge, analysis of the concept of God, analysis and comparison of important types of religious philosophy.
2 hours — 12.

44. Philosophy of the Social Sciences and the Philosophy of History. The first term of this course will be devoted to a philosophical examination of the structure and methodology of the social sciences, e.g. psychology and sociology. Special attention will be given to problems of functionalism, teleological explanation, and verification of social theories. The second term will be devoted to a critical examination of various theories of history and historical understanding. Emphasis will be given to problems of explanation, objectivity, chronicling, describing, predicting, etc.
2 hours — 22.

46. Critiques of Contemporary Culture. Critical examination of prevailing value systems from the point of view of philosophy. Philosophical issues concerning the nature and standards of such criticism will also be discussed. Specimen topics: culture and values; conservative, liberal and radical critiques; the arts and the sciences in society; the idea of Utopia; leisure and work; cultural identity; value change.

47. Early Modern Philosophy. A critical examination of basic philosophical literature from Continental Rationalism and British Empiricism, with special emphasis on such figures as Descartes, Spinoza, Leibniz, Locke, Berkeley, and Hume.
2 hours — 35.

48. Contemporary Philosophy. A critical study of selected 20th Century philosophers. Movements and figures discussed vary from year to year. Specimen topics include: pragmatism, positivism, existentialism, linguistic analysis: Russell, Moore, Whitehead, Dewey, Wittgenstein.
2 hours — 14.

49. *Special Topics in* Philosophy. Special topics accommodating the interests of the instructor and students, selected from various areas in Philosophy, e.g. value theory, philosophy of mind, philosophy of mathematics, philosophical ideas in literature. (Offered on demand.)
Prerequisite: one course in Philosophy.
2 hours — 33.

Honors Courses

All Honors Courses are scheduled for three hours each week; however in some cases, at the discretion of the instructor, the third hour will not be used for a meeting of the class.

254. Introduction to Problems in Theory of Knowledge. Intensive seminar and tutorial study of major problems in epistemology. For Honors students in any department.
3 hours — 3.

256. Ancient Philosophy. A critical examination of the major philosophers and philosophical schools from the Presocratics to Plotinus.
3 hours — 15.

257. Early Modern Philosophy. A critical examination of the philosophical literature of the 17th and 18th centuries, with particular emphasis on such figures as Descartes, Leibniz, Locke, Berkeley, Hume.
3 hours — 31.

337. Social, Political, and Legal Philosophy. A critical study of contemporary and traditional social and political thought as well as a critical analysis of current and classical legal philosophy.
3 hours — 8.

338. Phenomenology and Existential Philosophy. A critical examination of representative literature in the fields of phenomenological research and existential philosophy from Husserl to the present day.
3 hours — 22.

344. Philosophy of the Social Sciences and the Philosophy of History. A philosophical examination of the structure and methodology of the social sciences, e.g. psychology and sociology. Functionalism, teleological explanation, and verification of theories will be discussed. The latter half of the year will be given to a critical examination of various theories of history and historical understanding.
3 hours — 22.

350. Philosophical Texts. An examination of selected source materials in Ancient, Modern and Contemporary Philosophy; critical works will also be studied. The texts vary from year to year; more detailed information may be obtained from the department.
3 hours — 13.

351. *Logic and Problems of* Philosophical Analysis. First term: formal logic-propositional calculus; quantification theory. Second term: modal logic, problems of meaning and ontology.
3 hours — 20.

353. Philosophy of Religion. Conceptual problems relating to personal and institutionalized religion. Specimen topics include: the nature of religious experience and knowledge, analysis of the concept of God, analysis and comparison of important types of religious philosophy.
3 hours — 12.

355. Aesthetics and Value Theory. Conceptual problems relating to the production and appreciation of the fine arts. Specimen topics include: the analysis of "work of art", "artistic expression", the logic of value judgments, the nature of artistic criticism, fiction, metaphor, appreciation.
3 hours — 34.

357. Modern Philosophy. Later modern philosophy with particular emphasis on the philosophy of the 19th century.
Prerequisite: Philosophy 257.
3 hours — 5.

362. Ethics. A critical study of moral problems and theories. The course will be based on readings selected from ethical literature from Aristotle to the present.
3 hours — 29.

450. Epistemology / Metaphysics. Full year courses in basic problems of epistemology and of metaphysics offered in alternate years. Readings from contemporary writings will be stressed.
2 hours — 29.

451. Formal Logic. Various systems of deductive logic will be reviewed and theoretical properties of these systems will be established. Specimen topics: systems of natural deduction, axiom systems and their properties, naive set theory and problems in the philosophy of logic.
Prerequisite: Philosophy 351 or permission of the Chairman.
3 hours — 32.

454. Philosophy of Science. Contemporary problems of scientific methodology and of sciences as systems of knowledge. Can be taken by students in natural and social science programs with consent of instructor.
3 hours — 4.

456. Plato / Aristotle. Full year courses in Plato and Aristotle offered in alternate years. The later dialogues of Plato and selected works of Aristotle will receive special attention.
3 hours — 36.

458. Dewey, Bergson and Whitehead. A critical study of these 20th century philosophers.
3 hours — 14.

464. Contemporary Analytic Philosophy. A seminar devoted to the investigation of selected philosophical problems as they arise in the writings of such philosophers as Moore, Russell, Ayer, Carnap, Quine, Wittgenstein, Ryle, Wisdom, Austin, and others.
3 hours — 25.

466. Mediaeval Philosophy. A survey of the principal currents in philosophy from the breakdown of classical culture to the Renaissance (350 A.D. to 1500). Primary emphasis will be placed on the critical examination of representative works. (Offered alternate years.)
Prerequisite: Philosophy 256.
3 hours — 18.

467. Rationalism / Empiricism. Full year courses in rationalism and empiricism are offered in alternate years. In the course on rationalism emphasis is placed on the philosophies of Descartes, Leibniz and Spinoza, and in the course on empiricism emphasis is placed on Locke, Berkeley and Hume. In both courses, however, attention is given to the minor figures of the period.
3 hours — 22.

474. Problems of Philosophy. A study of selected philosophical problems. The problems vary from year to year; more detailed information may be obtained from the department.
3 hours — 13.

477. Hume / Kant. Full year courses in selected writings of Hume and of Kant are offered in alternate years. In each case an intensive study of several major works of the philosopher will be undertaken.
3 hours — 24.

Department of Russian Studies

Associate Professor

Neuhauser, R., MA Toronto; PhD Vienna. Head of Department

Papmehl, K.A., MA Ottawa; PhD London, Chairman of Department

Assistant Professors

Bernotas, Nina S. (Mrs.), BA, MA Toronto

Eramian, G.M., BA Brown; MA Columbia; PhD Brown

Wilson, R.K., BA Harvard; MA Berkeley; PhD Chicago

Part-time

Froese, Erna V., BA Simferopol

THREE-YEAR PROGRAM

Area of Concentration

Students in the Three-year BA Program intending to concentrate in Russian Studies are required to take Russian 291, 390, 391 and any one additional literature course in the Department not previously taken. Language courses must be taken in sequence subject to prerequisites; literature courses may be taken in any sequence.

Students who begin the study of Russian at the University will take Russian 2 in the First Year and Russian 20 in the Second Year concurrently with Russian 291. For grade points required for progression see General Requirements for the BA Degree in the General Information section of the Calendar.

HONORS PROGRAM

Requirements for Admission

First Year Program (Arts, Science, or Social Science) with one of Russian 2 or 20 and any two other courses as principal courses. Students intending to begin a Combined Honors Program must take a course numbered 20 (alternatives in German: 2, 10, 22; in Spanish: 2, 10, 21; in English: 24, 26) in the second Honors subject as one of their three principal courses during the First Year.

Students who begin the study of Russian at the University will take Russian 2 in the First Year and Russian 20 in the Second Year concurrently with Russian 291. For grades required for admission and progression see page

RUSSIAN STUDIES

After the First Year the Program consists of a total of at least fifteen courses, i.e. Russian 20 (unless taken in the First Year), a minimum of eight Russian Honors courses, and six options (or seven if Russian 20 was taken in the First Year). The Russian principal courses will be distributed as follows:

Second Year: Russian 291, 20 (unless taken in the First Year);

Third Year: Russian 391;

Fourth Year: Russian 491;

And five additional Russian Honors courses including Russian 390 and 490 taken in any sequence during the three years of the Honors Program. In every one of the three years of the Program the student must take at least two Russian courses. Students are advised to choose options in consultation with the Departments concerned.

The Department recommends that students take History 37 (Survey of Russian History) and Russian 290 (Introduction to Russian Literature and Culture) as two of their options. Students are also advised to spend one summer at a recognized intensive Russian Language School during their senior years.

COMBINED HONORS PROGRAMS

Russian studies may be combined with English, Fine Art, French, German, Greek, Latin, Philosophy, or Spanish in a Combined Honors Program. For requirements for admission see under Honors Program (above).

Russian course requirements for all Combined Honors programs consist of Russian 20 and at least six honors courses in Russian as principal courses. They will be distributed as follows:

SECOND YEAR

Russian 20 (if not taken in the First Year), 291;

THIRD YEAR

Russian 391;

FOURTH YEAR

Russian 491;

And three additional Russian Honors courses including Russian 390 and 490 taken in any sequence during the three years of the Honors Program. In every one of the last three years of the Program the student must take at least two Russian courses. Students are advised to choose options in consultation with the Departments concerned.

HISTORY AND RUSSIAN

Requirements for Admission. First Year Program (Arts or Social Science) with History 20, Russian 20 (or 2), and one other course as principal courses. For grades required for admission and progression see page . After the First Year the Program consists of a total of fifteen courses; at least five Honors History courses, and at least six Honors Russian courses, and four options.

History courses and required subsidiary courses will be taken as follows:

SECOND YEAR

Principal Courses

History 37, one honors course in History

Subsidiary Courses

2 options, or 1 option and Russian 20 as a principal course.

THIRD YEAR

Principal Courses

History 337, one other honors course in history.

Subsidiary Courses

One of: Politics 349, 434; Economics 32; or an honors course selected with permission of the Departments of History and Russian Studies.

FOURTH YEAR

Principal Courses

2 honors courses in history

Subsidiary Courses

One of: Politics 348, 434; Economics 32; or an honors course selected with permission of the Departments of History and Russian Studies.

For Russian course requirements see above (page).

COURSES

Students registered in the Three-year Program may take honors courses subject to prerequisites.

For instruction in SCIENTIFIC RUSSIAN refer to 496. Supervised Study.

RUSSIAN LANGUAGE

2. Intensive Russian for Beginners. An intensive course in written and spoken Russian for students with no previous knowledge of Russian. Students who wish to concentrate in Russian Studies or intend to do honors work in the Department, but have no previous knowledge of Russian, will take this course in their First Year.
No prerequisites.
4 lectures, 1 laboratory hour — 10.

20. Advanced Russian. Review of grammar, special problems of morphology, elements of syntax. Readings of selected literary texts. Oral practice and composition.
Prerequisite: Russian 2, or permission of the Department.
3 lectures, 1 laboratory hour — 10.

POLISH LANGUAGE AND LITERATURE

2. Introductory Polish. A beginning course with concentration on conversational skill and reading of literary material.
No prerequisite.
4 lectures, 1 laboratory hour — 7.

20. Polish Language and Literature. Review of grammar, reading of selected literary texts, oral practice and composition. (Not offered 1972-73)
Prerequisite: Polish 2, or permission of the instructor.
3 lectures, 1 laboratory hour — 34

RUSSIAN LITERATURE IN TRANSLATION

30. Introduction to Russian Literature and Culture. A study of the historical and intellectual background of Russian Literature from the beginnings to 1800.
Readings and lectures in English.
No prerequisites.
2 hours — 13.

32. Literary Movements in Russia and the European Influence. A study of basic concepts in Russian literature from Classicism to Futurism in the context of the European literary scene. (Not offered 1972-73).
Readings and lectures in English.
No prerequisites.
2 hours — 18.

34. The Russian Short Story. The development of the Russian Short Story from the 17th century secular tale to contemporary Soviet fiction.
Readings and lectures in English.
No prerequisites.
2 hours — 6.

36. Selected Topics in Russian Literature: Dostoevsky and Tolstoy. Topics in this course are subject to change in subsequent years to provide students of Russian and other European literatures with an opportunity to become well-acquainted with authors, genres, and trends which are of major importance in the history of literature.
Readings and lectures in English.
No prerequisites.
2 hours — 16.

39. Prose of the 19th Century. The Great Masters of the 19th Century from Pushkin to Chekhov. Readings and lectures in English.
No prerequisites.
2 hours — 14.

49. Prose of the 20th Century. A study of Russian literature from Gorky to the present.
Readings and lectures in English.
No prerequisites.
2 hours — 4.

HONORS COURSES

Students registered in one of the Honors Programs of the Department will choose from courses numbered 290-494 (these courses require Russian 20 or permission of the instructor as a prerequisite).

LANGUAGE AND LINGUISTICS

291. Composition and Oral Practice. Further study of syntax.
Prerequisite: Russian 20, or permission of the Department.
3 hours and 1 hour for oral practice — 31.

391. Composition, Translation, and Oral Practice. Advanced syntax.
Prerequisite: Russian 291.
3 hours and 1 hour for oral practice — 29.

491. Advanced Composition and Oral Practice. Stylistics: study of various literary and non-literary styles.
Prerquisite: Russian 391.
3 hours — 25.

493. Introduction to Russian Linguistics. (Not offered 1972-73)
Prerequisite: Russian 20.
2 hours — 12.

RUSSIAN LITERATURE

290. Introduction to Russian Literature and Culture. A study of the historical and intellectual background of Russian Literature from the beginnings to 1800.
Some readings in Russian.
2 hours and 1 tutorial hour — 13.

390. Prose of the 19th Century. The Great Masters of the 19th Century from Pushkin to Chekhov.
Some readings in Russian.
2 hours and 1 tutorial hour — 14.

392. Literary Movements in Russia and the European Influence. A study of basic concepts in Russian literature from Classicism to Futurism in the context of the European literary scene. (Not offered 1972-73).
Some readings in Russian.
2 lecture hours and 1 tutorial hour — 18.

394. The Russian Short Story. The development of the Russian Short Story from the 17th century secular tale to contemporary Soviet fiction.
Some readings in Russian.

2 lecture hours and 1 tutorial hour — 6.

396. Selected Topics in Russian Literature: Dostoevsky and Tolstoy. Topics in this course are subject to change in subsequent years to provide students of Russian and other European literatures with an opportunity to become well-acquainted with authors, genres, and trends which are of major importance in the history of literature.
Some readings in Russian.
2 lecture hours and 1 tutorial hour — 16.

490. Prose of the 20th Century. A study of Russian Literature from Gorky to the present.
Some readings in Russian.
2 hours and 1 tutorial hour — 4.

492. Seminar in Russian Drama and the History of the Russian Theatre. Selected authors and texts. Lectures and readings mainly in Russian.
Prerequisite: Russian 291.
2 hours.

494. Poetry of the 19th and Early 20th Centuries. From Pushkin to Symbolism.
Readings in Russian.
Prerequisite: Russian 291.
2 hours — 21.

496. Supervised Study. Individual instruction for students qualified to proceed with intensive study of a specialised area of Russian and Slavic studies under the guidance of an instructor with special knowledge in this field.
Students who wish to gain proficiency in Scientific Russian may register in Russian 496.
Prerequisite: permission of the instructor

Department of Spanish and Italian

Professors

Flint, W., BA Harvard; MA, PhD North Carolina Chairman of Department

Shervill, R.N., BA UWO; MA, PhD North Carolina

Smieja, F.L., BA National, Ireland; MA, PhD London

Associate Professors

Asensio, J., Lic, Dr. Fil y Let Madrid

Burghardt, W., BA, MA Toronto

Marti, A., Lic, Dr, Fil y Let Barcelona

Assistant Professors

Belladonna, R., BA London; Dott Ling e Lett Mod Genoa

Brizio, M.V., Dott Fa Bologna

Lopez-Pacheco, J., Lic, Fil y Let Madrid

Munn, B.W., MA Cantab, PhD British Columbia

Newman, J.C., BA McGill; MA Radcliffe; Dra. Fil y Let Madrid

Lecturer

Diehl, J.E., BA Loyola, AM North Carolina

The Department offers courses in Italian, Portuguese and Spanish, with an honors program in Spanish and an opportunity to select an area of concentration in the Three-year Program in Italian or Spanish.

Combined Honors Programs

Spanish may be combined with English, Fine Art, French, German, Latin, Philosophy and Russian in a combined Honors Program.

Requirements for admission. First Year Program (Arts, Science or Social Science) with Spanish 20 and two other courses as principal courses, one of which must satisfy the requirements for the second subject in the combined Honors Program, as listed by the Department concerned.

After the First Year, the program consists of a total of at least fifteen courses: a minimum of seven honors Spanish courses, six or seven courses in the other principal subject, and one or two options. The Spanish courses must be taken as follows:

Second Year:	Spanish 231 and one or two other Spanish Honors courses.
Third Year:	Spanish 341 and one or two other Spanish Honors courses.
Fourth Year:	Two or three Spanish Honors courses.

The selection of courses to be taken in any given year should be made in consultation with the Department.

For courses required in the other principal subjects see the listing of the Department concerned.

General Courses

ITALIAN COURSES

Students in the Three-year Program who choose Italian as their area of concentration must select Italian 30, 31, 34 and 40.

2. Intensive Italian. Introduction to understanding, speaking, reading and writing Italian. Audio-lingual techniques are combined with required practice in the language laboratory.
Prepares student directly for Italian 20.
5 hours — 9.

20. Advanced Italian Introduction to Italian literature with grammar review and practice in composition. Reading and discussion of short stories by Alberto Moravia are used to improve facility in spoken Italian.
Prerequisite: Italian 2, Grade 13 or permission of the Department.
3 or 4 hours — 9.

30. Literature of the 'Rinascimento'. Study of representative writers of the 15th and 16th centuries.
Prerequisite: Italian 20 or permission of the Department.
3 hours — 26.

31. Italian Language and Civilization. Grammar review and composition, with study of selected aspects of Italian civilization.
Prerequisite: Italian 20 or permission of the Department.
3 hours — 4.

34. Modern Italian Literature. Selected works of the nineteenth and twentieth centuries.
Prerequisite: Italian 20 or permission of the Department.
3 hours — 19.

36. Italian Literature in Translation. A course designed to introduce the student to selected highlights of Italian literature (e.g. Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Manzoni, Leopardi, etc.). This course will be given in English and will not count toward an Italian concentration.
3 hours — 34.

40. Dante, Petrarca, Boccaccio and Their Period.
Prerequisite: Italian 20 or permission of the Department.
3 hours — 16.

PORTUGUESE COURSES

2. Intensive Portuguese for Beginners. Introduction to understanding, speaking, reading and writing Portuguese. A course designed for language students and for those in other disciplines wishing to acquire a working knowledge of Portuguese for the purpose of field research. Three hours of language and one hour of linguistic or cultural emphasis.
Prerequisite: Permission of the Department.
4 hours — 19.

20. Advanced Portuguese. Introduction to the literature of Portugal and Brazil with some grammar review and oral practice. One laboratory hour per week *may be required.*
Prerequisite: Portuguese 2 or permission of the Department.
3 or 4 hours — 1.

SPANISH COURSES

Students in the Three-year Program who choose Spanish as their subject of concentration must elect Spanish 31.

It is recommended that students who concentrate in this department elect at least four senior courses in the subject of concentration.

Students who begin Spanish at the University and who desire to qualify for senior courses are urged to take Spanish 20 or 21 in Summer School. Those unable to do so should consult the Chairman of the Department concerning an alternative.

2. Intensive Spanish for Beginners. Introduction to understanding speaking, reading and writing Spanish. Audio-lingual techniques are combined with practice in the language laboratory. Prepares student directly for Spanish 20 or 21.
5 hours — 29.

20. Advanced Spanish: Readings in twentieth century Spanish literature with grammar review and oral practice. (One hour per week in the language laboratory is required). Spanish 20 offers more extensive readings thatn Spanish 21 and covers the grammar in eighteen class, plus eighteen laboratory hours. Students who intend to concentrate or do Honors work in Spanish are urged to elect this course.
Prerequisite: Spanish 2, 10, Grade 13 Spanish or permission of the Department.
4 hours — 28.

21. Advanced Spanish. Readings in twentieth century Spanish literature with grammar review and oral practice. (One hour per week in the language laboratory is required). Spanish 21 offers less extensive readings than Spanish 20 and covers the grammar in 36 classes plus 18 laboratory hours.
Prerequisite: Spanish 2, 10, Grade 13 Spanish or permission of the Department.
4 hours — 29.

31. Spanish Language and Civilization. For students who have completed Spanish 20 or 21. Concentration is on grammar review, oral practice and a study of Spanish civilization. Credit will not be given for both Spanish 31 and Spanish 231.
Prerequisite: Spanish 20, 21, or permission of the Department.
3 hours — 28.

34. Modern Peninsular Literature. Selected works of the nineteenth and twentieth centuries.
Prerequisite: Spanish 20, 21 or permission of the Department.
3 hours —2.

36. Hispanic Literature in Translation. This course is designed to introduce the student to selected highlights of Hispanic literature (e.g. Cervantes, Lope de Vega, Calderon, Fray Luis de Leon, Unamuno, Garcia Lorca, Ortega y Gasset, Jorge Luis Borges, Miguel Angel Asturias, etc.). The course will be given in English and will not count towards a Spanish concentration.
3 hours — 8.

Prerequisite: Spanish 20 or 21 or permission of the Department.
3 hours — 12.

44. Literature of the Golden Age. Selected works of the sixteenth and seventeenth centuries.
Prerequisite: Spanish 20 or 21 or permission of the Department.
3 hours — 22.

38. Latin-American Literature. A study of selected works of prose and poetry after 1880, together with selected aspects of the civilization of Latin America. (Not offered 1972-73).

45. Scientific Spanish. A course designed to guide students in the techniques of translation from Spanish to English. The course is particularly recommended for the advanced student in other disciplines who needs a reading proficiency in Spanish for his higher degree. The materials for translation will be decided according to the field of interest of the student. Before enrolling in this course a student should have some previous knowledge of Spanish.
Prerequisite: Permission of the Department.
1 hour — 19.

NOTE: Students in the Three-year Program may elect an Honors Course if necessary to complete their requirements.

SPANISH LANGUAGE AND LITERATURE

Requirements for Admission. First Year Program (Arts, Science of Social Science) with one of Spanish 2, 10, 20 or 21, plus two others as principal courses. English 20 is highly recommended. Students who begin Spanish at the University and who desire to enter any Honors Program involving Spanish are urged to take Spanish 20 or 21 in Summer School. If this is impossible they should consult the Chairman of the Department. A student will be automatically accepted if he has an average of at least 70% with no grade of less than 60% in his principal courses. He must also have a passing grade in each of his first-year courses. Students who fail to qualify for automatic admission but who complete the first year with an average of at least 60% in their principal courses, SHOULD APPLY to the Department for consideration.

After the First Year, the program consists of a total of at least fifteen courses: a minimum of nine honors Spanish courses and six options. There is also a system of required Seminars.

The nine Spanish courses are to be chosen from the following: Spanish 231, 240, 248, 260, 341, 348, 365, 460, 461, 465. Spanish 231, 341 and 461 are obligatory.

SPANISH HONORS COURSES

231. Spanish Language and Civilization. A course in guided free composition, translation and practical phonetics, supplemented by seminars in Spanish Civilization from 1700 to the present day. Credit will not be given for both Spanish 231 and Spanish 31.
Prerequisite: Spanish 20, 21 or permission of the Department.
2 or 3 hours — 29.

240. Spanish Prose of the Nineteenth and Twentieth Centuries. A study of selected prose works from Larra to the present with special attention paid to methods of literary criticism. Emphasis will be placed on Galdos, Unamuno, Azorin, Baroja, Valle-Inclan and Cela.
Prerequisite: Spanish 20, 21 or permission of the Department.
2 hours — 14.

248. Latin American Poetry of the Nineteenth and Twentieth Centuries. A critical study of the works of selected poets from the Independence to the present day.
Prerequisite: Spanish 20, 21 or permission of the Department.
2 hours — 4.

260. Spanish Poetry of the Nineteenth and Twentieth Centuries. A critical study of the works of selected poets from Espronceda to the present.
Prerequisite: Spanish 20, 21 or permission of the Department.
2 hours — 5.

341. Spanish Language. A course in guided free composition, translation, syntax and oral practice.
Prerequisite: Spanish 231 or permission of the Department.
3 hours — 35.

348. Latin-American Literature and Civilization. A study of representative prose fiction of the past 150 years with special reference to the "social" novel of this century. The main part of the course will consider the works of Azuela, Guiraldes, Asturias, Rivera, Carpentier, and Borges. During the year there will be seminars on Latin-American Civilization from 1700 to the present.
2 or 3 hours — 12.

365. Hispanic Poetry from its origins to 1700. A critical analysis of poetic texts from the early "jarchas" to Sor Juana Ines de la Cruz.
2 hours — 19.

460. Spanish Drama From the "Celestina" to the Present. A study of Spanish drama from its origins to the present day.
3 hours — 31.

461. Spanish Language and Civilization. History of the Spanish Language with special emphasis on stylistic evolution through the ages and dialectic variations. Two hours of language study will be amplified by a series of fifteen seminar periods which will examine Spanish civilization prior to 1700.
2 or 3 hours — 21.

465. Spanish Prose of the Golden Age. A study of major prose works of this period including the picaresque novel and the **Quijote.**
3 hours — 8.



Faculty of Dentistry

Faculty of Dentistry

History

In October, 1947, the Board of Governors of The University of Western Ontario approved in principle the development of a faculty of dentistry. In 1949, this was endorsed by the Canadian Dental Association and the Royal College of Dental Surgeons of Ontario.

By 1950, it became obvious there was need to expand the existing facilities for the teaching of dentistry in the province and accordingly the Royal College of Dental Surgeons recommended the creation of new premises for the existing dental school.

In 1962, the Royal College of Dental Surgeons of Ontario in a report to the Minister of Health, recommended two sites for the establishment of a second dental school, one of which was within The University of Western Ontario.

The Honorable John P. Robarts, then Prime Minister of Ontario, announced on 29 October 1964 that the government of Ontario had approved the development of a faculty of dentistry at The University of Western Ontario within the Health Sciences Centre. Less than one month later, on 20 November 1964, the Board of Governors officially established the Faculty of Dentistry, effective 1 January 1965 and at the same meeting appointed its dean who took office on 1 February 1965.

The Honorable Dr. M. B. Dymond, then Minister of Health of Ontario, officiated on 27 September 1966 at the Ground-Breaking Ceremony for the Dental Sciences Building. The following year, on 20 October 1967, the cornerstone was placed by Colonel D. B. Weldon in his last official act as Chairman of the Board of Governors. The Official Opening of the Dental Sciences Building took place on 25 October 1968, again with Dr. Dymond officiating.

Full approval of the undergraduate dental program was given on 21 February 1970 by the Council on Education of the Canadian Dental Association.

The first class, selected from among 88 applicants was enrolled in the Faculty of Denistry in September, 1966 and its graduates four years later on 29 May 1970 received their degrees marking the first time the degree of Doctor of Dental Surgery had been conferred by The University of Western Ontario.

Earlier projections had not envisaged that enrolment of First Year dental students would have reached the full capacity of 52 students until, perhaps, the mid-1970s but in 1970-71 First Year full enrolment was achieved. In sharp contrast to the 88 applications received for admission to the first class in 1966, more than 450 applications were given consideration in 1971.

Objectives

The objectives of the Faculty of Dentistry are to select students who are intellectually, morally, and physically qualified for a career in dentistry and to provide them with an academic environment conducive to a broad education including the acquisition of the special knowledge and skills of dentistry. There should be developed within the student an intellectual curiosity, an ability to reason, the realization of the need for continuing education, and a superior sense of responsibility to society. The student should also attain a knowledge of the basic sciences related to dentistry including the application of these sciences to his clinical practice, a high degree of clinical ability, and understanding and interest in research and education, a knowledge of and the ability to practice preventive dentistry, a competence to organize and administer a practice properly including the utilization of auxiliary personnel, and a highly developed sense of ethical principles in professional life.

Specifically, the DDS program is intended to graduate dentists who possess the knowledge and skill to conduct a superior general practice and also sufficient knowledge of basic and applied science to permit and stimulate professional and intellectual growth.

The Library

The Dental Library is a fully-integrated part of the Health Sciences Library serving Dentistry, Medicine, Nursing and associated Basic Sciences.

Although located separately on the main floor of the Health Sciences Centre the Health Sciences Library is part of the main University Library.

The collection of the Health Sciences Library contains about 95,000 volumes. Approximately 1,500 subscriptions are currently received. The library also has a collection of several thousand volumes dealing with the history of the medical sciences.

Hours during the term are Mon-Fri 8:30 a.m. — 11:00 p.m., Sat. 8:30 a.m. — 5:00 p.m. and Sundays 1:00 p.m. — 11:00 p.m.

ACADEMIC CALENDAR

1972

August 4	Last day for receiving applications for examinations for removal of conditions.
August 25	Examinations for removal of conditions begin at 9:00 a.m. in Dental Sciences Building.
August 28	Clinical Orientation and Oral Diagnosis begin for Third Year (8:00 a.m. Room 3008, Dental Sciences Building).
September 11	Orientation. Complete details concerning Registration will be sent to all students by the Registrar's Office.
	Issue of student instrument kits to First, Second and Fourth Years at Dental Stores, Lower Ground Floor, Dental Sciences Building.
September 12	Lectures begin for First, Second and Fourth Years.
October 9	Thanksgiving Day. Holiday with classes cancelled.
October 27	Autumn Convocation.
November 3	First Quarter ends for all years.
November 6	Second Quarter begins for all years.
December 19	Christmas Vacation for all years begins at 5:00 p.m.

Regular meetings of the Council of the Faculty of Dentistry or its Executive Committee are normally held on the fourth Monday of every month, September to June, inclusive.

1973

January 3	Lectures resume for all years.
January 12	Second Quarter ends for all years.
January 15	Third Quarter begins for all years. Payment of final installment of fees is required on or before this date.
March 9	Third Quarter ends for all years.
March 12	Fourth Quarter begins for First Second and Third Years.
	Study Week begins for Fourth Year.
March 19	Examinations begin for Fourth Year.
March 26	Fourth Quarter begins for Fourth Year.
April 20	Good Friday. Holiday with classes cancelled.
April 27	Classes end for Third Year.
April 30	Study Week begins for Third Year.
May 4	Classes end for First and Second Years.
May 7	Examinations begin for Third Year. Study week begins for First and Second Years.
May 13-16	Third Year to attend sessions of Ontario Dental Association Meeting, Toronto.
May 14	Examinations begin for First and Second Years.
May 17	Summer Clinic begins for Third Year.
May 18	Fourth Quarter ends for Fourth Year.
May 21	Victoria Day, Holiday.
June 7	Spring Convocation—Dentistry.
June 22	Summer Clinic ends for Third Year.

Dean of the Faculty

Dunn, W.J., DDS Toronto; FACD

Director of Clinics

Baird, K.M., OBE, CD; DDS Toronto; FICD

DEPARTMENT OF ANATOMY

Professors

Barr, M.L., SM, BA, MSc UWO; LLD Queen's, Toronto, Alberta and Dalhousie; MD UWO; Dr med hc Basel; FRCP(C), FACP, FRSC

Buck, R.C., MSc UWO; PhD London; MD UWO, Chairman of the Department

Associate Professors

Gwinnett, A.J., LDS, RCS (Eng); BDS Birmingham; PhD Bristol

Gwyn, D.G., MRCS (Eng); LRCP, MBBS London; PhD Birmingham

Montemurro, D.G., BA, MSc, PhD UWO

Soltan, H.C., BA, PhD Toronto; MD UWO (Human Genetics)

Wilson, A.S., MB, ChB, MD Glasgow

Assistant Professors

Altmann, G.G., BSc Dalhousie; MSc, PhD McGill

Donisch, E.W.K.F., MD Bonn; MSc UWO

Flumerfelt, B.A., BSc Sir George Williams; MSc McGill; PhD Cambridge

Gammal, E.B., MB, BCh Cairo; PhD UWO

Sergovich, F.R., BA McMaster; PhD UWO

Shaver, Evelyn L., BSc, MSc, PhD UWO

Singh, R.P., BA, MSc, PhD UWO

Todd, M.E., BA, MSc British Columbia; PhD Glasgow

Honorary Lecturers

Robinow, C.F., MD Hamburg; FRSC

Walden, D.B., BA Wesleyan; MSc, PhD Cornell

Lecturers

Clattenburg, R.E., BSc, MSc Acadia

Cline, Aileen, MD UWO

Instructors

Goldberg, A.H., MBBS Dublin; LRCPI, LRCSI

Jory, T.A., MD UWO; FRCS(C), FASC

Leyshon, G.A., MS Illinois; BA UWO; PhD Oregon

Warma, S.K., MBBS Calcutta; FRCS (Eng); CRCS(C), FACS

DENTISTRY

DEPARTMENT OF BACTERIOLOGY AND IMMUNOLOGY

Professors

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

Murray, R.G.E., BA, MA Cantab; MDCM McGill; FRSC. Head of the Department

Robinow, C.F., MD Hamburg; FRSC

Whitby, J.L., BA, MA, MB, BChir Cantab; MRCP, DTM&H London; MRC Path.

Associate Professors

Ebisuzaki, K., MS, PhD Wisconsin; BSc UWO

Medzon, E.L., BSc, MSc Manitoba; PhD McGill

Robinson, J., BSA British Columbia; MSc, PhD McGill

Zajic, J.E., BA Kansas; MS Wisconsin; PhD California; JD Oklahoma City

Assistant Professors

Cheevers, W.P., BA Colorado; PhD Mississippi

Percy, D.H., DVM Ontario Veterinary College; MSc Guelph; PhD Cornell.

Rozanis, J., MSc Hebrew University, Jerusalem; PhD McGill

Sinclair, N.R.S., BSc, MD, PhD Dalhousie

Singhal, S.K., BSc Arga, India; PhD McGill

Strejan, G.H. MSc Romania; PhD Hebrew University, Jerusalem

Wilkins, P.O.B., MS, MB Hawaii; PhD Penn.

Clinical Professor

Hatch, L.A., MBBS, DipBact&Immun. London; FCPath

Clinical Associate Professor

Bckerspigel, A., BA, MA McMaster; PhD UWO

Clinical Assistant Professor

Campsall, E.W.R., BA Queen's; MDCM McGill

Honorary Lecturers

Chodirker, W.B., BSc(Med), MD Manitoba

Hannay, C.L., BSA Toronto; DIC, PhD London

Roslycky, E.B., BSc, MSc Manitoba; PhD Wisconsin

Toogood, J.H., MD Toronto; DiplntMed McGill; FRCP(C)

Clinical Lecturer

Black, W.A., MB, ChB Glasgow; MRCPath

Instructor

Galsworthy, Sarah B., BA Pamona; PhD Wisconsin

DEPARTMENT OF BIOCHEMISTRY

Professors

Bigelow, C.C., BASc Toronto; MSc, PhD McMaster

Carroll, K.K., BSc, MSc New Brunswick; MA Toronto; PhD UWO

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

McCarter, J.A., BA, MA British Columbia; PhD Toronto; FRSC

McMurray, W.C., BSc, PhD UWO

Rossiter, R.J., BSc W. Aust.; BA, MA, DPhil, BM, BCh, DM Oxon; FRIC(Eng); FRSC

Smith, D.B., BA, MA British Columbia; PhD Toronto

Stewart, H.B., MD, PhD Toronto; PhD Cantab. Head of the Department

Strickland, K.P., BSc, MSc, PhD UWO

Associate Professors

Ball, Judith K., BSc Mount Allison; MSc, PhD Dalhousie

Heagy, F.C., MD, MSc, PhD UWO

Magee, W.L., BSc, MSc, PhD UWO

Walker, I.G., BA Saskatchewan; MA, PhD Toronto

Webling, D.D., BSc, MBBS, PhD Adelaide; DTM&H Sydney

Assistant Professors

Cook, R.A., BSc, MSc, PhD Manitoba

Donisch, Valentine, MD Bonn; PhD UWO

Galsworthy, P.R., BSc Queen's; PhD Wisconsin

Gatfield, P.D., MD Queen's

Gordon, B.A., MDCM, MSc, PhD Queen's

Guthrie, J.P., PhD Harvard; BSc UWO

Haines, D.S.M., PhD Toronto; BA, MD UWO

Trevithick, J.R., BSc Queen's; PhD Wisconsin

Honorary Lecturers

Chefurka, W., BSc Manitoba; MSc Montana State; PhD Harvard

Hudson, A.J., MD, BSc Toronto; FRCP(C)

Krupka, R.M., MA Saskatchewan; PhD McGill

Spencer, E.Y., BSc, MSc Alberta; PhD Toronto; FCIC

DEPARTMENT OF ORAL MEDICINE

Professor

Moore, D.S., DDS, DipPerio Toronto; FRCD(C) Chairman of the Department

Associate Professors

Johnson, R.H., BSc, DDS McGill; MSD Indiana

Zulgar-nain, B.J., BDS Panjab; MS, CertPerio Rochester; CertDPH Harvard, Chairman of Division of Periodontics

Assistant Professors

Kogon, S.L., DDS, Toronto, MS UWO

Petersen, K.B., DDS, LDS Copenhagen. Chairman of Division of Oral Diagnosis

Reid, J.A., DDS Toronto. Chairman of Division of Radiology

Clinical Lecturers

Beam, A.L., DDS Toronto

Cappa, C.F., BA, DDS Toronto

Cornish, E., BA UWO; DDS Toronto; DipPerio New York

Hunter, J. K., DDS Toronto

Jack, R.N., DDS, DipPerio Toronto; FRCD(C)

Klein, W.C., DDS Toronto

Pellow, W.R., BA Queen's; DDS Toronto

Thompson, E.S., DDS Toronto

Wainwright, R.J., DDS Toronto
Whitman, C.S., BSc, DDS McGill; DipPerio Toronto; FRCD(C)
Whiteman, D.E., DDS Toronto
Wright, K.H., DDS, B. Comm. McGill; DipPerio Toronto

Clinical Instructors

Clark, J.G., DDS Toronto
Dinniwell, W.A., DDS Toronto
Greenfield, J.H., BA UWO; DDS Toronto
Morris, R.W., DDS Toronto
Nordine, M.C., BA Saskatchewan; DDS Toronto

DEPARTMENT OF ORAL SURGERY

Professor

Parnell, A.G., FDS, RCS (Eng). Chairman of the Department

Associate Professor

Schofield, I.D.F., DDS, DipOS&Anaes Toronto; BA UWO; FRCD(C)

Assistant Professor

Goldberg, H., DDS, McGill

Clinical Lecturer

Glennie, G.D., MBBS London; DA McGill; MRCS (Eng); LRCP (London); CRCP(C)

Clinical Instructors

Jarvis, Ann M., BDS London; MSD Minnesota.
Kandell, P.F., MD Ottawa; CRCP(C)
McFarlane, N.A., DDS Toronto; BA UWO

DEPARTMENT OF PAEDIATRIC DENTISTRY

Professors

Eastwood, A.W., DDS Dalhousie; BDS Liverpool; MS Michigan

Feasby, W.H., DDS, MSc Manitoba, DipPaed Toronto; FRCD(C). Chairman of the Department

Hunter, W.S., DDS Toronto; MS, PhD Michigan. Chairman of Division of Orthodontics

Assistant Professor

Wright, G.Z. BSc Manitoba; DDS Toronto; MSD Indiana

Clinical Lecturers

Ecclestone, E.R., MD UWO; FRCP(C)
Scott, R.L., DDS, DipPaed Toronto; FRCD(C)
Way, D.C., DDS Toronto; MS Michigan FRCD(C)

Clinical Instructors

Biesenthal, R.B., DDS Tennessee
Campbell, D.A., DDS, DipOrth Toronto
Frey, G.C., DDS Toronto
Kerr, J.P., DDS Toronto
King, D.A., BSc, DDS Alberta; MS Rochester
Smith, B.R.W., DDS, DipOrth Toronto

Honorary Lecturers

Gardner, D.G., DDS Toronto, MSD Indiana; Diplomate, American Board of Oral Pathology.
Martinello, B.P., DDS, DDPH Toronto

DEPARTMENT OF PATHOLOGY

Professors

Haust, M. Daria, MD Heidelberg; MSc Queen's; CRCP(C)
Paterson, J.C., OBE; MD, BSc(Med) Toronto
Wallace, A.C., BA, MD UWO; FACP, CRCP(C). Head of the Department

Associate Professors

Frei, J.V., MDCM Queen's; MSc, PhD McGill; CRCP(C)
Gardner, D.G., DDS Toronto; MSD Indiana; Diplomate, American Board of Oral Pathology. Chairman of Division of Oral Pathology.
Warren, B.A., BSc(Med), MBBS Sydney; DPhil, MA Oxford

Assistant Professors

Jones, D.S., BA Albion College; MS Michigan State; PhD UWO
Lewis, F.N., BA, MD UWO; MCPath, CRCP(C)
Sapp, J.P., DDS Dalhousie; MS Michigan

Clinical Professors

Mills, D.M., BA, MD UWO; CRCP(C)
Smout, M.S., MD UWO; MCPath, FCAP

Clinical Assistant Professors

Abdelnour, G.M., MB, ChB Alexandria, Egypt; CRCP(C)
Ball, M.J., MD Toronto; CRCP(C)
Davies, Eleanor M., MD Toronto; CRCP(C)
Enriquez, A.A., MD Santo Tomas; CRCP(C)
Saeed, I.R., MB, BCh, DMScPath, MDPath Cairo; FRCP(C)
Slinger, R.P., BA, MD Toronto; MCPath; CRCP(C)
Turnbull, D.I., BSc, MDCM McGill

Clinical Instructors

Adilman, H.B., BA Saskatchewan; MD Alberta; CRCP(C)
Bell, J.H., DDS Toronto
Dietrich, M., MD UWO; CRCP(C)
Frishette, W.A., MD UWO; CRCP(C)
Jarvis, Ann M., BDS London; MSD Minnesota.

DEPARTMENT OF PHARMACOLOGY

Professors

Gowdey, C.W., BA, MSc, DPhil Oxon. Head of the Department
Parker, J.M., MD Manitoba; DPH, PhD Toronto

Associate Professors

Colhoun, E.H., BSA Toronto; PhD Cantab
Hamilton, J.T., BSc, PhD Edinburgh
Philp, R.B., DVM Toronto; PhD UWO

Assistant Professors

Hersey, M.L.W., BSc McGill; MD, PhD UWO; CRCP(C), FACA
Hirst, M., BSc, PhD Liverpool; PhD UWO

DENTISTRY

Lecturers

Borda, I.T., MD Budapest; FRCP(C)
Lovegrove, T.D., BA, MD, MSc UWO
Meltzer, D.B., BSc Manitoba; MD UWO; FRCP(C)
Spoerel, W.E.G.A., MD Frankfurt-on-Main; FRCP(C)
White, D.F., MD UWO; FRCP(C)

Instructors

Dinel, B., BScPhm Toronto; MSc Ohio State
Hansford, D.F., Phm. B. Toronto

DEPARTMENT OF PHYSIOLOGY

Professors

Armstrong, D.T., BSA Toronto; MS, PhD Cornell
Mogenson, G.J., BA, MA Saskatchewan; PhD McGill. Acting Chairman of the Department

Associate Professors

Bondy, D.C., MD UWO; FRCP (C)
Calaresu, F.R., BA Pavia; MD Milan; PhD Alberta
Critz, J.B., BSEd, MA, PhD Missouri
Dellow, P.G., BDS, MBBS Adelaide; FACDS
Harding, P.G.R., MD, MSc UWO; FRCS(C)
Mercer, P.F., DVM Toronto; PhD Cornell
Seguin, J.J., BSc, MSc, PhD UWO
Squires, B.P., BA, MD, PhD UWO
Vanderwolf, C.H., BSc Alberta; MSc, PhD McGill

Assistant Professors

Cunningham, D.A., MSc Alberta; PhD Michigan; BA UWO
Girvin, J.P., PhD McGill; MD UWO; FRCS(C)
O'Hea, E.K., BAgrSc, MAgrSc Dublin; PhD Illinois
Stewart, D.J., BSc British Columbia; PhD California
Ziegler, W.H., MD British Columbia; Msc Drexel Inst. of Tech.

Honorary Lecturers

Chess, G.F.H., BASc Toronto; MEng McGill
Hart, J.S., BA, MA, PhD Toronto; FRSC
Hinton, G.G., BSc, MDCM McGill; DCh, FRCP(C)
Manning, G.W., MA, MD, PhD Toronto; FRCP(C)
Rounthwaite, F.J., BSc, MDCM McGill; FRCS(C), FACS
Steele, J.E., BSc Dalhousie; MSc UWO; PhD Saskatchewan

Lecturers (sessional)

Reese, L., MDCM Queen's; FRCS (C), FACS
Sellery, G.R., MD, DA Toronto; DA England; FRCP(C)

Instructors

Walker, Esme H., BA, MA Toronto

DEPARTMENT OF RESTORATIVE DENTISTRY

Professor

Jordan, R.E., BA Saskatchewan; DDS Alberta; MSD Washington; FICD. Chairman of the Department

Associate Professors

Gwinnett, A.J., LDS, RCS (Eng); BDS Birmingham; PhD Bristol
Johnson, L.N., BS Pacific; MS Oregon; PhD Michigan. Chairman of Division of Dental Materials Science
Ryan, J.E., DDS Washington; MSc Ohio. Chairman of Division of Removable Prosthodontics
Sills, P.S., DDS, Toronto, F.A.C.P. Diplomate, American Board of Prosthodontics
Skinner, D.H., DDS Toronto, Chairman, Division of Endodontics.
Teteruck, W.R., BSc, DDS McGill; MSD Indiana. Chairman of Division of Fixed Prosthodontics

Assistant Professors

Suzuki, M., DDS Tokyo; MS Rochester; DMD Manitoba
Bunston, H.G., DDS McGill

Clinical Associate Professor

Guest, J.A., DDS Toronto

Clinical Assistant Professors

Bedrosian, G.A., DDS Toronto; BSA Guelph
Hugill, R.A., DDS, BScD Toronto.
Walker, W.J., DDS Toronto

Clinical Lecturer

Gratton, D.R., DDS Toronto
Halip, J.W., DDS Toronto
Taylor, L.V., DDS Toronto

Clinical Instructors

Brown, E.G., DDS Toronto
Emmerton, R.J., DDS Toronto
Muxlow, K.R., DDS Toronto
Reddon, J., DDS McGill
Sears, G.M., DDS Dalhousie
Seneshen, M.J., BSc (Chem.Eng), DDS Alberta
Setterington, K.R.P., DDS Toronto

DEPARTMENT OF SOCIAL DENTISTRY

Associate Professors

Baird, K.M., OBE, CD; DDS Toronto; FICD
Dunn, W.J., DDS Toronto; FACD
Martinello, B.P., DDS, DDPH Toronto. Chairman of the Department.

Assistant Professors

Banting, D.W., DDS, DDPH, MSc Toronto
Smith, J.M., CD; DDS Toronto

Clinical Instructors

Currie, P.E., DDS Toronto
Fowler, J.B., DDS Toronto
Leake, J.L., DDS, DDPH Toronto
McKay, W.H., DDS Toronto
McParland, S.J., DDS, BSc McGill

Admission Requirements

Admission to the Faculty of Dentistry is based on academic ability and personal qualities as evidenced by scholastic records, aptitude tests, and personal references. Because facilities for pre-clinical and clinical instruction are limited, it is necessary to restrict enrollment to those who, in the opinion of the Faculty, are best qualified to meet the mental and physical demands of the curriculum and most likely to successfully complete the full course of study. The presentation of the minimum requirements for admission will not assure acceptance.

Students are eligible to apply for admission to the Faculty of Dentistry at The University of Western Ontario when they have successfully completed at The University of Western Ontario or at other universities where comparable programs are offered, two years of university study beyond the level of Ontario Grade 13, or its equivalent, provided that satisfactory standing is achieved in at least the work of one year in each of Biology, (or Zoology), Chemistry, Physics and Organic Chemistry.

Note: Chemistry 203, 250, 313, 353 and 453 individually satisfy the Organic Chemistry requirement of this Faculty.

In their choice of options for the second "predental" year, students are urged not to anticipate dental school courses. Rather, they should seek a broad background of education in keeping with their own interests.

Application for Admission

Application for admission to the Faculty of Dentistry must be made upon the official application form obtainable from the Registrar's Office. The University of Western Ontario, London 72, Canada. The completed forms and supporting documents (originals) are to be mailed to The Director of Admissions, The University of Western Ontario, London 72, Canada. Applications should be submitted not later than March 1, 1973.

A student who has never been registered at The University of Western Ontario must:

(a) attach to his completed application form all his Ontario Grade 13 certificates (originals) or an official certified transcript of his complete secondary or high school record;

(b) request the Registrars of all universities, colleges and other institutions of post-secondary education which he attended or is attending, to forward direct to The Director of Admissions, certified official transcripts of his academic record;

(c) request the Registrar of the University which he is currently attending to forward direct to The Director of Admissions a second transcript of his record at the end of the current academic year.

Priority consideration is normally first given to Canadian citizens and Landed Immigrants whose home residence is in the Province of Ontario and then to citizens and Landed Immigrants normally residing outside the Province of Ontario.

Dental Aptitude Test

All applicants to this Faculty must complete the Dental Aptitude Test administered by the Canadian Dental Association. Information on this test program may be obtained by writing to

The Administrator
Dental Aptitude Test Program
Canadian Dental Association
234 St. George Street
Toronto 180, Ontario.

Registration

Students in the Faculty of Dentistry will be advised direct by the Registrar's Office concerning registration.

No student will be registered after the designated registration date except by special permission of the Dean.

Fees

All Years' Fees (Subject to Change)	$727.50*
If paid in two installments—	
With Registration	400.00
First day of Second Term	332.50

*(Includes Student Activity and Health Service Fees Totalling $54.00)

Instrument Fee

(Estimate only) — Payable with Registration	
First year	$810.00
Second Year	500.00
Third Year	450.00
Fourth Year	50.00

If paid in two installments, an extra $5.00 handling charge will be levied.

Late Registration

Specified date (September)	$10.00
Thereafter	25.00

Other Charges

Evaluation of non Ontario certificates for admission	$2.00
Transcript of record, each copy (first two copies)	1.00
Examination for removal of conditions, each paper	15.00

The Board of Governors reserves the right to amend fees after the printing of this brochure.

NOTES:

1. A non refundable $50 deposit on tuition fee is required from an admitted applicant to retain his place in the first year class.
2. Students must pay their fees as above, before attending any lectures or examinations, except by permission of the Dean of the Faculty and the Comptroller.
3. No student shall be recommended for any diploma or degree until his tuition fees and other accounts owed to the University have been paid.
4. The fees outlined above represent only a fraction of the cost of dental education. The balance is provided by Federal, Provincial and Municipal grants, endowment income and other grants and gifts.
5. The Instrument Fee includes the purchase or rental of instruments, equipment and materials; laboratory costs and compulsory Bulletins and stationery supplies.

Financial Responsibility

All students who are reported as having an unsound financial record will be subject to special review by the Council of the Faculty of Dentistry before being recommended for a promotion.

A student or students will be held financially responsible for any actions of a negligent or wantonly destructive nature which result in the damage of University property. Such charges will form part of the amount due to the University. Non-payment will result in disciplinary action by the Dean's Office.

DENTISTRY

Attendance

(a) Students registered in any year are expected to attend the courses of instruction in all subjects prescribed for that year.

(b) In dentistry, a high proportion of a student's knowledge, understanding, and clinical competence, is acquired through observation and participation in assignments, laboratory sessions, and preclinical demonstrations. Consequently, attendance is considered essential.

(c) Classes desiring postponement of any lecture, clinic or laboratory periods shall be required to secure permission for such postponement from the Dean-In-Council, who shall thereupon notify the Chairman or Head of the Department concerned.

Academic Requirements

1. To complete the year's work and be permitted to register in the succeeding year of the dental program, a student must:
   (a) complete the prescribed assignments.
   (b) obtain at least a satisfactory level of performance in each subject in which a final examination is held.

A student who fails to satisfactorily complete the laboratory, clinical or other assignments precribed in a subject will be designated as "Incomplete" and may be required to return to the Faculty for a specified period during the summer months in order to fulfill his assignments.

2. A student may be given permission by the Council of the Faculty of Dentistry to write no more than two supplemental examinations, provided:
   (a) his general average is at the Satisfactory level.
   (b) his grades are below Satisfactory level in no more than two subjects.

3. A student will be considered to have failed to complete the year's work, if:
   (a) his general average (in all subjects of that year) falls below the Satisfactory level.
   (b) he has failed to obtain a Satisfactory level in more than two subjects.
   (c) He has been given permission to write supplemental examinations and has failed to meet the requirements under section 1 (b) above.

4. A student who fails to complete a year may be permitted by the Council of the Faculty of Dentistry to repeat that year. Permission is given only under exceptional circumstances, and then only when a vacancy is available in that year. The work of the complete year must be repeated; credit for any completed course or courses in a failed year shall not be allowed.

5. A student who obtains an average at the Excellent level in a year's work, is considered to have passed that year with honors. A student who passes with honors in each year in the Faculty of Dentistry will be graduated "with distinction".

6. In each subject the ratio of term grades to final examination grades is determined by the teaching staff of the department concerned.

7. At the end of each academic year, a report will be mailed to each student showing his grade in each subject. Key to Grades is as follows:
   E — Excellent performance
   G — Good performance
   S — Satisfactory performance
   U — Unsatisfactory performance



First Year Curriculum, 1972-1973

DEPARTMENT OF ANATOMY

1. Gross Anatomy

(a) The objectives of this course are to provide the student with a knowledge of the anatomy of the head, neck, thorax and abdomen which will form the nucleus upon which all of his future studies and practice of the profession will be based.

(b) A course of lectures, demonstrations and laboratory sessions is given covering the study of the anatomy of the human body with the exclusion of the limbs. Emphasis is placed upon the regional anatomy of the head and neck and particular attention is paid to structures which are of continuing relevance to dental students.

Students work in small groups during the laboratory sessions and demonstrations employing stereoscopic slides form an important part of the course. Student seminars and self assessment tests provide the student with an opportunity to reinforce the knowledge gained in other parts of the course. 232 hours (total)

2. Histology The objective is to acquire sufficient knowledge of the microscopic structure of the various tissues and organs of the body so that the functioning (Physiology) and the disease processes (Pathology) can later be understood. Considerable emphasis is placed on the ultrastructure of tissues because the biochemical processes in cells can largely be interpreted in terms of cell ultrastructure. Since histology is concerned with the structure and relationships of normal cells, tissues and organs it serves as a basis for understanding and recognizing normality and normal variation, both of which are significant in health maintenance or disease prevention.

A large segment of the course is the detailed study of the structure and development of the oral tissues, and special emphasis is placed on the student's performance in this area.
144 hours (total)

3. Human Genetics. A short course of illustrated lectures on human genetics stressing the applications of genetics in understanding the etiology of certain types of abnormal tooth development, oral pathology and development of the cranio-facial complex, and indicating how this knowledge can be utilized in offering genetic counselling to patients and their families.
16 hours.

DEPARTMENT OF BIOCHEMISTRY

Biochemistry. The course consists of (a) a series of lectures on biochemical theory (b) periodic tutorials or small discussion groups (c) practical laboratory exercises. Evaluation of a student's performance will be by written and practical tests throughout the course and by a final written examination which may be supplemented by an oral examination before final grading.

At the end of the practical course the student should have applied and be able to specify and discuss: common biochemical methods of isolating and identifying biological compounds; simple biochemical uses of, methods of detection and precautions in using radioisotopes; general methods of conducting whole animal experiments and studying isolated tissues and enzyme activity in vitro; common methods of studying skeletal tissue metabolism; assessment of the adequacy of human diets; the validity of conclusions drawn from findings in simple experiments.

At the end of the whole course the student should be able to define, describe in chemical terms (including the use of simpler structural formulae and equations where appropriate) and discuss the following: (a) The composition and molecular structure of carbohydrates, fats (lipids), amino acids, peptides, porphyrins, nucleotides, nucleic acids and skeletal minerals; particularly of those concerned in human metabolism. (b) structure and chemical processes in cells, particularly of: membranes and enzymes, the means of energy production from and storage of biological fuels, protein and nucleotide metabolism, genetic and metabolic controls. (c) chemical functions in special tissues and organs, viz: blood, mouth and gastrointestinal tract, liver, kidney, muscle cell, bone and dental tissues. (d) nutritional requirements of man, assessment of dietary adequacy, the chemical forms, sources, cellular functions and features of deficiency of the vitamins necessary for man. (e) chemical homoeostasis of body e.g. Ca., glucose, pH. Chemistry and functions of hormones.
Lectures and Tutorials 88 Hours — Practical Course 64 Hours.

DEPARTMENT OF ORAL MEDICINE

Oral Medicine. This course has three components: "Your Teeth and How to Keep Them" consisting of a personal plaque control program which is continued throughout the whole course for each student. The program is aimed at the preservation of the teeth and the supporting structures. The application of a knowledge of basic sciences subjects to clinical dentistry is adduced during discussions of the dental plaque, its composition and pathogenicity.

Periodontics. Thus the significance of periodontal lesion, carries reduction and the importance of proper nutrition and home care are stressed. The student is introduced to clinical dentistry by exercises and demonstrations. Orientation, theory, instrumentation and laboratory are taught. A case history, charting, PMA Index, gingivitis score, DMF dietary analysis are completed by each student for discussion. The importance of the general physical and psychological appraisal of the patient will be emphasized and demonstrated. The relationship of dentistry to medicine and what a short case history should elicit will be covered.
32 hours.

DEPARTMENT OF PAEDIATRIC DENTISTRY

1. Paediatric Dentistry. This is an introductory program devoted to the general topics of growth, cranio-facial growth and the development of the dentition. The program employs both lectures and clinical demonstrations to illustrate normal growth and some of the commonly occuring deviations from normal.
24 hours.

DEPARTMENT OF PHYSIOLOGY

Course Objectives

To develop a knowledge of the mechanisms of normal function of the human body. To develop a knowledge of the mechanisms that the human body possesses to allow it to adjust to internal and external stress factors.

To develop a preliminary knowledge of the physiological bases of the changes observed during disease.

Course structure: The instructional and learning program is composed of lectures, question periods, small group and individual tutorials, laboratory classes, demonstrations, panel discussions, evaluation periods, and the writing of one essay under supervision.

The content includes a consideration of homeostasis, excitable tissues, neurohumoral transmission, the cardiovascular system, blood, respiration, the renal and urinary system, acid-base and electrolyte balance, the gastrointestinal system, metabolism, the endocrine system, sex and reproduction, and foetal and neonatal physiology. A special section is devoted to integrative physiology, in which the body systems are cross-related during a consideration of the total function of the organism. The autonomic nervous system and topics of applied physiology will be introduced in this section. A full study of the central nervous system is not included in the first year course.
160 hours.

DENTISTRY

DEPARTMENT OF RESTORATIVE DENTISTRY

FIRST YEAR

1. Operative Dentistry. This course introduces the student to the clinical aspects of the disease of dental caries. While emphasis is given to prevention, the treatment of commonly occuring hard tissue lesions by means of routine restorative techniques is discussed in detail. The laboratory phase of the program reinforces the lecture material and permits full opportunity for practical application under simulated clinical conditions. Upon the completion of this course the student will be expected to diagnose and treat simple carious lesions utilizing routine restorative techniques.
Lectures 32 Hours. Laboratory 96 Hours.

2. Dental Materials Science. A basic and general discourse is given to the various classifications of materials used in dental operative procedures. Emphasis is placed on physical and mechanical properties which forms the rationale for the proper technological management of materials. In addition several selected topics concerning specific materials are presented in coordination with the preclinical presentations and exercises in the Operative Dentistry course.
Lectures 32 Hours.

DEPARTMENT OF SOCIAL DENTISTRY

1. Professional Conduct. A short course designed to encourage the development of responsible professional attitudes and to produce, within the freshman dental student, an enhanced awareness of the nature and extent of the responsibility the dentist assumes in respect of his patients, his profession, his colleagues, society, his family and himself.

2. Scientific Writing. For the guidance of the student, to outline the requirements of good writing and the special requirements normally imposed by scientific and/or professional journals to which scientific and/or professional papers may be submitted.

3. History of Dentistry. A short course tracing the trials and tribulations in the development of dentistry as a profession and identifying its major contributors and the nature and significance of their contributions.

4. Community Dentistry. By the use of seminars and field trips, the student will be introduced to the community, its structure, the magnitude and distribution of dental disease within it and its available dental resources. Basic methods of epidemiology and biostatistics and their use in dealing with dental diseases will be discussed.
32 hours (Total).

INTERDEPARTMENTAL

1. Conjoint Course in Occlusion. This course is composed of two sections, each concerned with a different aspect of the human dentition. The first part deals with the study of the morphological characteristics of both primary and permanent teeth and their positional relationships in the dental arches. Emphasis is placed on the practical relationships of the teeth as they relate to their adjacent members. The student begins to develop technical proficiency by utilizing a wax addition method of restoring the anatomical crowns of selected representative teeth.

The second part introduces principles of occlusion designed to provide the student with a basic understanding of the fundamentals involved. The use of the dental articulator is introduced and explained as a method of orientating students to the field of occlusion. Articular patterns are fabricated in wax on mounted casts, and the relationships of the natural and artificial teeth to their antagonists and the jaws are studied. The Department of Restorative Dentistry teaches this program.
96 hours.

Second Year Curriculum, 1972-1973

DEPARTMENT OF BACTERIOLOGY AND IMMUNOLOGY

1. Dental Microbiology. A course of lectures and tutorials dealing with the nature and morphology of bacteria; host-parasite relationships; disinfection and sterilization; a survey of bacteria of medical and dental importance; the nature of viruses and virus infections; serological diagnostic methods; immunization, hyper-sensitivity; antibiotics and chemo-therapy; and special topics in mycology and parasitology. After an intensive introduction there will be detailed consideration of the part played by microbes in disease and, specifically, those affecting dental practice, hygiene and preventive measures.

A course of laboratory exercises integrated with the lecture course and seminars and illustrating the principles and the applications of microbiology.
128 hours (Total).

DEPARTMENT OF ORAL MEDICINE

1. Oral Diagnosis. This course is designed to introduce the student to the exact science of diagnosis.

Diagnosis is the systematic accumulation of all subjective and objective information derived from complete medical and dental histories and when supported by a logical, step-by-step, clear and concise clinical examination, it provides a sensible diagnosis and prognosis which enables the student to formulate the patient's Treatment Plan. The importance of a moderate case history that leads to many avenues for further questioning, the principles of oral diagnosis and the prognosis and treatment planning will be discussed in detail.

Stress will be placed on early detection of any abnormality that will lead to the loss of the teeth or create serious soft or hard tissue lesions or disease. The student will be taught to reflect on the basic mechanisms responsible for the symptoms. Stress will also be placed on patient education techniques, elevation of the patient's dental I.Q., the criteria for deviating from the ideal treatment plan and subsequently the principles of case presentation.

The principles involved in the course stimulate the student's concentration to de-departmentalize his accumulated mass of knowledge and skills and channel this information to derive practical solutions to improve the patient's oral health. Emphasis in the art of instilling student-patient confidence and rapport will be discussed, destined to provide treatment plans to complete and successful conclusions.

The lecture series will be supplemented with slide presentations and practical aids to patient management; these will provide valuable adjunct information for student-patient relations in the discipline of Oral Diagnosis. Patients will be provided to allow student participation.

Since the recorded information concerning the health of a patient is a permanent record, repeated stress will be definitely maintained to ensure that the communicative information will be recorded in an extremely neat, orderly and comprehensive manner.

The basis for any treatment procedure in dentistry should have for its foundation an accurate, recorded, systematic accumulation of all facts to formulate a proper diagnosis as a compulsory prerequisite.

2. Periodontics. To further orient the student towards prevention, this course is designed to provide a comprehensive knowledge of the etiology, histopathology and pathogenesis of periodontal disease. Early recognition of the diseases of the supporting structures of the teeth is also given emphasis.

The course comprises a series of lectures and seminars on applied histology, the multitude of causative factors especially bacterial plaque, extension of inflammation into the supporting structures and classification of diseases of periodontium.

Recognition and conservative treatment of periodontal disease is introduced, integrated with clinical demonstrations and exercises, emphasis being placed on patient behavior and development of basic skills of instrumentation. Clinical experience in simple therapeutic procedures such as scaling and curettage forms an important part of this course.
32 hours.

3. Radiology. A series of lectures and laboratory exercises designed to acquaint the student with the principles of radiation production, control and hygiene. Instruction in radiographic techniques is commenced.
20 hours.

4. Occlusion. This course consists of two sections, a lecture and seminar series concerning basic principles of occlusion and a laboratory exercises and preclinical course concerned with basic principles of treatment of disorders of occlusion in the natural dentition.

The lecture series includes discussion of applied physiology of occlusion and mastication, the dynamics of teeth in function and dysfunction including response of supporting structures of the teeth and etiology and clinical recognition of traumatic states of the natural dentition and the masticatory system.

The laboratory and preclinical exercises are aimed at the indications, objectives, principles and procedures for occlusal adjustment. Emphasis is placed on understanding basic principles and rationale for occlusal adjustment.

The Department of Oral Medicine organizes this program. 64 hours.

DEPARTMENT OF ORAL SURGERY

1. Local Anaesthesia. A course of lectures and demonstrations in the theory and practice of local anaesthesia pertaining to dentistry held during the third and fourth quarters. 16 hours.

DEPARTMENT OF PAEDIATRIC DENTISTRY

1. Paediatric Dentistry. A series of lectures on growth and development of the dento-facial complex with particular reference to occlusion and the prevention and correction of irregularities of the teeth will be given. A pre-clinical paedodontic and orthodontic laboratory program will prepare the student in the technical procedures he will be required to perform clinically in his junior and senior years.
48 hours.

DEPARTMENT OF PATHOLOGY

Introductory lectures are given at the beginning of each course in which the objectives of the course are discussed. A list of the lecture topics is provided for each student and lists of the topics to be discussed are provided at the beginning of each lecture or group of lectures.

1. General Pathology. A course of lectures, demonstrations and laboratory periods dealing with fundamental aspects of disease processes. Subjects include inflammation and repair, regressive changes, circulatory disturbances, disorders of growth and neoplasia, and specific examples of inflammation. The dental students receive their lectures concurrently with the medical students. The laboratory periods are held separately.
78 hours

2. Systemic Pathology. A survey course designed to stress those aspects of systemic pathology which have a special relation to the practice of dentistry.

The course is taught by means of formal lectures, gross and microscopic demonstrations, and informal teaching to small groups. Museum specimens, collections of microscopic slides, and current post-mortem and surgical material from participating hospitals are used in the teaching program. 42 hours.

3. Oral Pathology. A course in Pathology of the teeth, oral cavity and related structures. Forensic odontology, the oral manifestations of many systemic diseases, and the systemic manifestations of oral disease are also discussed. This course is taught by means of formal lectures, which are supplemented by clinical and histopathological illustrative material and by the study of collections of microscopic slides. The students are encouraged to read the current literature in the field.
72 hours.

DEPARTMENT OF PHARMACOLOGY

Pharmacology. The course of lectures will outline the principles involved in the chemical transmission of nerve impulses, receptor theory, and in the mechanism of action, absorption, distribution, metabolism and excretion of drugs in general. Because of the great volume and variety of drugs in everyday use, and the prescribing rights of dental practitioners, the major groups of drugs used therapeutically will be discussed under the above headings, as well as their actions, clinical uses and toxic effects. In addition, emphasis will be put on drugs used in dentistry. The effects of typical drugs will be demonstrated in a series of laboratory discussion/tutorial periods.
72 hours.

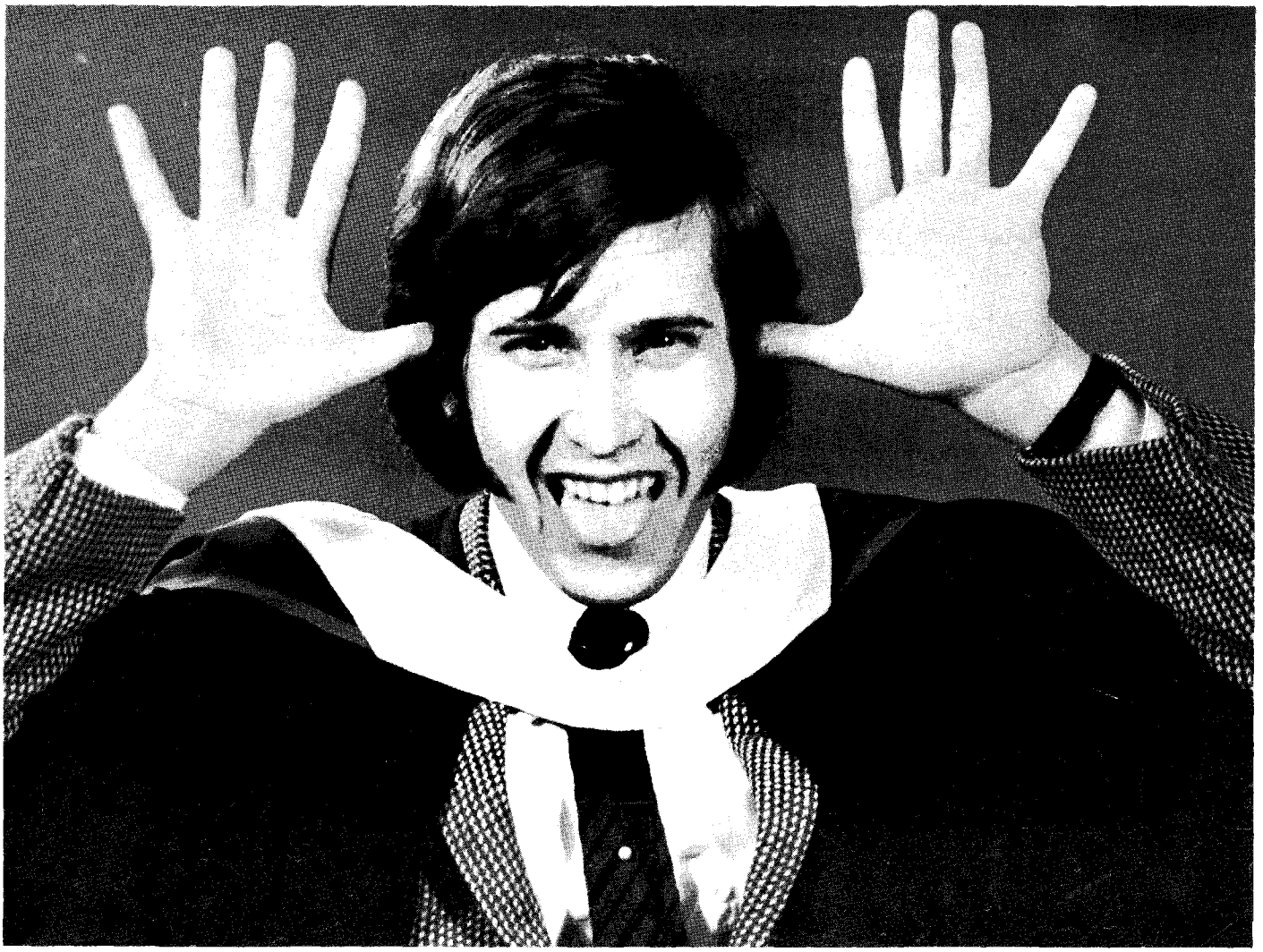
DEPARTMENT OF RESTORATIVE DENTISTRY

1. Operative Dentistry. A continuation of the first year course in which the student is prepared for the clinical environment. Particular emphasis is placed on cast intracoronal restorative procedures, esthetic anterior rehabilitative techniques, cariology, and the differential choice of restorative materials. Upon completion of this course and prior to the commencement of clinical practice the student is expected to demonstrate his ability to perform satisfactorily a wide spectrum of simple and advanced restorative treatment procedures.
Lectures 32 hours. Laboratory 96 hours.

2. Removable Prosthodontics. A course of lectures and demonstrations illustrating the biological and technological principles of complete and/or partial arch restoration by means of removable prostheses; applied anatomy and physiology; diagnosis, prognosis and treatment planning; occlusion factors; design and technical procedures.
32 hours.

A laboratory course affords practical experience in various clinical and laboratory techniques.
136 hours.

DENTISTRY



3. Fixed Prosthodontics. The aim of this course is to prepare the student for the clinical practice of Restorative Dentistry as it relates to Fixed Prosthodontics.

Special emphasis is placed on the preparation of students to treat patients with dental problems resulting from loss of teeth or aberration of function. Diagnosis, treatment planning, design and fabrication of prostheses, and restoration of occlusion are all stressed. The principles of dental hard tissue surgery involving extra-coronal restoration are discussed along with the basic theoretical concept associated with each technique. The relationship between various restoration types and the patients' biological needs is considered. The technical skills and understanding gained in dental anatomy, dental materials science, occlusion, periodontics and operative dentistry are also applied. The lecture series is supplemented by practical laboratory assignments, slide and film presentations, television demonstrations and appropriate reading assignments.
Lectures 32 hours. Laboratory 64 hours.

4. Dental Materials Science. Selected topics of various materials used in dental restorative procedures are discussed. Emphasis is placed on variables encountered when handling and applying the materials thus providing reason and insight to the proper selection of materials for the required dental restorative procedure. These topics are scheduled and co-ordinated with the preclinical presentations and exercises scheduled in Removable Prosthodontics, Fixed Prosthodontics and Operative Dentistry.
Lectures 16 hours.

5. Endodontics. A series of lectures designed to introduce the student to the clinical practise of endodontics. These lectures include a discussion of the etiology, diagnosis, treatment and prognosis of diseases of the dental pulp and the periapical tissues.
Lectures 8 hours.

A laboratory course augments the lecture series and is designed to acquaint the student with endodontic instruments and materials and to teach the basic skills and procedures necessary to treat a tooth endodontically. Participation in this laboratory course will serve as a basis for future clinical procedures.
Laboratory 9 hours.

DEPARTMENT OF SOCIAL DENTISTRY

Social Dentistry11

1. Epidemiology of Dental Disease. The nature, magnitude, distribution, etiology, relationship to other diseases and methods of prevention of the common dental diseases are reviewed and discussed.

2. Social Aspects of Dental Care. Social factors play a central role in the utilization of dental services. These factors are identified and their relationship to the demand for dental care is discussed.

3. Health Economics and Payment for Dental Care. The various methods of payment for dental care are presented and contrasted. The present and future status of prepayment in dentistry is considered.

4. Public Dental Programs in Canada. A comprehensive look is taken at the administration, functions and services provided public dental programs at the federal, provincial and local levels.

5. Dental Personnel. The existing dental manpower resources are reviewed and analyzed in the light of the present and projected demand for dental services. The training, function and role of auxiliaries in the delivery of dental care are discussed.

6. Dental Health Programs in Selected Countries. A detailed overview of the development, organization, scope and effectiveness of dental programs in selected countries is presented. Implications for Canada are discussed.
24 hours.

INTERDEPARTMENTAL

1. Occlusion. The objectives are to teach the physiology of occlusion and mastication, jaw positions and movement patterns as they relate to the natural and artificial dentition. Also, the relationship between occlusion and the various branches of dentistry is explained as well as dysfunctional disturbances of the masticatory system. Occlusion in correlated with basic sciences. Indications, objectives, principles, and procedures for occlusal adjustment are taught in this lecture and laboratory course. The Department of Oral Medicine organizes this program.
64 hours.

2. Oral Biology. To continue the development of a basic knowledge of neurophysiology. To introduce topics in neurophysiology which will be extensively developed and applied in the Oral Biology program of the third and fourth years.

Course Structure: The program consists of lectures and discussions on a functional overview of the nervous system, the brain as a control device, the general sensory systems, higher nervous activity, motor mechanisms and the special senses.
15 hours.

Third Year Curriculum, 1972-1973

DEPARTMENT OF ORAL MEDICINE

Within the regular academic year a total of 94 hours of lecture and seminar instruction is combined with 204 hours of clinical and related experience in respect of the disciplines of this Department.

1. Oral Diagnosis. A lecture series and a practical course is given in the practice and procedures of Oral Diagnosis. The lecture series will stress the importance of the case history and its relation to the treatment planning. Illustrative cases will be presented and discussed and also the influence of incorrect dental treatment on the general health of the patient. Again specific emphasis is placed on the relationship of systemic diseases to oral diseases and oral diseases to the body. In the Oral Diagnosis Clinic the student will be taught the concept of total patient care. In order to be able to motivate the patient, the student must learn everything possible about that patient. The information gained about the patient's likes, dislikes, his desires and goals in life will be utilized in the patient motivation, in order to come up with the treatment plan that is ideal for this particular patient.
61 hours.

2. Oral Medicine. A course of lectures dealing with specific problems of differential diagnosis and treatment as it pertains to the more commonly occurring oral diseases. The principles of management of a wide range of oral conditions including haematologic disorders, pigmentations, ulcerations, desquamitive lesions and benign growths will be discussed. Throughout the course emphasis is placed on early recognition of disease and the association between oral disease and the general health and well being of the patient. The series will be supplemented with slide material.
Lectures 8 hours.

3. General Medicine. Principles of General Medicine will be presented in a series of lectures given by members of the Department of Medicine and the Faculty of Medicine. The lectures are intended to present clinical aspects of disease states which may be of specific interest to the dentist. In addition, the discussion of a wide range of diseases will allow the dentist to be aware of many medical problems. The Department of Psychiatry participates in a series of lectures designed to acquaint dental students with common psychiatric disorders, drug dependency and patient understanding.
Lectures 24 hours.

4. Periodontics. The underlying theme of both lectures and clinical experience is prevention and conservative therapeutic methods. The didactic component begins with an in-depth discussion of patient motivation and includes instruction in recognizing periodontal problems and drawing up a treatment plan consistent with overall needs of the patient. Gingivoplasty, gingivectomy and reattachment procedures are discussed in detail and the student is introduced to more advanced surgical techniques and the treatment of periodontal emergency conditions is also discussed. Clinical expertise is developed in motivating the patient to control his disease and in the necessary procedures such as scaling, curettage, root planing, occlusal adjustment and removal of other etiologic factors. Clinical demonstrations in both conservative and surgical techniques are given during first two quarters.
Didactic 16 hours, Clinic and Demonstrations 96 hours.

5. Occlusion. This course consists of interdisciplinary seminars on advanced problems of occlusion, particularly those with temporomandibular joint and psychosomatic involvement. In-depth discussion of neurophysiologic basis for TMJ disorders leads the way to technique of examination, clinical recognition and treatment of patients with occlusal problems.

Clinical experience is provided where students perform occlusal adjustment and other therapeutic procedures such as splinting and instruction in physiotherapy. This course is organized by the Department of Oral Medicine.
32 hours.

6. Radiology. A course of lectures on the radiographic interpretation of disease processes which affect the teeth and jaws. The normal radiographic appearances and their normal variations are stressed as a basis for understanding and recognizing abnormal and pathologic conditions which the student may encounter. Experience is furthered in the practice of techniques presented in the second year pre-clinical program during assignment to the department.

DEPARTMENT OF ORAL SURGERY

The objective of the Third Year course in Oral Surgery is that the student should by the completion of the year competently (a) obtain suitable local anaesthesia for oral surgery; (b) extract an erupted tooth using forceps; (c) administer intravenous sedation; and (d) administer closed cardiac massage and mouth-to-mouth resuscitation.

DENTISTRY

The objective is attained by the attendance at three groups of lectures: 1. a core course of lectures given by the Department of Surgery, Faculty of Medicine, basic principles of surgery. 14 hours; 2. a preliminary course of lectures and demonstrations on the principles of exodontics, 12 hours. 3. a course of lectures on general anaesthesia as it pertains to dentistry, 12 hours.

In addition instruction is given during interdepartmental teaching sessions and 90 hours are spent in the Oral Surgery clinic.

A comprehensive course of lectures in oral surgery commences in the fourth quarter and continues into the fourth year. 8 hours.

DEPARTMENT OF PAEDIATRIC DENTISTRY

1. Orthodontics.

(a) A course of lectures will be presented on diagnostic methods and treatment procedures used in the prevention and correction of irregularities of the teeth. Included will be the fundamental principles governing the design and construction of removable appliances in the preventive and corractive control of tooth movement.
24 hours.

(b) The clinic program is designed to provide opportunities for the diagnosis and treatment of selected clinical problems.

2. Paedodontics.

(a) A course of lectures and seminars will be presented that deal with the fundamentals of paedodontics and include child management, diagnosis and treatment planning, traumatized teeth, pulp therapy for the primary and young permanent dentition, current restorative concepts in paedodontics and prevention of caries and malocclusion.
24 hours.

(b) The clinical program in paedodontics is patient-centred and provides experience in the diagnosis and treatment of dental problems of a limited number of children.

DEPARTMENT OF RESTORATIVE DENTISTRY

1. Dentistry (Operative). A series of lectures devoted primarily to the clinical application of various restorative treatment techniques and procedures involved in the management of hard tissue lesions. Particular emphasis is placed on a biological approach to general restorative dentistry.

Detailed consideration is given the following topics: clinical diagnosis relative to operative dentistry; preventive periodontics in restorative procedures; clinical control of dental caries; differential choice of restoration; occlusion; composite systems and adhesives; clinical control of manipulative and biological variables. Differential diagnosis, treatment techniques and preventive procedures are stressed.

The clinical program permits direct application of the didactic lecture material. Upon completion of this course the student is expected to demonstrate (a) a reasonable degree of clinical judgement wherein routine decisions regarding diagnosis, treatment and general patient care may be made independently, and (b) a reasonable degree of clinical competence in performing routine treatment procedures with a predictable degree of success.
Lecture 24 hours. Clinical Experience 96 hours.

2. Endodontics. A series of lectures dealing in detail with all facets of endodontic treatment. Particular emphasis is placed on root canal morphology, diagnosis and treatment planning, armamentarium and sterilization, anaesthesia, bio-mechanical preparation, therapeutics, obliteration of the canal, bleaching of the endodontically treated teeth.

Endodontic surgery along with the newer concepts of endodontic periodontal surgery are discussed.

In conjunction with the Division of Fixed Prosthetics the techniques of restoring the pulpless tooth are presented.
Lectures 24 hours. Clinical Experince 96 hours.

3. Fixed Prosthodontics. The aim of this course is to prepare the student for clinical practice as it relates to anterior fixed restorations. Special emphasis is placed on the replacement and restoration of teeth where esthetics is a problem. Those principles involving the variety of preparations employed in rendering a service where esthetics is of prime concern are discussed along with the basic theoretical concepts associated with each technique. Different kinds of veneering materials such as acrylic and porcelain are introduced and related to shade selection and color control. The lecture series is supplemented by practical laboratory assignments, slide and film presentations along with appropriate reading assignments.
Lectures 8 hours. Laboratory 16 hours. Clinical Experience 72 hours.

4. Removable Prosthodontics. A course of instruction in the clinical application of basic principles in prosthodontics. Students perform prosthodontic services for patients and are given ample opportunity to become clinically proficient in this discipline.

Lectures 24 hours. Clinical Experience 96 hours.

DEPARTMENT OF SOCIAL DENTISTRY

Social Dentistry III

1. Jurisprudence. Introduction to legal aspects of the practice of dentistry dealing with contracts, leases and other legal documents.

2. Practice Administration. Introduction to the topic of practice administration dealing mainly with physical facilities related to dental practice, methods of practice, dental insurance, etc.

3. Professional Development. The professional man has a responsibility to be reasonably competent in oral communication. Arrangements will be made to provide students with the opportunity to give dental health talks to various community groups.

4. Behavioral Science. The psychology of doctor-patient relationship will be considered. The mechanisms of sensation and perception, the significance and effects of anxiety, personality types and their extremes, and methods applicable for dealing with them.

5. Dental Public Health and Preventive Dentistry. Social, legal and political aspects of fluoridation will be covered. Various aspects of Dental Health Education will be discussed as they relate to prevention and control of dental diseases. The area of preventive dentistry will be expanded as an extension of material previously covered. Field visits and exercises will be arranged to better acquaint the students with community aspects of dentistry.
40 hours.

INTERDEPARTMENTAL

Weekly sessions throughout the year will be both clinically oriented and directed towards the teaching of topics common to several Departments of the Faculty, including the Basic Sciences. The appropriate Departments will collaborate in the teaching of the topics and student involvement will include case presentations, seminars and televised procedures.
128 hours

Clinical Pathological Conferences

Conferences are held throughout the academic year as part of the interdepartmental teaching program. Interesting cases are discussed from the standpoint of clinical, radiographic and pathological findings.

Conjoint Occlusion

Weekly interdisciplinary seminars with active student participation including discussion of more advanced problems of occlusion, particularly those with temporomandibular joint involvements; psychological implications in patients with temporomandibular joint problems and their treatment is discussed.

Clinical experience in occlusal equilibration and treatment of temporomandibular joint patients is provided.

DEPARTMENT OF CLINICS

1. (a) **Clinical Orientation.** A pre-clinical session without patients presented by all clinical departments to familiarize the student with routine clinic procedures and administration and with the operation and maintenance of cubicle equipment.
18 hours.

(b) **Oral Diagnosis.** Prior to commencement of clinical practice there will be a preliminary oral diagnosis session conducted by the Department of Oral Medicine for the examination, diagnosis and treatment planning of the introductory patients assigned to Third Year students. Regular oral diagnosis sessions will be carried on throughout the year as required.
45 hours.

2. Clinical Practice. The periods allotted will provide an opportunity for the students to apply the principles taught in the pre-clinical years to the actual treatment of patients in an atmosphere as closely related to private practice as is possible in a teaching institution. Clinical sessions are scheduled in a manner to permit students to retain their same cubicle throughout the year. The student will also be assigned to the various clinical departments and divisions where he will carry out the normal procedures involved and observe the more advanced techniques demonstrated by the instructors. These assignments include Oral Surgery, Radiology and Emergency Clinic.
768 hours.

3. Summer Clinic. A continuation of the periods of clinical practice. The student may be required to bring up to standard any clinical phases which may not have been satisfactorily completed during the regular sessions. If not he may have the opportunity of concentrating on selected aspects of the treatment services.
162 hours.

4. Individual student evaluation will be made on the basis of patient administration and clinic management.

Fourth Year Curriculum, 1972-1973

DEPARTMENT OF ORAL MEDICINE

A total of 40 lecture hours is combined with 96 hours of clinical and related experience in respect of the disciplines of this department.

1. Oral Diagnosis. Seminars cover the prognosis and more advanced principles for the rationale and outline of treatment plans, identification keys as diagnostic aids, differential diagnosis of oral diseases, and clinical findings in disease.

2. Oral Medicine and Applied Dental Therapeutics. A series of lectures will be presented which discuss drugs and dental therapeutics as well as the case management of specific oral diseases. Drug selection, regimens and prescriptions will be presented. Formulas and preparations useful in the clinical practice will be covered. Treatment considerations of dental patients receiving medical care will be stressed. Students will be encouraged to read literature pertaining to current therapeutic trends.
8 hours.

3. Periodontics. A series of lectures covers the management of advanced periodontal disease. Topics include rationale of advanced periodontal surgery, treatment planning, discussion of treatment of osseous defects and muco-gingival problems, hard and soft tissue grafting, interdisciplinary approach to minor tooth movement and periodontic-endodontic problems. The role that a general practitioner can play in the management of periodontal disease and his relation to the specialist is discussed.

In the clinic, an opportunity is provided for the treatment of more advanced periodontal conditions, including problems of occlusion and TMJ disorders. This experience is aimed at astute development of basic skills rather than becoming a sophisticated surgeon.
84 hours.

4. Radiology. Clinical assignments in which proficiency is gained and experience extended in all aspects of radiographic techniques provide a logical extension of lecture and laboratory sessions. Case reporting under guidance affords a practical application of lecture material. Seminars which correlate clinical observations, pathologic findings and radiographic appearances provide further opportunity to improve the ability to interpret radiographs.
Lectures 12 hours, Clinic 12 hours.

DEPARTMENT OF ORAL SURGERY

The objective of the Fourth Year course in Oral Surgery is that the student should:

(a) comprehend the theory, practice and scope of oral surgery.

(b) obtain experience in minor oral surgery under local anaesthesia.

(c) obtain experience in exodontics under general anaesthesia.

(d) through hospital experience be able to practice within the hospital environment.

The objectives for the Fourth Year are met by a continuation of the course of lectures in oral surgery started in the fourth quarter of Third Year continuing during the first three quarters.
24 hours.

Eight seminars on broad topics in oral surgery are held during the third quarter.
8 hours.

Further clinical experience is obtained after demonstrating competence in exodontics. Minor oral surgery, simple impactions and trans-alveolar extractions under local anaesthesia are encouraged.

In addition extractions under general anaesthesia are carried out in the out-patient operating room.
Clinic 72 hours.

DEPARTMENT OF PAEDIATRIC DENTISTRY

1. Orthodontics.

(a) The lecture and seminar program will be devoted to diagnostic techniques, treatment procedures and problems likely to be encountered in general practice.
20 hours.

(b) The clinical program will be a continuation of the Third Year Program.

2. Paedodontics.

(a) Lectures and seminars are directed to specific clinical problems and the review of current Paedodontic literature.
20 hours.

(b) The clinical program is an extension of the Third Year Program into the more complex problems found in general practice.

DEPARTMENT OF RESTORATIVE DENTISTRY

Restorative Dentistry. A series of lectures and seminars on advanced restorative dentistry to include the following: Maxillo-facial prosthodontics; management of cleft palate; comprehensive diagnosis and treatment planning; patient and practice management; advances in restorative materials; the role of auxiliaries; advanced endodontics; pulp biology and research.
40 hours

DEPARTMENT OF SOCIAL DENTISTRY

Social Dentistry—IV

1. Practice Administration.

Fundamental considerations related to professional and efficient care for a maximum number of patients, having due regard for the individual dentist and patient concerned. Consideration will be given to the principles involved in establishing, organizing and administering a dental practice.

2. Jurisprudence.

Principles of law, legislation and ethics related to the practice of dentistry are discussed. Purposes and functions of the legal and voluntary agencies of the profession and the administrative structure of organized dentistry will be considered.

3. Emergency and Disaster Preparedness.

Introduction to principles of emergency medical care and the role of the dentist in emergency and disaster situations which would not be part of the usual dental training.

4. Dental Public Health.

Current programs and their basic components and the development of a Dental Public Health Program in an area will be covered.

5. Preventive Dentistry.

The area of Preventive Dentistry will be reviewed in regards to its components and their application.
16 hours.

INTERDEPARTMENTAL

The program introduced in the Third Year will continue for the second and third quarters of the Fourth Year.
64 hours.

Hospital Experience. Attendance at a general hospital will enable the future dentist to effectively practice within the hospital environment. Instruction and demonstrations are given in hospital protocol, admission and discharge of patients, assistance within the operating room and participation in hospital rounds.
60 hours.

Conjoint Occlusion. Lectures and seminars will discuss the establishing of the occlusion for difficult cases. Orthodontics and Restorative Dentistry will be responsible for presenting the seminars.

Clinical Pathological Conferences. The series of conferences which commenced in Third Year continue on through Fourth Year.

Oral Cancer. The Division of Oral Pathology organizes this interdepartmental course in which the diagnosis, treatment, and rehabilitation of the patient with cancer of the oral cavity are discussed.

DEPARTMENT OF CLINICS

1. Clinical Practice.

(a) The first three quarters of the curriculum are a progression of the third year clinical sessions with assignment of cases involving more comprehensive and more complex treatment programs. The periods allotted also include blocks of time during which the student will function in the hospital environment.
Assignments include Oral Surgery, Emergency Clinic, and Hospital Experience. 600 hours.

(b) The fourth quarter may include additional periods of clinical practice if the student is required to improve his competence in specific areas.

2. Student evaluation will be made on the same basis as for Third Year.

AREA OF CONCENTRATION

The last quarter of the Fourth Year is set aside for special studies by the student in a research or clinical area of interest to him. The student is expected to plan his activities for this eight-week period with an adviser of his choice and to proceed as independently as possible under the guidance of his adviser. A report on his activities is required and in the case of research, may take the form of a paper ready for publication.



Faculty of Engineering Science

Faculty of Engineering Science

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Electrical Engineering: I.I. Inculet, Dipl Ing. MSc, PEng

Materials Science: J.D. Brown, BSc, PhD

Mechanical Engineering: E.S. Nowak, BEng MSME, PhD PEng,

Core Studies: G.S. Emmerson, BSc, ARCST, MSc, PEng

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J.D. Tarasuk; BASc, MASc Toronto; PhD Saskatchewan

ENGINEERING

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Sessional Staff

Assistant Professors

N. Isyumov, BESc, PhD UWO; PEng

V. Vitols, PhD Michigan; PEng

Lecturers

A.M. MacKenzie, BASc Toronto; OLS, PEng

*Joint Appointments

A Modern Definition of Engineering

While Engineering has traditionally been concerned with the application of science, a new definition has recently been introduced: Engineering is the profession, responsible and accountable for man's physical environment, its management and control. In this era of concern for over population, the remedying of past damages to our environment and the utilization of the world's remaining resources to the best vantage, this profession offers tremendous challenges and opportunities to young men and women. The Faculty of Engineering Science at Western Ontario provides the educational foundations, and introductory practical experience for meeting these challenges.

Core Studies

The branches of engineering stem from the common core in science and mathematics. At Western, all engineering science students study essentially the same subjects in the first two years of their course; a slight exception has been made in the case of those intending to specialize in the Chemical and Biochemical field. In these core classes, students also have good contact with fellow classmen who will be entering science and other professional and non-professional programs; in this way they obtain a better appreciation for the inter-relationship between engineering, science, economics, and other disciplines through their technical and non-technical prescribed courses and electives.

A particularly exciting course that may be taken by undergraduate engineering students is Man and His Environment, an interfaculty program in which the problems—technical, economic, social, political—of man and his physical environment are studied. This course is designed to educate our students in the total system's problems and opportunities dealing with the world in which they will make their contributions.

Upper Year Classes

Students entering their third year will choose a field of specialization; it is expected that by that time they will have a better idea of what their aptitudes are, and also their goals in their future professional activities. These areas of specialty are Chemical and Biochemical, Civil, Electrical, Materials Science and Mechanical, and it is expected that there will be a program in Environmental Engineering well developed for students entering their year 1 class in 1972. The Environmental program will be introduced as an elective course in the Chemical and Biochemical Engineering Program in 1972, but it is expected that several alternates will be available to students, and that a wide range of electives in the Environmental field will also be offered.

Particularly exciting activity of the third and fourth years is for students to be engaged in a project working closely with a faculty member, often as a task force of several students, on an attack on a real engineering problem. In coming years, it is expected that many of these will be directly related to industrial problems and many of the environmental engineering nature.

At Western, the Faculty of Engineering Science has pioneered many innovations leading to better faculty-student communication and cooperation. Every effort is made to promote this, and although the first year student may find himself, or herself, most of the time physically separated from the Engineering building, taking classes in other colleges of the University, the Faculty of Engineering Science is ever watchful of their progress and sensible of their needs. To aid in this, the professors conducting classes attended by Engineering Science students in their first and second years are regarded as the Core Group, the chairman of which is specifically charged with the duty of supervising the education and morale of the Freshmen and Second year students. It is in the "core" that the foundations of knowledge and habit are laid, and student confidence and aspiration fostered.

Graduate Studies

For information on Graduate Studies in Engineering Science see the Graduate section of this calendar.

REGISTRATION AS A PROFESSIONAL ENGINEER

The requirements for registration as a Professional Engineer vary somewhat from province to province. Applicants for registration with the Association of Professional Engineers of Ontario (A.P.E.O.) must have successfully completed a university course in engineering accredited by the Association or have passed qualifying examinations set by the Association. The program in Engineering Science at The University of Western Ontario has been accredited by the Association. In addition, applicants must obtain two years of acceptable engineering experience as Graduates-in-training to qualify for registration.

The Association of Professional Engineers of Ontario is responsible for the administration of the Professional Engineers Act, the control of registration and such things as maintenance of ethical standards of its members in the interest of the general public. The title Professional Engineer, P.Eng., is employed by members in good standing with the Association.

Registration in other Provinces is subject to similar regulation, the details of which may be obtained from the Professional Engineering Association of the various provinces.

FIRST YEAR PROGRAM

Appl. Math 20	**Engineering Mathematics 1**
Chemistry 20	**General Chemistry**
E.S. 20	**Engineering Graphics**
E.S. 21	**Engineering Mechanics 1**
Physics 26	**Introductory Modern Physics**

One elective course

Notes:

1) 1 hour per week tabled for Engineering Orientation.

2) Students may elect to defer E.S. 20 and take it as an extra course in Second Year.

DESCRIPTION OF COURSES

NOTE: E.S. denotes an Engineering Science Course.

E.S. 20. Engineering Graphics. Use of instruments, geometrical constructions, sketching, orthographic projections, sectional views, dimensioning, auxiliary projections, axonometric projection, perspectives, vector analysis, layouts for empirical equations, nomographs and graphical mathematics. Each student must submit a design project, emphasizing an original concept.
1 lecture, 3 problem hours—2

E.S. 21. Engineering Mechanics 1. Analysis of force systems and equilibrium conditions with applications to engineering problems involving structures and machines. Dynamics of a particle and of rigid bodies; including kinematics and force energy and momentum methods of solution.
2 lectures, 1 tutorial, 2 problem hours—8

Chem. 20. General Chemistry. The fundamental principles of Chemistry, including the kinetic theory and states of matter, the properties of solutions, chemical equilibrium, rate process and energy changes. Experiments in the laboratory are selected to illustrate these principles.
2 lectures, 3 laboratory hours—25

Appl. Math. 20. Engineering Mathematics 1. Limit of a function, continuity; differentiation and integration of functions of one variable; applications; numerical methods of approximating definite integrals; polar coordinates; parametric equations; infinite series.
3 lectures, 1 tutorial hours—29

Physics 26. Introductory Modern Physics. A treatment at the elementary level of the experimental facts of modern physics and the interpretation of these facts in terms of atoms and molecules, electrons and other particles, and quantized energy. Conservation laws are stressed. The necessary concepts from classical physics are reviewed.
2 lectures, 3 laboratory hours—22

SECOND YEAR PROGRAM

All Second Year Students

E.S. 20	**Engineering Graphics (if not taken previously)**
E.S. 203	**Heat, Mass and Momentum Transfer**
E.S. 205	**Electrical Science**
E.S. 208	**Computer Programming for Engineers**
E.S. 209	**Materials Science**
E.S. 210	**Engineering Laboratory**
Appl. Math 270	**Engineering Mathematics 11**

Option A—Chemical & Biochemical Engineering

E.S. 204	**Applied Thermodynamics**
Chem. 203	**Organic Chemistry**

Non-Technical Elective to be approved by the Faculty

Option D—Materials Science

E.S. 202	**Mechanics of Materials 1**

and TWO of:

Chemistry 203	**Organic Chemistry**
Chemistry 214	**Elementary Physical Chem.**
E.S. 201	**Engineering Mechanics 11**
E.S. 204	**Applied Thermodynamics**

Options B,C and E Civil, Electrical and Mechanical

E.S. 201	**Engineering Mechanics 11**
E.S. 202	**Mechanics of Materials 1**
E.S. 204	**Applied Thermodynamics**

E.S. 201. Engineering Mechanics 11. A continuation of Engineering Science 21. Kinematics and kinetics of plane motion; application of work-energy and impulse-momentum relationships; introduction to vibrations.
2 lectures, 1 tutorial hour—6

E.S. 202. Mechanics of Materials 1. Stress and strain elastic and inelastic material idealizations, behaviour of assemblages, analysis of thin-walled pressure vessels, shearing force and bending moment, stresses in beams, deflection of beams, torsion of shafts, buckling of columns.
2 lecture hours—30

E.S. 203. Heat, Mass and Momentum Transfer. An introduction to the basic principles of fluid mechanics and of the transport of heat and mass in systems of interest to engineers.
2 lecture hours—25

E.S. 204. Thermodynamics. Properties of a pure substance, first law of thermodynamics, processes in open and closed systems, second law of thermodynamics, ideal gases, mixture of ideal gases, and psychiometry, compressors and ideal power cycles.
2 lecture hours—9

E.S. 205. Electrical Science. Electrostatics, conductors and semi-conductors, magnetism and electrodynamics, principles of electric-circuit theory, principles of energy conversion, electrical measurements; sinusoids, complex numbers, phasors, transient and steady-state behavior of simple circuits, power and energy, network equations and theorems, polyphase systems; coupled circuits, transformers; Fourier analysis of non-sinusoidal quantities.
3 lecture hours—35

E.S. 208. Computer Programming for Engineers. An elementary course in Fortran programming for the IBM 1130.
1 lecture hour, 1 1/2 tutorial hours—17

E.S. 209. Materials Science. An outline of the scientific understanding of those properties of materials which are most important in engineering. The dependence of these properties upon the nature, structure and treatment given to materials.
2 lecture hours—13.

E.S. 210. Engineering Laboratory. Selected Experiments in Engineering Science.
3 laboratory hours

Chem. 203. Organic Chemistry.
2 lecture hours, 3 laboratory hours—23

Chem. 214. Elementary Physical Chemistry. Kinetic theory and elementary thermodynamics.
3 lecture hours—12

Appl. Math. 270. Engineering Mathematics 11. Partial differentiation, multiple integrals, infinite series including power series, an introduction to complex variables, elementary ordinary differential equations.
3 lecture hours—20

ELECTIVE COURSES

Non-Technical Electives

E.S. 290. Man and His Environment. An interdisciplinary course designed to provide a thorough introduction to all aspects of the study of the environment and environmental problems in a manner which shows their intimate relations with one another.
2 lecture hours, 2 seminar hours

E.S. 406. Engineering Economics. A critical examination of cost factors and of the procedures available for minimizing costs of industrial processes and plants.
2 lecture hours—19

Technical Electives

E.S. 361. Engineering Aspects of Pollution Control and Abatement. Discussion of major chemical and physical processes and operations applied in pollution control and abatement.
2 lecture hours—20

E.S. 461. Environmental Processes and Equipment Design.
Prerequisite: E.S. 361 or permission of the instructor.
Design of selected industrial processes and operations specifically applied in pollution and abatement.
2 lecture hours—14

Chemical and Biochemical Option

Chemical engineering encompasses all activities associated with the conversion of raw materials into unique products through the application of chemistry. This includes the research, development and design of the process and plant and extends to the production, control and sales of the product. The Chemical engineer must have a good knowledge and appreciation of chemical as well as engineering principles. The Third Year Chemical Option extends the work in physical chemistry and heat, mass and momentum transfer started in Second Year. A Unit Operations course and a Process course starts in Third Year and extends into Fourth Year. Electives in the Fourth Year enable a student to study in greater depth biochemistry, microbiology, quantum chemistry, mathematics or selected topics.

The range of employment for chemical engineers is wide. It includes the petrochemical industry, brewing and food industry, pulp and paper industry, mining industry and a variety of jobs in secondary industries.

THIRD YEAR PROGRAM–OPTION A–CHEMICAL AND BIOCHEMICAL ENGINEERING

E.S. 303	**Fluid Mechanics (1st term)**
E.S. 307	**Heat Transfer (2nd term)**
E.S. 305	**Electronics (2nd term)**
E.S. 310	**Chemical Engineering Lab. 1**
E.S. 311	**Unit Operations 1**
E.S. 312	**Industrial Process Chemistry**
Appl. Math 370	**Engineering Mathematics 111**
Chem. 314	**Intermediate Physical Chemistry**

Technical Elective to be approved by the chairman of the Chemical and Biochemical Group.

Non-Technical Elective to be approved by the Faculty.

DESCRIPTION OF COURSES

E.S. 303. Fluid Mechanics. Additional principles of incompressible and compressible fluid flow: dimensional analysis, dynamic similarity, fluid resistance, ideal (potential) flow, frictionless compressible flow; application of basic principles: fluid measurements, flow in closed conduits and open channels, aerodynamics, turbomachinery.
2 lecture hours, first term

E.S. 305. Electronics. Characteristic behavior of vacuum tube and semiconductor devices, and their use in linear amplifiers, oscillators and measuring instruments.
2 lecture hours, second term–17

E.S. 307. Heat Transfer. Principles of heat transmission by conduction, convection and radiation.
2 lecture hours, second term–3

E.S. 310. Chemical Engineering Laboratory 1. A laboratory course associated with the topics discussed in E.S. 311.
6 laboratory hours

E.S. 311. Unit Operations 1. Principles and applications of equilibrium stage process.
2 lecture hours–36

E.S. 312. Industrial Process Chemistry. A correlative discussion of a number of chemical industries in terms of unit processes, unit operations, physical chemistry, economics, and power.
2 lecture hours, 2 problem hours–11

Appl. Math. 370. Engineering Mathematics 111. This is a general course in Applied Mathematics for Third Year Engineering students, covering the following topics. First Term: finite differences, difference tables, interpolation, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations. Second Term: linear algebra, elementary probability theory, Fourier series.
3 lecture hours–26

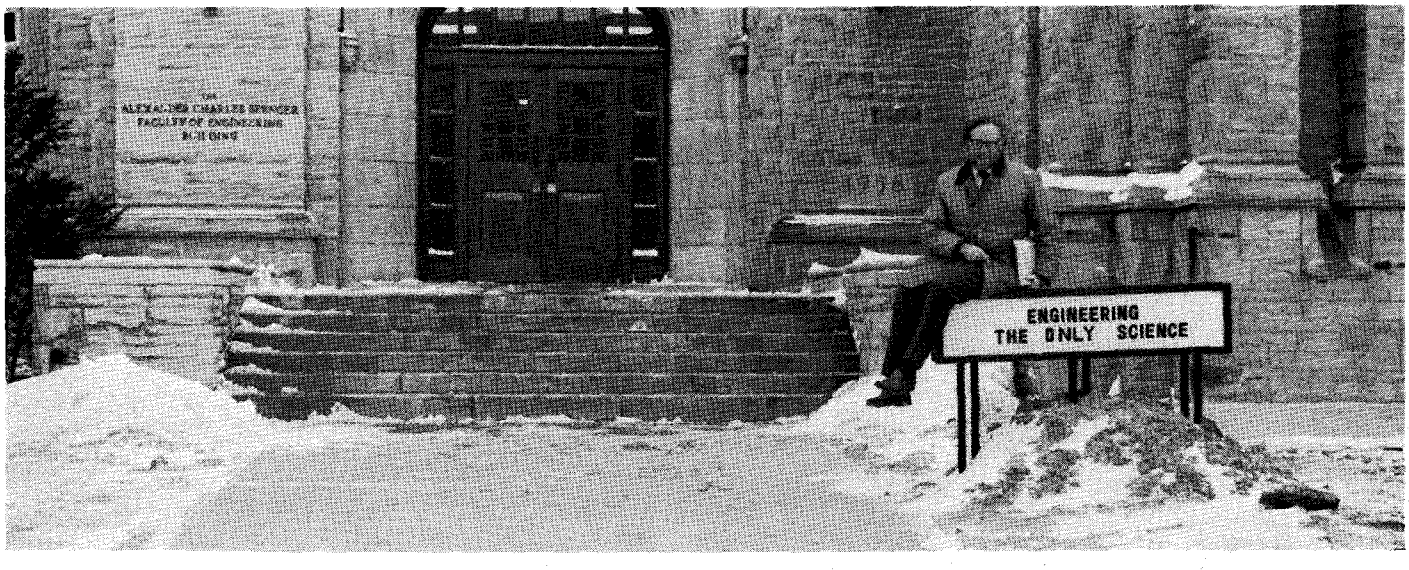
***Chem.* 314. *Intermediate* Physical Chemistry.** For Chemical Engineering students. Content similar to Chemistry 354.
3 lecture, 1 1/2 laboratory hours–7

FOURTH YEAR PROGRAM–OPTION A–CHEMICAL AND BIOCHEMICAL ENGINEERING

E.S. 400	**Project, Report and Seminar**
E.S. 408	**Engineering Practice**
E.S. 410	**Chemical Eng. Lab 11**
E.S. 411	**Unit Operation 11**
E.S. 412	**Chemical Processes and Plant Design**
E.S. 414	***Instrumentation* and Control**
E.S. 415	**Chemical Engineering Kinetics**

Non-Technical Elective to be approved by the Faculty

Any full course or *the equivalent* chosen *with the approval of the chairman* of the Chemical and Biochemical Engineering Group chosen from Non-Technical Electives, E.S. 300, 400 or 500 courses, or Faculty of Science 3rd or 4th year courses.



DESCRIPTION OF COURSES

E.S. 400. Project, Report and Seminar. Selection and investigation of an engineering problem. Analytical and/or experimental work is carried out by individual students or project groups under the supervision of a faculty member. Progress reports and a final engineering report are prepared; each student must deliver a public lecture.

A student who, in connection with another course, undertakes a project which culminates in the preparation and presentation of a report and which meets all the requirements of E.S. 400, may with the permission of the Chairman of his Group, substitute a technical elective for E.S. 400.
5 hours

E.S. 408. Engineering Practice. A discussion of the structure and operation of business organizations with emphasis on the following functions and disciplines: financial control, marketing, organizational behavior, production and general management. Cases and business problems are analysed in such a manner as to relate the engineer to his economic and industrial environment. Lectures are also included on other topics including labor, law, professional ethics and practice.
2 lecture hours, second term—17

E.S. 410. Chemical Engineering Laboratory 11. A combined laboratory associated with the topics discussed in E.S. 411, E.S. 414 and E.S. 415.
3 laboratory hours.

E.S. 411. Unit Operations 11. The principles given in E.S. 311 are utilized in the detailed study of stage and differential contacting processes, and of unit operations involving particulate solids.
3 lecture hours—7

E.S. 412. Chemical Process and Plant Design. A preliminary design is prepared of a process for making a selected chemical. This involves: size of the market; method of manufacture; raw materials and energy required; selection, size and cost of equipment; and evaluation of the profitability of the proposed venture. In this way an integrated application is achieved of economics and the principles of chemical engineering.
2 lecture, 3 problem hours

E.S. 413. Selected Topics in Chemical Engineering
2 lecture hours—3

E.S. 414. Instrumentation and Control. Theory and application of automatic control of variables in industrial processes.
2 lecture hours—21

415. Chemical Engineering Kinetics Chemical kinetics as applied to the large-scale manufacture of chemicals. An introduction to the factors which affect the design and size of chemical reactions, as well as the conditions under which they are to be operated for maximum efficiency.
2 lecture hours—25

E.S. 416. Biochemical Engineering. Principles and operations of biochemical processes. The laboratory associated with this course will be integrated with E.S. 410.
2 lecture hours, 3 lab. hours—29

E.S. 417. Catalytic Processes in Modern Industry. Kinetics and mechanisms of heterogeneous catalysis including case studies of several modern catalytic processes in industry.
1 lecture hour—33

E.S. 418. Fluidized Bed Processes. Principles and operations of fluidized bed processes.
2 lecture hours per week for 1 term—14

Civil Option

Civil engineering has traditionally been associated with the design, operation and construction of canals, docks, railways, roads, bridges, airports, tunnels and industrial as well as commercial and domestic building. All these involve structures or other engineering works to adopt the environment for the needs of man. Within Civil engineering there are several areas of specialization: construction engineering, geotechnical engineering, hydraulic engineering, sanitary engineering, structural engineering, and transportation engineering. There has been a widening application of other fields such as geophysics, geography and biology to Civil engineering in recent years in an attack on the major technological and sociological problems associated with man's environment, including urban sprawl and air and water pollution. The Third Year Civil option includes structural theory and design as well as courses in materials and geology. The structural theory and design continues into Fourth Year and is complementary to the soil mechanics. Through the electives in Fourth Year it is possible to study in greater depth transportation engineering, structures or mathematics.

Students intending to register for the third year civil engineering option—Option B—must enrol for E.S. 324 (Surveying) two weeks prior to the beginning of the first term.

THIRD YEAR PROGRAM—OPTION B—CIVIL ENGINEERING

E.S. 302	**Mechanics of Materials 11**
E.S. 320	**Civil Engineering Laboratory**
E.S. 321	**Structural Theory 1**
E.S. 322	**Structural Design 1**
Appl. Math 370	**Engineering Mathematics 111**
E.S. 324	**Surveying (2 weeks in Fall)**
E.S. 303	**Fluid Mechanics (1st term)**
Geol. 391	**Geology for Engineers (1st term)**
E.S. 323	**Engineering Fluid Mechanics (2nd term)**
E.S. 327	**Soil Mechanics 1 (2nd term)**

Non-Technical Elective to be approved by the Faculty and TWO of:

E.S. 306	**Electromechanics (1st term)**
E.S. 305	**Electronics (2nd term)**
Appl. Math 403a	**Applied Statistics (1st term)**
Appl. Math 404b	**Experiment Design (2nd term)**

DESCRIPTION OF COURSES

E.S. 302. Mechanics of Materials 11. A continuation of E.S. 202 to include theory of buckling, elastic theories of failure, variation of shearing stress, deflection due to shear, stresses in thick spheres and cylinders, and energy methods. The laboratory work is designed to elucidate and extend the knowledge gained from lecture material.
2 lecture hours—23.

E.S. 303. Fluid Mechanics. Additional principles of incompressible and compressible fluid flow: dimensional analysis, dynamic similarity, fluid resistance, ideal (potential) flow, frictionless compressible flow; application of basic principles: fluid measurements, flow in closed conduits and open channels, aerodynamics, turbomachinery.
2 lecture hours, first term

E.S. 305. Electronics. Characteristic behaviour of vacuum tube and semiconductor devices, and their use in linear amplifiers, oscillators and measuring instruments.
2 lecture hours, second term—17

E.S. 306. Electromechanics. Characteristics and applications of dc generators and motors; ac power generation and transmission; ac motors; transformers.
2 lecture hours, first term

E.S. 320. Civil Engineering Laboratory 1. Laboratory supporting all the Engineering Science courses.
6 laboratory hours

E.S. 321. Structural Theory 1. An introduction to the theory of statically determinate and statically indeterminate structures. Emphasis is placed on an understanding of the basic elastic theorems and their application.
2 lecture hours—36

E.S. 322. Structural Design 1. An introduction to structural engineering design including the use of manufactured and natural materials.
1 lecture hour, 3 lab. hours—31

E.S. 323. Engineering Fluid Mechanics. Unsteady flow in closed conduits, waterhammer; analysis of pipe networks; gradually and rapidly varied flow in open channels; wind loads on buildings; elementary surface hydrology.
2 lecture hours, second term—25

E.S. 324. Surveying (two weeks in Fall). The principles of plane surveying and the use of surveying in design and construction. Only students without second year condition examinations are permitted to register for this course. All civil engineering students must satisfactorily complete E.S. 324 before registration for Fourth Year.

E.S. 327. Soil Mechanics 1. Principles of particulate mechanics in relation to the properties of soils and rocks used as engineering materials and as load carrying strata. Introductory course emphasizing the principles of soil mechanics.
2 lecture hours, second term—13

Geol. 391. Geology for Engineers. Introduction to minerals, rocks, weathering, transportation, deposition and glacial geology. Engineering properties of geologic materials; application of principles of weathering to the deterioration of construction materials; ground water seepage conditions and their influence on slope stability; glacial soils and their importance in engineering practice. Case histories of engineering projects markedly influenced by site geology.
2 lecture, 3 lab. hours, first term

Appl. Math. 370. Engineering Mathematics 111. This is a general course in Applied Mathematics for Third Year Engineering students, covering the following topics. First Term: finite differences, difference tables, interpolation, numerical differentiation and integration, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations. Second Term: linear algebra, elementary probability theory, Fourier series
3 lecture hours—26

Applied Math 403a. Applied Statistics. See the description in the Applied Math Section for this course.

Appl. Math 404b. Experiment Design. See the description in the Applied Math Section for this course.

FOURTH YEAR PROGRAM—OPTION B—CIVIL ENGINEERING

E.S. 400	**Project, Report and Seminar**
E.S. 408	**Engineering Practice**
E.S. 421	**Structural Theory 11**
E.S. 422	**Structural Design 11**
E.S. 423	**Engineering Hydraulics**
E.S. 426	**Soil Mechanics**
	Civil Engineering Lab 11

Non-Technical Elective to be approved by the Faculty
and
Any full course or the equivalent chosen with the approval of the Chairman of the Civil Engineering Group.

It is recommended that one of the following be taken:

Appl. Math 453	**(With the approval of the instructor)**
Appl. Math 470	**Engineering Mathematics 1V (1st term)**
E.S. 425	**Transportation Engineering**
E.S. 427	**Science of Structures**
E.S. 428	**Selected Topics in Civil Engineering (2nd term)**

DESCRIPTION OF COURSES

E.S. 400. Project Report and Seminar. Selection and investigation of an engineering problem. Analytical and/or experimental work is carried out by individual students or project groups under the supervision of a faculty member. Progress reports and a final engineering report are prepared; each student must deliver a public lecture.

A student who, in connection with another course, undertakes a project which culminates in the preparation and presentation of a report and which meets all the requirements of E.S. 400, may with the permission of the Chairman of his Group, substitute a technical elective for E.S. 400.
5 hours

E.S. 408. Engineering Practice. A discussion of the structure and operation of business organizations with emphasis on the following functions and disciplines: financial control, marketing, organizational behavior, production and general management. Cases and business problems are analysed in such a manner as to relate the engineer to his economic and industrial environment. Lectures are also included on other topics including labor, law, professional ethics and practice.
3 lecture hours—17

E.S. 421. Structural Theory 11. A continuation of E.S. 321 to include elastic behavior and analysis of trusses and frames by matrix methods and moment distribution. Inelastic behavior of beams and frames is considered with concepts of plastic design. Dynamics of structures is discussed together with the approximate estimation of natural frequencies and the dynamic loads due to wind and earthquake. Laboratory periods include testing of structural elements, models and materials and practice in the use of computer programs and computer languages oriented to structural engineering problems.
2 lecture hours—7

E.S. 422. Structural Design 11. Design methods applied to reinforced concrete, steel and other structural media leading to design of a complete structural project.
2 lecture hours—29

E.S. 423. Engineering Hydraulics. The fundamentals of hydraulics associated with hydrology, channel flow, sediment transport and flow through pipe networks.
2 lecture hours—11

E.S. 425. Transportation Engineering. Planning, design and construction of highways and other transportation systems.
2 lecture hours—25

E.S. 426. Soil Mechanics. Characteristics of soil particles with geological origin and textural classification. Investigation of soils with respect to structure, moisture content, void ratio, Attenberg limits, specific gravity, relative density, sensitivity, permeability, compaction, and stabilization.
Analysis of bearing capacity, shear strength, settlement and unretained earth slopes. Design of spread foundations, pile foundations, and retaining walls.
2 lecture hours—21

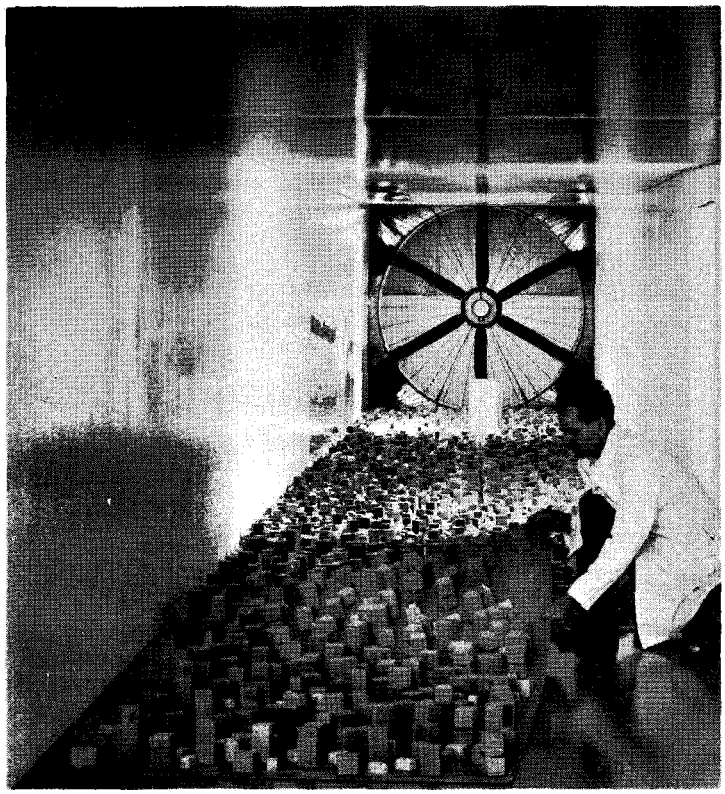
E.S. 427. Science of Structures. A fundamental study of structural media and their environment. To include inelastic action, matrix methods, dynamics of structures, etc. A critical study of the sufficiency of structures in relation to the actual loads imposed on them.
2 lecture hours—25

E.S. 428. Selected Topics in Civil Engineering.
2 lecture hours, second term—1

Civil Engineering Laboratory 11. A combined laboratory period associated with E.S. 421, 423, 425, and 426.
8 laboratory hours

Appl. Math. 470. Engineering Mathematics 1V. A sequel to Applied Mathematics 370. It includes the following topics: vector calculus including the integral theorems, ordinary differential equations with variable coefficients, orthogonal function expansions, an introduction to partial differential equations, elementary probability theory, random variables and probability distributions, sampling theory and decision making, curve fitting and experimental design. Prerequisite: Applied Mathematics 370.
3 hours—24

Electrical Option



Electrical engineering is based on the economic application and use of the wide range of phenomena associated with the electron, one of the fundamental particles of nature. In many respects, man's ability to control electrons and to predict their behaviour has played a central role in the development of technology and of today's standard of living. Electrical energy is the most flexible and versatile form of energy known at the present time. Electrical engineering is the science and art of designing, constructing, and operating systems by which (a) energy is converted from some form to the electrical form, (b) electrical energy is transmitted, distributed, and control, and (c) electrical energy is converted to some other form for utilization.

Two of man's greatest desires are to substitute machines for his muscles and to establish communication. Electrical engineering is concerned with the satisfaction of these two desires. The conversion, transmission, and reconversion of energy in a large electric system is a good example of how the first desire, the substitution of machines for human muscles and the means of turning the wheels of industry, is satisfied. In such a system, two of the major problems are the efficiency and reliability of conversion and transmission. Electrical engineers satisfy the second desire by establishing communication in many ways, telephone, radio, data transmission, radar, television, computers, control systems.

Energy systems and information systems are never independent; energy systems require information and information systems require energy. In addition, no system is purely electrical. As a result, electrical engineers must work closely with other engineers, with scientists and technologists, and with businessmen.

THIRD YEAR PROGRAM—OPTION C—ELECTRICAL ENGINEERING

E.S. 451	**Electronic Structures and Properties of Materials**
E.S. 330	**Electrical Engineering Laboratory 1**
E.S. 331	**Electric Circuits**
E.S. 332	**Semiconductor Electronics**
E.S. 333	**Electromagnetic Field Theory**
E.S. 334	**Electrical Energy Conversion**
Appl. Math 370	**Engineering Mathematics 111**

Non-Technical Elective to be approved by the Faculty

DESCRIPTION OF COURSES

E.S. 330. Electrical Engineering Laboratory 1. Laboratory supporting all the Engineering Science courses.
8 laboratory hours

E.S. 331. Electric Circuits. Analysis of linear networks with the emphasis on general network equations, the complex frequency plane, one and two port networks. Fourier series, Fourier transform and Laplace transform applied to linear circuits. Introduction to non-linear network analysis.
3 lecture hours—36

E.S. 332. Semiconductor Electronics. An introduction to semiconductor physics with applications to the circuit behavior of semiconductor diodes and transistors.
2 lecture hours—23

E.S. 333. Electromagnetic Field Theory. A vector treatment of the theory of static and dynamic electric and magnetic fields, leading to Maxwell's equations and solutions of Maxwell's equations to specific problems. Boundary value solutions using vector calculus and partial differential equations. Propagation of plane EM waves
2 lecture hours—17

E.S. 334. Electromechanics. Principles of electromechanical energy conversion and their applications in direct-current and alternating-current machines.
2 lecture hours—31

Appl. Math. 370 Engineering Mathematics 111. This is a general course in Applied Mathematics for Third Year Engineering students, covering the following topics. First Term: finite differences, difference tables, interpolation, numerical differentiation and integration, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations. Second Term: linear algebra, elementary probability theory, Fourier series.
3 lecture hours—26

E.S. 451. Electronic Structure and Properties of Materials. Quantum theory, electronic structure, Brillouin zones, electrons in crystals, conductivity, insulation and semi-conduction, electrical and thermal conductivity, resistance of alloys, magnetic properties, domains, semiconductors, rectification, transistors, optical properties, lasers, dielectrics, piezoelectricity, and superconductivity.
3 lecture hours—2

FOURTH YEAR PROGRAM—OPTION C—ELECTRICAL ENGINEERING

E.S. 400	**Project, Report and Seminar**
E.S. 408	**Engineering Practice**
E.S. 430	**Electrical Engineering Lab. 11**
E.S. 431	**Digital Logic Systems**
E.S. 433	**Electric Power Systems**
E.S. 436	**Control Systems**
E.S. 432a	**Radiation and Propagation (1st term)**
E.S. 434a	**Electromechanical Energy Conversion (1st term)**
E.S. 435a	**High Frequency Electronics (1st term)**
E.S. 432b	**Microwave Systems (2nd term)**
E.S. 434b	**Electrical Energy Conversion (2nd term)**
E.S. 435b	**Communication Theory (2nd term)**

Non-Technical Elective to be approved by the Faculty

DESCRIPTION OF COURSES

E.S. 400. Project, Report and Seminar. Selection and investigation of an engineering problem. Analytical and/or experimental work is carried out by individual students or project groups under the supervision of a faculty member. Progress reports and a final engineering report are prepared; each student must deliver a public lecture.

A student who, in connection with another course, undertakes a project which culminates in the preparation and presentation of a report and which meets all the requirements of E.S. 400, may with the permission of the Chairman of his Group substitute a technical elective for E.S. 400.
5 hours

E.S. 408. Engineering Practice. A discussion of the structure and operation of business organizations with emphasis on the following functions and disciplines: financial control, marketing, organizational behavior, production and general management. Cases and business problems are analysed in such a manner as to relate the engineer to his economic and industrial environment. Lectures are also included on other topics including labor, law professional ethics and practice.
3 lecture hours—17

E.S. 430. Electrical Engineering Laboratory 11. Laboratory supporting all the Engineering Science courses.
6 laboratory hours

E.S. 431. Digital Logic Systems. Theory of Boolean algebra, switching circuits, Venn diagrams; Karnaugh maps; logic and memory systems, design of combinational and sequential switching machines; electronic switching circuits; basic design of digital computors.
2 lecture hours—11

E.S. 432a. Radiation and Propagation. Plane EM wave propagation, wave polarization, antenna radiation, parallel plate wave guide, reciprocity theorem, scattering, propagation through ionosphere.
2 lecture hours—1st term

E.S. 432b. Microwave Systems. Introduction to the theory of the principal types of microwave devices and transmission, klystrons, magnetrons, travelling wave tubes, Elementary principles of varactors, lasers masers and parametric amplifiers.
2 lecture hours (2nd term)—3

E.S. 433. Electric Power Systems. Parameters and performance of transmission lines, transformers, and machines; performance of transmission and distribution systems, symmetrical components, voltages and currents in systems under fault conditions; introduction to power-system stability.
2 lecture hours—7

E.S. 434a. Electromechanical Energy. Conversion Theory of AC machines, electric transients in AC machines, dynamics of electro mechanical systems.(1st term)
2 lecture hours, 1st term

E.S. 434b. Electrical Energy Conversion. Other methods of energy conversion will be considered, fuel cells, thermoelectric generators, photoelectric generators, M.H.D., etc.
2 lecture hours (2nd term)—25

E.S. 435a. High Frequency Electronics. . Low-pass and band-pass amplifiers, sinusoidal and non-linear oscullators. Principles of amplitude, frequency and phase modulation; modulators and demodulators; negative feedback; large signal amplifiers, microwave oscillators and amplifiers.
2 lecture hours, 1st term

E.S. 435b. Communication Theory. Introduction to communication systems and statistical communication theory. Deterministic and random signals; linear systems; spectral analysis; introduction to information theory.
2 lecture hours, 2nd term—29

E.S. 436. Control Systems. Analysis of feedback control systems using both root locus and frequency response techniques; includes the application of stability criteria, gain adjustment and compensation to meet performance specifications.
2 lecture hours—21

Materials Science Option

Scientific understanding of the materials used by engineers has grown very rapidly recently. Its application in engineering is now widespread and becoming the occupation of engineers who specialize in the area. A great variety of new types of materials is coming into engineering application. New methods of fabricating and using materials are constantly developed and applied. Advances are also taking place in the traditional engineering media such as concrete, steel and timber.

The materials scientist works to achieve such progress and applies it to serve society. He must appreciate the progress in those areas of chemistry, crystallography, mechanics, physics, metallurgy, economics and the other sciences which he can employ and keep in touch with developments in these areas. He should be aware of new materials as they are developed and appreciate when use of them can help. But, he must keep in touch with traditional materials and note when developments make it wise to use them in further fields or in altered ways. When materials do not exist, he applies his science in efforts to develop them. The methods of fabricating materials are similarly his concern. Means of testing and controlling engineering materials are now determined by materials science.

Materials science has in recent years contributed to the major developments in creep resistant high temperature materials; in engineering with polymers and in semiconductors. Superplasticity conditions under which certain alloys elongate several hundred percent before failure, and fibres of metals or ceramics with many times the normal strength of these materials are typical of the more unusual areas in which practical advances are to be expected. At the same time developments in conventional materials and in the methods of using them will occur largely because of the work of materials scientists and will prove of even greater practical importance.

THIRD YEAR PROGRAM—OPTION D—MATERIALS SCIENCE

E.S. 305	**Electronics (2nd term)**
E.S. 306	**Electromechanics (1st term)**
E.S. 350	**Materials Science Laboratory 1**
E.S. 352	**Phase Equilibria and Transformations**
E.S. 353	**Mechanical Properties of Materials**
E.S. 356	**Crystallography (1st term)**
E.S. 357	**Structure of Real Materials (2nd term)**
E.S. 352	**Surfaces and Interfaces**
Appl. Math 370	**Engineering Mathematics 111**

Non-Technical Elective to be approved by the Faculty

ONE OF:

E.S. 201	**Engineering Mechanics 11**
Chem. 214	**Elementary Physical Chemistry (Must be taken if not taken previously)**

Other Technical Elective to be approved by the Chairman of the Materials Science Group

ENGINEERING

DESCRIPTION OF COURSES

E.S. 305. Electronics. Characteristic behavior of vacuum tube and semiconductor devices, and their use in linear amplifiers, oscillators and measuring instruments.
2 lecture hours, second term—17

E.S. 306. Electromechanics. Characteristics and application of dc generators and motors; ac power generation and transmission; ac motors; transformers.
2 lecture hours, first term

E.S. 350. Materials Science Laboratory 1. A laboratory course associated with the lecture courses.
6 laboratory hours

E.S. 352. Phase Equilibria and Transformations. Phase equilibria in engineering materials. Transformation, precipitation effects and their influence. Metastable and non-equilibrium states. The application of this knowledge to the treatment and control of engineering materials.
2 lecture hours—13

E.S. 353. Mechanical Properties of Materials. Elasticity, plasticity and fracture. Mechanical testing. The working and forming of materials.
2 lecture hours—31

E.S. 356. Crystallography. Crystal classes, symmetry, point groups, space groups, X-ray methods, crystal structure determination.
2 lecture hours, first term

E.S. 357. Structure of Real Materials. Structure of the elements, defects in crystals, structure of alloys, inorganic compounds, glasses, polymers, microstructures, macrostructures.
2 lecture hours, second term—23

E.S. 452. Surfaces and Interfaces. Thermodynamics of surfaces, structure of surfaces, surface energy, absorption, adhesion, surface area measurement. Sintering mechanisms and the sintering process. Friction, wear, lubrication, bearing materials.
1 lecture hour—7

Appl. Math. 370. Engineering Mathematics 111. This is a general course in Applied Mathematics for Third Year Engineering students, covering the following topics. First Term: finite differences, difference tables, interpolation, numerical differentiation and integration, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations. Second Term: linear algebra, elementary probability theory, Fourier series.
3 lecture hours—26

E.S. 201. Engineering Mechanics 11. A continuation of Engineering Science 21. Kinematics and kinetics of plane motion; application of work-energy and impulse-momentum relationships. introduction to vibrations.
2 lecture, 1 tutorial, 2 problem hours—6

Chem. 214. Elementary Physical Chemistry. Kinetic theory and elementary thermodynamics.
3 lecture hours—12

FOURTH YEAR PROGRAM—OPTION D —MATERIALS SCIENCE

E.S.400	**Project, Report and Seminar**
E.S.408	**Engineering Practice**
E.S. 450	**Materials Science Lab. 11**
E.S. 451	**Electronic Structure and Properties of Materials**
E.S. 358	**Thermodynamics (1st term)**
E.S. 359	**Oxidation and Corrison (2nd term)**
E.S. 455	**Applications of Materials Science**
E.S. 456	**Properties of Engineering Materials (1st term)**
E.S. 457	**Transformation (1st term)**
E.S. 458	**Structure and Engineering Properties (2nd term)**
E.S. 459	**Transformation Structures (2nd term)**

Non-Technical Elective to be approved by the Faculty

DESCRIPTION OF COURSES

E.S. 400. Project, Report and Seminar. Selection and investigation of an engineering problem. Analytical and/or experimental work is carried out by individual students or project groups under the supervision of a faculty member. Progress reports and a final engineering report are prepared; each student must deliver a public lecture.
A student who in connection with another course, undertakes a project which culminates in the preparation and presentation of a report and which meets all the requirements of E.S. 400, may with the permission of the Chairman of his Group substitute a technical elective for E.S. 400.
5 hours

E.S. 408. Engineering Practice. A discussion of the structure and operation of business organizations with emphasis on the following functions and disciplines: financial control, marketing, organizational behavior, production and general management. Cases and business problems are analyzed in such a manner as to relate the engineer to his economic and industrial environment. Lectures are also included on other topics including labor, law, professional ethics and practice.
3 lecture hours—17

E.S. 450. Materials Science Laboratory 11. A laboratory course associated with E.S. 451, 456, 457, 458 and 459.
4 1/2 laboratory hours

E.S. 451. Electronic Structure and Properties of Materials. Quantum theory, electronic structure, bonding, Brillouin zones, electrons in crystals, conductivity, insulation and semiconduction, electrical and thermal conductivity, resistance of alloys, magnetic properties, domains, semiconductors, rectification, transistors, optical properties, lasers, dielectrics, piezoelectricity, and superconductivity.
3 lecture hours—2

E.S. 358. Thermodynamics. The laws of thermodynamics, the production of work from heat, statistical interpretation of entropy, free energy of reaction, solutions, phase equilibria, free energy of binary systems, defects in crystals.
2 lecture hours, first term

E.S. 359. Oxidation and Corrosion. Reaction rate theory, oxidation rate curves, techniques, oxidation behavior of metals and alloys, alloys for high temperature service, cladding. Electrochemistry. Pourbaix diagrams, E-I diagrams, types of corrosion, corrosion protection, electropolishing.
2 lecture hours, second term—36

E.S. 455. Applications of Materials Science. The application of materials science in engineering illustrated by examples from the production of materials and their employment in various areas of engineering.
2 lecture hours—11

E.S. 456. Properties of Engineering Materials. Improvement or modification of the following properties of engineering materials; Young's modulus, damping capacity, elastic limit and tensile strength, resistance to brittle fracture, resistance to stress corrosion, fatigue and creep strength.
2 lecture hours, first term

E.S. 457. Transformations. This course covers the basic kinetic theory of transformations in materials and deals with the concepts of nucleation and growth. Activation energies, rates of reaction in ideal cases.
2 lecture hours, first term

E.S. 458. Structure and Engineering Properties. Properties of lattice imperfections in metallic, ionic and covalent solids. Generation and physical observation of point and line defects. Irradiation damage.
2 lecture hours, second term—21

E.S. 459. Transformation Structures. This course applies the theory of transformations to actual situations, solidification, precipitation, polymorphism, order-disorder, vitrification, etc. The structural aspects of transformations are also considered, e.g., effect of dislocations, imperfections, boundaries, etc.
2 lecture hours, second term—25

Mechanical Option

All fields of engineering have common patterns, and the mechanical engineer is likely to be concerned with one of the following functions: research and development, design and application, production, construction, operation and maintenance, marketing and distribution, consulting, teaching. Each of these can entail management or supervisory responsibilities, in which the mechanical engineer can become involved with problems of policy, planning, finance, organization, public relations and personnel administration. These functions will be found in varying degrees in the many subdivisions of mechanical engineering.

Power Generation: mechanical engineers are concerned with the thermodynamics and structural design of thermal and hydro-electric power plants, steam turbines, gas turbines, internal combustion engines, ram-jet and rocket engines.

Manufacturing: mechanical engineers are involved in the design, development and economic production of a product; they are often concerned with the design of the factory and machinery to produce and package the product.

Transportation: the design, manufacture and maintenance of various conveyances such as automobiles, trucks, buses, locomotives, rolling stock, construction vehicles, marine vessels, aircraft, elevators and escalators, together with the power equipment required in these conveyances, are the province of the mechanical engineer. Also, his responsibility often includes the design, installation and operation of equipment which is used in the transportation and distribution of water, gas and oil for industry and the municipalities.

Space Engineering: Aircraft and missiles are the concern of aerodynamic specialists, who often have a mechanical engineering background. They require an advanced knowledge of the aerodynamics of flight and the engineering principles involved in the design and instrumentation of aircraft and missile structures and of power plants.

Power Services: mechanical engineers are involved in the design, manufacture, installation and operation of a wide variety of equipment for industrial and domestic use in such fields as heating, ventilating, air-conditioning, refrigeration and automatic controls.

Nuclear Energy: the mechanical engineer's training prepares him for many diverse activities associated with nuclear engineering; these range from the thermal and structural design of reactors and their special components to highly specialized equipment used in radiation medicine and radiography.

Bioengineering: a challenging area of interdisciplinary study combines engineering with the biological and medical sciences in the design and development of equipment and instrumentation in hospitals and medical laboratories, research in physiology, biophysics, orthopaedics, studies in the control of air and water pollution, and noise abatement.

The mechanical engineer, like all engineers, must work in close harmony with the scientists, the technician and the draftsman, as well as with individuals whose disciplines are often quite remote from engineering. He must, above all, have an insatiable curiosity about **why** things work as well as **how** they work.

THIRD YEAR PROGRAM—OPTION E—MECHANICAL ENGINEERING

E.S. 302	**Mechanics of Materials 11**
E.S. 304	**Thermodynamics**
E.S. 340	**Mechanical Engineering Lab. 1**
E.S. 341	**Mechanical Analysis and Design 1**
E.S. 347	**Manufacturing Processes**
Appl. Math 370	**Engineering Mathematics 111**
E.S. 303	**Fluid Mechanics (1st term)**
E.S. 306	**Electromechanics (1st term)**
E.S. 305	**Electronics (2nd term)**
E.S. 307	**Heat Transfer (2nd term)**

Non-Technical Elective to be approved by the Faculty

DESCRIPTION OF COURSES

E.S. 302. Mechanics of Materials 11. A continuation of E.S. 202 to include theory of buckling, elastic theories of failure, variation of shearing stress, deflection due to shear, stresses in thick spheres and cylinders, and energy methods. The laboratory work is designed to elucidate and extend the knowledge gained from lecture material.
2 lecture hours—23

E.S. 303. Fluid Mechanics. Additional principles of incompressible and compressible fluid flow: dimensional analysis, dynamic similarity, fluid resistance, ideal (potential) flow, frictionless compressible flow; application of basic principles: fluid measurements, flow in closed conduits and open channels, aerodynamics, turbomachinery.
2 lecture hours, first term

E.S. 304. Thermodynamics. Properties of a pure substance, first law of thermodynamics, processes in open and closed systems, second law of thermodynamics, ideal gases, mixture of ideal gases, and psychrometry, compressors and ideal power cycles,introduction to heat transfer.
2 lecture hours—11

E.S. 305. Electronics. Characteristic behavior of vacuum tube and semiconductor devices, and their use in linear amplifiers, oscillators and measuring instruments.
2 lecture hours, second term—17

E.S. 306. Electromechanics. Characteristics and application of dc generators and motors; ac power generation and transmission; ac motors; transformers.
2 lecture hours, first term

E.S. 307. Heat Transfer. Principles of heat transmission by conduction, convection and radiation.
2 lecture hours, second term—3

E.S. 340. Mechanical Engineering Laboratory 1. This course supports and supplements those courses which are given in the Third Year mechanical option. Students work in small groups on engineering experiments, utilizing equipment in the thermal power, heat transfer, fluid mechanics, mechanics of materials, electrical, chemical, experimental analysis and material science laboratories.
6 laboratory hours

ENGINEERING

E.S. 341. Mechanical Analysis and Design 1. Displacement, velocity and acceleration analysis of linkage mechanisms, static and inertia force analysis of mechanisms with particular application to reciprocating engine mechanical analysis; determination of indicated torque, horsepower and speed regulation; balancing of rotating and reciprocating masses; vibration analysis of single degree of freedom systems; gyroscopic forces. Analysis and principles of design of cams, gears, gear-trains, belt and rope transmissions, clutches and brakes.
3 lectures, 3 problem hours—36

E.S. 347. Manufacturing Processes. The relationships between design, materials selection and process choice in general manufacture as they apply to modern technology.
2 lecture hours—36

Appl. Math. 370. Engineering Mathematics 111. This is a general course in Applied Mathematics for Third Year Engineering students, covering the following topics. First Term: finite differences, difference tables, interpolation, numerical differentiation and integration, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations. Second Term: linear algebra, elementary probability theory, Fourier series.
3 lecture hours—26

FOURTH YEAR PROGRAM—OPTION E —MECHANICAL ENGINEERING

E.S. 400	**Project, Report and Seminar**
E.S. 408	**Engineering Practice**
E.S. 414	**Instrumentation and Controls**
E.S. 440	**Mechanical Engineering Lab. 11**
E.S. 444	**Experimental Measurement and Analysis**

Non-Technical Elective to be approved by the Faculty and the equivalent of THREE full courses selected with the approval of the Chairman of the Mechanical Engineering Option from the courses listed below:

E.S. 442	**Heat Transfer**
E.S. 446	**Mechanical Vibrations**
E.S. 353	**Mechanical Properties of Materials**
Appl. Math. 470	**Engineering Mathematics 1V (1st term)**
Computer Science 405	**Simulation Laboratory**
E.S. 441a.	**Design of Machine Components (1st term)**
E.S. 443a.	**Engery Conversion (1st term)**
E.S. 445a.	**Gas Dynamics (1st term)**
E.S. 441b.	**Creative Design (2nd term)**
E.S. 443b.	**Heating, Ventilating and Air Conditioning (2nd term)**
E.S. 445b.	**Fluid Machinery (2nd term)**
E.S. 453	**Corrosion and Wear (2nd term)**
Appl. Math 403a.	**Applied Statistics (1st term)**

Any course offered for the other Engineering Science Options.

NOTE: Option courses will only be offered provided that a sufficient number of students register for the course.

DESCRIPTION OF COURSES

E.S. 400. Project, Report and Seminar. Selection and investigation of an engineering problem. Analytical and/or experimental work is carried out by individual students or project groups under the supervision of a faculty member. Progress reports and a final engineering report are prepared; each student must deliver a public lecture.

A student who, in connection with another course, undertakes a project which culminates in the preparation and presentation of a report and which meets all the requirements of E.S. 400, may with the permission of the Chairman of his Group, substitute a technical elective for E.S. 400.
5 hours

E.S.408. Engineering Practice. A discussion of the structure and operation of business organizations with emphasis on the following functions and disciplines: financial control, marketing, organizational behavior, production and general management. Cases and business problems are analyzed in such a manner as to relate the engineer to his economic and industrial environment. Lectures are also included on other topics including labor, law, professional ethics and practice.
3 lecture hours—17

E.S. 414. Instrumentation and Control. Theory and application of automatic control of variables in industrial processes.
2 lecture hours—21

E.S. 440. Mechanical Engineering Laboratory 11. This course supports and supplements the work given in 4th year lectures. Students work in small groups on engineering experiments and projects, using equipment in the thermodynamics, fluid mechanics, experimental analysis and computer laboratories.
6 laboratory hours

E.S. 441a. Design of Machine Components. Functional, physical and economic selection and design of machine components such as couplings, clutches, brakes, power screws, fasteners, gears, shafts, bearings, springs, connecting rods, pressure vessels; vibration in mechanical design; reliability; hydro-dynamic lubrication.
1 lecture hour, 2 laboratory hours—1st term

E.S. 441b. Creative Design. Analysis and design problems in which project synthesis and system engineering are emphasized, typical design case studies.
1 lecture hour, 2 lab. hours—2nd term—2

E.S. 4 42. Heat Transfer. Principles of heat transmission under conduction, convection and radiation. Discussion of boiling and condensation. Energy conversion and transmission involving fluids in the vapor state, with applications to steam power or process plant. Introduction to nuclear energy conversion.
2 lecture hours—25

E.S. 443a. Energy Conversion. Theory and engineering aspects of: thermoelectric energy systems, fossil fuel power plants, nuclear power plants. Internal and external combustion engines; spark ignition engines, gas turbines, rockets and steam engines. An introduction will be given to fuel cells, plasma generators, thermionic energy conversion systems and solar cells.
2 lecture hours—1st term

E.S. 443b. Heating, Ventilating and Air Conditioning. The psychrometry of air conditioning processes, comfort and inside design conditions, climate and outside design conditions, heat gains from solar and other sources, cooling load and heating load calculations, ventilation and filtration.
2 lecture hours—2nd term—7

E.S. 444. Experimental Measurement and Analysis. Selected topics in experimental analysis: photoelasticity, photostress, transducers, instrumentation techniques and evaluation in the measurement of variables such as strain, pressure, temperature, vibration flow and sound.
2 lecture hours—3 laboratory hours

E.S. 445a. Gas Dynamics. Isentropic flow through nozzles, adiabatic and isothermal flow with friction, diabatic flow with heat addition, normal and oblique shock waves, analysis of ram-jet and rocket engines.
2 lecture hours—1st term

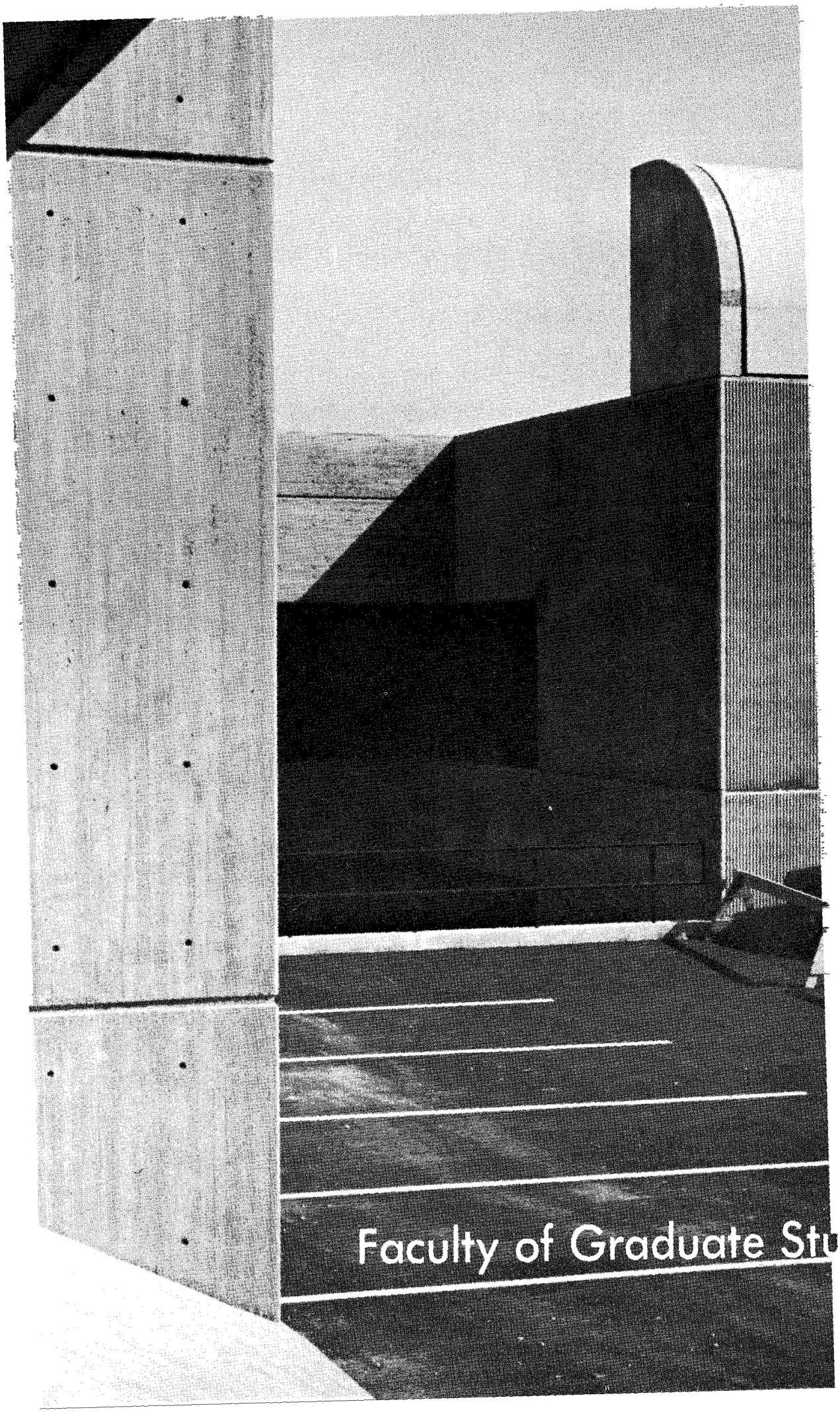
E.S. 445b. Fluid Machinery. Fluid turbo-machinery theory, performance characteristics of centrifugal and axial flow fans, compressors, pumps and turbines, fluid vibrations and sound, water hammer, introduction to fluid power controls and fluid amplifiers.
2 lecture hours—2nd term—11

E.S. 446. Mechanical Vibrations. Single and multidegree of freedom systems, torsional vibrations, Holzer's method, matrix iteration, continuous systems, vibration of strings, rods and beams, Rayleigh's method, Rayleigh-Ritz method, Dunkerley's formula, whirling of shafts, Lagrange's equations.
2 lecture hours—29

E.S. 453. Corrosion and Wear. Corrosion principles, types of corrosion, corrosion protection; friction, wear, lubrication, bearing materials.
2 lecture hours—2nd term—21

Appl. Math 403a. See Applied Math section for this description.

Appl. Math 470. See Applied Math section for this description


Faculty of Graduate Stu

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Officers of the Faculty

Acting Dean of the Faculty

W. S. Turner, LLD
Assistant to Vice-President (Academic)

Assistant Deans

R. G. Kidd, PhD
W. H. Stockdale, PhD

Administrative Officers

N. M. Davidson, MA
C. K. McNamara, MA, MLS
(Head, Thesis Division)
J. K. Van Fleet, BA (Admissions)

Academic Calendar

June 16	Last day for enrolling in courses. Students who have not paid late registration fees by this date cannot receive academic credit for the spring term.
July 14	Last day for submission of PhD theses to departments for examination in time for Autumn Convocation.
August 15	All applications, complete with transcripts, for new students in the Faculty of Graduate Studies, and for students beginning work in a new degree program, must be received by this date. Applications received in the Faculty of Graduate Studies after this date may not be processed in time for admission to the Fall Term; therefore, APPLICANTS SHOULD SUBMIT COMPLETED APPLICATION FORMS AND OFFICIAL TRANSCRIPTS TO THE DEPARTMENT CONCERNED WELL IN ADVANCE OF THIS DATE TO ENSURE CONSIDERATION. If an applicant is not accepted as a graduate student, he may apply to the Director of Admissions, Office of the Registrar for admission as a special undergraduate student before September 1.
August 25	Last day for submission of Master's theses to departments for examination in time for Autumn Convocation.
September 1	Fall term begins. Last day for registration and payment of fees for all graduate students who are in residence, or are receiving official instruction for the fall term. An administrative fee of $25.00 will be assessed each late registrant.
September 15	Last day for oral examinations of PhD and Master's candidates for Autumn Convocation.
September 30	Last day for submission of theses to the Thesis Division, Faculty of Graduate Studies Office in time for Autumn Convocation.
October 1	Last day for enrolling in courses. Students who have not paid late registration fees by this date cannot receive academic credit for the Fall Term.
October 9	Thanksgiving Day.
October 18	Meeting of the Executive Committee of the Council of the Faculty of Graduate Studies for approval of candidates for Autumn Convocation.
October 20	Last day for submission of PhD theses to departments for examination in the Fall Term.
October 27	Autumn Convocation.
December 1	Last day for submission of Master's theses to departments for examination in the Fall Term.
December 1	Application deadline for Winter Term. (See information under August 15, 1972).
December 15	Last day for oral examinations of PhD and Master's candidates in the Fall Term.
January 1	Winter Term begins. Last day for registration and payment of fees for all graduate students who are in residence, or are receiving official instruction for the winter term. An administrative fee of $25.00 will be assessed each late registrant.
February 1	Last day for enrolling in courses. Students who have not paid late registration fees by this date cannot receive academic credit for the winter term.
February 16	Last day for submission of PhD theses to departments for examination in time for Spring Convocation.
March 30	Last day for submission of Master's theses to departments for examination in time for Spring Convocation.
April 13	Last day for oral examinations of PhD and Master's candidates for Spring Convocation.
April 16	Application deadline for Spring Term. (See information under August 15, 1972).
April 20	Good Friday.
April 30	Last day for submission of theses to the Thesis Division, Faculty of Graduate Studies office in time for Spring Convocation.
May 15	Spring Term begins. Last day for registration and payment of fees for all graduate students who are in residence, or are receiving official instruction for the spring term. An administrative fee of $25.00 will be assessed each late registrant.
May 21	Meeting of the Executive Committee of the Council of the Faculty of Graduate Studies for approval of candidates for Spring Convocation.
June 4	Spring Convocation.
June 15	Last day for enrolling in courses. Students who have not paid late registration fees by this date cannot receive academic credit for the Spring Term.

Fees are due and payable on or before the designated date for each term. Notification of fees due will be mailed to each student in advance, provided he ensures that the Registrar's Office is always aware of his current address.

Administrative fees for late registration and late course enrollments are not wholly punitive, but reflect the additional cost to the University of registering students out of phase. They will, therefore, be assessed universally and without exception.

It is the student's responsibility to ensure that his fees are paid on time, and that other deadlines are met notwithstanding any attempts by the University to ensure that deadlines are advertised in advance. If a student knows he cannot personally register by the designated day, he should arrange for someone to register on his behalf. Alternatively, he may forward his fees by mail to the Fees Supervisor, Stevenson Hall. Cheques must be made payable to The University of Western Ontario.

GRADUATE

ARTS DIVISION

Departments of Classics, English, French, German, Music, Philosophy, and Spanish and Italian.

Divisional Committee

Ex officio Members: Dean of Graduate Studies, Assistant Dean of Graduate Studies (Arts and Social Sciences), Dean of Arts, Dean of Music.

Members

Representatives of Departments, Representative of Professional Degree Committee, Representative of Faculty of Graduate Studies on Senate, Graduate Student Representative.

BIOSCIENCES DIVISION

Departments of Anaesthesia, Anatomy, Bacteriology & Immunology, Biochemistry, Biophysics, Diagnostic Radiology, Epidemiology, History of Medicine and Science, Medicine, Obstetrics and Gynaecology, Ophthalmology, Otolaryngology, Paediatrics, Pathology, Pathological Chemistry, Pharmacology, Physical and Health Education, Physiology, Plant Sciences, (Botany), Psychiatry, Psychology, Surgery, Therapeutic Radiology, and Zoology.

Divisional Committee

Ex officio Members: Dean of Graduate Studies, Assistant Dean of Graduate Studies (Biosciences and Physical Sciences), Dean of Medicine, Dean of Science, Dean of Social Science.

Members

Representatives of Departments, Representative of Professional Degree Committee, Representatives of Faculty of Graduate Studies on Senate, Graduate Student Representatives.

PHYSICAL SCIENCES DIVISION

Departments of Applied Mathematics, Astronomy, Chemistry, Computer Science, Engineering Science, Geology, Geophysics, Mathematics, and Physics.

Divisional Committee

Ex officio Members: Dean of Graduate Studies, Assistant Dean of Graduate Studies (Biosciences and Physical Sciences), Dean of Engineering Science, Dean of Science.

Members

Representatives of Departments, Representative of Professional Degree Committee, Representatives of Faculty of Graduate Studies on Senate, Graduate Student Representative.

SOCIAL SCIENCE DIVISION

Departments of Business Administration, Economics, Geography, History, Library and Information Science, Nursing, Political Science, and Sociology.

Divisional Committee

Ex officio Members: Dean of Graduate Studies, Assistant Dean of Graduate Studies (Arts and Social Sciences), Dean of Business Administration, Dean of Library and Information Science, Dean of Nursing, Dean of Social Science.

Members

Representatives of Departments, Representatives of Professional Degree Committees, Representative of Faculty of Graduate Studies on Senate, Graduate Students Representatives.

Programs leading to MA, MSc, MESc and PhD Degrees

Applicants for admission normally must be graduates of a recognized University, College or Institute, and provide evidence or promise of scholarly achievement.

Admission to the Faculty of Graduate Studies is granted by the Dean only on recommendation of the Department or Division in which the applicant intends to work toward completion of degree requirements. Ordinarily at least second class (or B) standing (or equivalent grade point average) over the final two years of his undergraduate program is required; in exceptional cases, where high quality performance in post-baccalaureate work can be substantiated, admission may be granted without this requirement.

Admission with Full Standing is normally accorded applicants who are graduates of an Honors (or four year) program of an accredited institution, and who have intensive specialization in the subject matter of their chosen discipline.

Admission to Prerequisite Year may be recommended for students intending to proceed to a graduate degree, but who are graduates of an ordinary, general or three-year program of an accredited institution and are deficient in degree of specialization in their discipline. The courses taken in the Prerequisite Year are to be chosen on the recommendation of the departments concerned, and should normally include at least five undergraduate courses. Students in a Prerequisite Year are not considered degree candidates until, on satisfactory completion of the prescribed courses, their Department or Divisional Committee formally recommends to the Dean a change in their registration status. Retroactive credit for residence time toward degree requirements cannot be given.

Admission as Special Graduate Student may be recommended for students whose background preparation is difficult to evaluate. Such students are not considered degree candidates until such time as their Department or Divisional Committee formally recommends to the Dean a change in their registration status. At that time a student may be granted retroactive credit toward a degree for courses completed and residence time fulfilled, up to one academic year.

Students with less than a "B" average in an ordinary (three-year) degree program (or equivalent) who wish to undertake graduate studies may be advised by the department to which they make application to register as special students in the appropriate undergraduate Faculty. Admission to the Faculty of Graduate Studies would be considered on the basis of achievement in that year of study, which should ordinarily be comprised of five undergraduate courses selected in consultation with the department concerned.

Students who have not a clearly expressed intention of proceeding to completion of all requirements of a graduate degree and who propose to take undergraduate courses (i.e. students attempting to 'upgrade' for Ontario Type A teaching certification and students attempting to improve their academic record for application — or reapplication — to a professional program) are recommended to register as special students in an undergraduate Faculty.

Honors Bachelor's degree holders who, as a result of changing their field of specialization, are required to take all or a majority of undergraduate courses in their first year will be admitted with **Full Standing** and pay normal graduate fees.

Students classified as **Special Graduate Students** will be accorded all privileges of **Full Standing** and pay normal graduate fees.

Change of Degree Status. Any change in the designation of the degree for which a student is a candidate will be made by the Dean only on the recommendation of the student's Department or Divisional Committee; retroactive registration may be granted for not more than one year. Such recommendations are to be submitted to the Dean using the change-of-status forms provided.

General Admission Requirements

Application Procedure

(For all applicants except those in Business Administration) For procedure in Business Administration, write directly to the School of Business Administration, The University of Western Ontario, London 72, Canada.

An APPLICATION FOR ADMISSION FORM may be obtained from the Faculty of Graduate studies or from the Faculty or Department concerned. The completed form should be returned to the appropriate Department or Faculty. together with TWO COPIES OF CERTIFIED OFFICIAL UNDERGRADUATE AND GRADUATE TRANSCRIPTS covering all academic studies to date. It is the responsibility of each applicant to ensure that all documents, i.e. transcripts and letters of recommendation, are submitted. A graduate of a university outside North America may be required to submit a description of all courses taken in his field of specialization and cognate fields. NO APPLICATION WILL BE CONSIDERED UNTIL IT IS COMPLETE. This procedure must be followed even if the applicant has corresponded with a Department and has been assured of space and facilities for research. If a student is admitted to the Faculty of Graduate Studies, he will receive notification from the Office of the Registrar; if the application is not approved for admission to the Faculty of Graduate Studies, the student will receive notification from the Department concerned.

Proficiency in English

Applicants for admission to Graduate Studies may be required to furnish evidence of their proficiency in the use of the English language by satisfactory achievement in the University of Cambridge Certificate of Proficiency in English examination or satisfactory scores on the Test of English as a Foreign Language (TOEFL) or the English Proficiency Test of the English Language Institute (ELI) of the University of Michigan.

Application forms for the TOEFL may be obtained from the Faculty of Graduate Studies or by writing to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey 08540, U.S.A. The TOEFL is administered on four dates each year (October, January, March and June); registration forms must be submitted directly to the testing agency at least one month in advance of the test date.

Arrangements to write the English Proficiency Test of the English Language Institute may be made by writing to: The English Language Institute, University of Michigan, Ann Arbor, Michigan, U.S.A.

Students who are required to present proof of proficiency in English must make their own arrangements to write the TOEFL or ELI test and to have the results sent directly to the Faculty of Graduate Studies by the testing agency.

Graduate Record Examinations

Applicants for admission to Graduate Studies may be asked to take the Graduate Record Examinations which are prepared by the Educational Testing Service of Princeton, New Jersey and Berkeley, California and administered at most universities several times each year. The student will bear the cost of taking such examinations. Application forms are available in the office of the Faculty of Graduate Studies, The University of Western Ontario.

General Information on The University of Western Ontario

A general information booklet for prospective students may be obtained from the Office of the Registrar, The University of Western Ontario, London 72, Canada.

Ontario Transfer Students

Arrangements have been made to enable students registered in one Ontario university to take graduate courses in another Ontario university. The departmental chairman must request admission for his student from the departmental chairman of the host university. Unless the host chairman agrees, the transfer will not take place. IF THE HOST UNIVERSITY AGREES TO ACCEPT THE TRANSFER STUDENT, THERE WILL BE NO FURTHER ADMISSION REQUIREMENTS.

A transfer student must enroll and pay regular fees in his home university and register in a course but pay no fees to the host university. The home university will accept the grade reported by the host university and will grant appropriate course credit on the student's program. Work done as a transfer student will be credited towards the residence requirement. Student awards will not be affected by transfers.

Registration

Initial Registration

A candidate whose application has been accepted by the Faculty of Graduate Studies may register for the first time at the beginning of the Fall, Winter, or Spring Terms, immediately following such acceptance. Students accepted into a two-term Master's program must, however, register initially for the Fall Term only. Failure to register at the expected time will require Departmental approval for registering during the following three terms. Candidates wishing to register more than three terms after date of acceptance will be required to submit a new application for approval. The student should consult the Chairman of his Department concerning the program of study for which he will be required to register.

A student whose registration in the Faculty of Graduate Studies is his first registration at The University of Western Ontario must have had a physical examination completed by his own physician by the time of registration. All students registering at The University of Western Ontario are required to take the intracutaneous testing for tuberculosis each year. Students showing positive reaction must have a chest x-ray, this to be repeated each year.

Graduate students are required to register on or before the date designated in the Academic Calendar. All registration materials will be mailed to the student in care of the department in which he is to be enrolled. The fee bill and cheque should be mailed to the Fees Supervisor in the envelope provided, or may be submitted in person at the Cashier's Wicket, Stevenson Hall. Courses must be recorded on the Course Enrollment form and approved by the Department Chairman or Faculty Advisor. The completed course enrollment form must be submitted to the Registrar's Office. Student Identification cards may be obtained at the Registrar's Office upon presentation of evidence that fees have been paid.

Late Registration will be subject to additional fees as specified elsewhere in the Calendar.

Students are reminded that they may not receive any credit for courses for which they are not properly enrolled. The onus to ensure that registration is completed satisfactorily lies with the student. If a student is not certain about the status of his registration at any time, he should be sure to consult the Registrar's Office.

GRADUATE

Full-time Student

A student who is engaged in his degree program on a full-time basis during a given term and who meets the following criteria will be registered as a full-time student:

a) identifies himself as a full-time graduate student

b) is geographically available and visits the campus regularly.

It is understood that a graduate student may be absent from the University while still under supervision, e.g. visiting libraries, attending a graduate course at another institution, field work, etc. If such period of absence exceeds four weeks in any term, written evidence shall be available in the Graduate Studies Office to the effect that the absence has the approval of the Department Chairman and the Dean of Graduate Studies.

c) is not regularly employed on other work, or by the University, for more than an average of 10 hours per week and is not employed outside the University except by written permission of the supervisor

It should be noted that if a student is employed as a teaching fellow or demonstrator, the 10 hours per week should represent the TOTAL time spent by the student in connection with the appointment, i.e. it includes time spent on preparative work, reading set assignments, marking examinations, etc.

Notwithstanding the above criteria, any student initially registering in his current graduate program after May 1, 1971 who receives for services rendered to the University income exceeding $900 for any single term or $1,800 for any set of three consecutive terms is not eligible for full-time status during that term or that set of three terms respectively.

Part-time Student

All graduate students other than those eligible to register as full-time students will register as part-time students. This will include:

a) those whose hours of employment or whose University-based remuneration makes them ineligible for full-time registration

b) those taking graduate courses on a part-time basis

c) those who have fulfilled the residence requirements for their degree and who are completing their thesis on a non-resident basis

Continuity of Registration

Graduate students must be registered in each term in which they are actively engaged in course work, in a research program, or in thesis preparation; that is, whenever they are making use of University facilities or personnel.

Students who have been formally admitted to a graduate program on a full-time basis are required to register, either full-time or part-time, in each term thereafter until their program is completed. Failure so to register in any term will be regarded as voluntary withdrawal from the Faculty of Graduate Studies and from the University. Such a student wishing to resume studies must apply for readmission and pay the specified reinstatement fee.

Degree candidates must be registered in the term in which they complete the requirements for the degree. Students not completing requirements by the last day in a particular term must re-register in the following term. Such a student is eligible for partial refund of fees according to the Rebate Schedule when program completion has been certified by the Faculty of Graduate Studies.

Fees

Tuition fees for full-time graduate students are established by the Ontario Department of Colleges and Universities at a level which is uniform for all graduate programs in Ontario universities. All full-time graduate students are assessed an annual tuition fee, which is paid in two installments. The activity fee provides funds for a graduate student society, the University Community Centre, athletics, and health services.

The annual tuition fee for the 1972-73 academic year is $485.

FULL-TIME GRADUATE STUDENTS

	First Term Installment	Second Term Installment	Third Consecutive Term *	Annual Total
Tuition Fee	$ 242.50	$ 242.50	Nil	$ 485.00
Activity Fee	17.50	17.50	17.50	52.50
TOTAL PAYMENT	$ 260.00	$ 260.00	$ 17.50	$ 537.50
QUALIFYING YEAR STUDENTS				
Tuition Fee	$ 244.25	$ 244.25		$ 488.50
Activity Fee	26.25	26.25		52.50
TOTAL PAYMENT	$ 270.50	$ 270.50		$ 541.00
MASTER OF BUSINESS ADMINISTRATION				
Tuition Fee	$ 242.50	$ 242.50		$ 485.00
Activity Fee	25.50	25.50		51.00
TOTAL PAYMENT	$ 268.00	$ 268.00		$ 536.00

*Graduate students who have paid the above full-time fees for two consecutive terms are entitled to register for the third CONSECUTIVE term without payment of additional tuition fees. In order to receive academic credit for this third term, however, the student must complete the other registration procedures by the date designated in the Academic Calendar.

NOTE 1. Students registering initially in their current graduate program in the Spring 1971 term can choose either Plan A or Plan B for payment of fees. The choice must be made by the Winter 1972 Term and will be identified by the fee paid in that Term. Thereafter, the student cannot change from one plan to the other.

	TOTAL TERM PAYMENT	
	PLAN A	PLAN B
Spring 1971 Term	$ 137.50	$ 137.50
Fall 1971 Term	260.00	260.00
Winter 1972 Term	260.00	140.00
Spring 1972 Term	17.50	260.00
Fall 1972 Term	260.00	260.00
Winter 1973 Term	260.00	17.50

Additional Terms will be assessed according to the regular fee schedule in effect at that time.

NOTE 2. Under the previous fee schedule, students became eligible for a reduced tuition fee after completion of the minimum residence period for their degree program. In recognition of this fact, the following Transition Fee Schedule will apply to students registered in their current program during the Winter 1971 Term. This schedule gives special consideration to those students completing their minimum residency period up to and including the Winter 1972 Term. Students completing their minimum residence period after the Winter 1972 Term pay fees according to the regular Graduate fee schedule.

TRANSITION FEE SCHEDULE

Students completing the Minimum Residency During:	TERM PAYMENT						
	Fall 1971	Winter 1972	Spring 1972	Fall 1972	Winter 1973	Spring 1973	Fall 1973
Spring 1971 and earlier	37.50	$ 37.50	$ 37.50	$142.50	$142.50	$142.50	$260.00*
Fall 1971	137.50	37.50	37.50	142.50	142.50	142.50	260.00*
Winter 1972	137.50	137.50	137.50	142.50	142.50	142.50	260.00*
Spring 1972 and later	260.00	260.00	17.50	260.00	260.00	17.50	260.00

*This amount is subject to adjustment so that it coincides with the regular fee in effect during 1973-74.

Miscellaneous Charges

Late registration fee (as detailed in registration materials)	$25.00
Ph. D. Fee (Examination)	$50.00
Reinstatement Fee	$50.00

On the recommendation of the Dean of Graduate Studies, fees may not be required of a student who has been granted permission from the Head of the Department and the appropriate committee on Graduate Studies to receive credit for work done at another University and who is paying fees to that University. However, under the procedures established by the Ontario Council on Graduate Studies, a student, who has received permission to receive credit for a course offered by another provincially supported university in the Province of Ontario, shall be classed as a transfer student by the host university. He shall remain a registered student of his home university and pay the tuition fee to this university. The student will pay no fees to the host university.

Students may not take examinations, nor be recommended for a degree until tuition fees and other accounts owing to the University are paid.

THE BOARD OF GOVERNORS RESERVES THE RIGHT TO AMEND FEES AFTER THE PRINTING OF THIS ANNOUNCEMENT.

Part-Time Graduate Students

Part-time graduate students will be assessed a fee per term: Courses, $75.00; Thesis Work, $20.00. Note: Only those students who, by reason of their employment or by reason of their absence from the campus, are ineligible to register as full-time students, may enroll as part-time students.

STUDENTS ARE NOT REGISTERED UNTIL THEY HAVE PAID THEIR FEES.

Fees are payable in full on or before the date designated in the Academic Calendar.

Purpose of Graduate Studies

The academic graduate programs leading to degrees are considered to provide advanced study in a general field of knowledge and not as specific training for a professional position. The candidate should be aware that, although this advanced education may better fit him for certain careers and positions, this is not a specific purpose of the program. A candidate should undertake advanced study only because of his personal interest in a chosen field and not as an assured entry to a professional career.

Degrees Offered

The Faculty of Graduate Studies offers courses of study leading to graduate degrees as follows:

Doctor of Philosophy (PhD) in Anatomy, Applied Mathematics, Astronomy, Bacteriology and Immunology, Biochemistry, Biophysics, Botany, Business Administration, Chemistry, Economics, Engineering Science, English, Epidemiology, French, Geography, Geology, Geophysics, German, History, Mathematics, Pathology, Pathological Chemistry, Pharmacology, Philosophy, Physics, Physiology, Political Science, Psychology, and Zoology.

Master of Arts (MA) in Classics, Economics, English, French, Geography, German, History, Mathematics, Musicology, Philosophy, Physical and Health Education, Political Science, Psychology, Sociology, and Spanish.

Master of Business Administration (MBA)

Master of Clinical Science (MClSc) in Anaesthesia, Diagnostic Radiology, Medicine, Obstetrics and Gynaecology, Ophthalmology, Otolaryngology, Paediatrics, Psychiatry, Surgery, Therapeutic Radiology.

Master of Engineering (MEng)

Master of Engineering Science (MESc) in Chemical Engineering, Civil Engineering, Electrical Engineering, Mechanical Engineering, and Materials Science.

Master of Library Science (MLS)

Master of Music (MusM) in Music Theory, Composition, Music Education, and Literature and Performance. (For Musicology, see Master of Arts above.)

Master of Science (MSc) in Anatomy, Applied Mathematics, Astronomy, Bacteriology and Immunology, Biochemistry, Biophysics, Botany, Chemistry, Computer Science, Epidemiology, Geography, Geology, Geophysics, Pathology, Pathological Chemistry, Pharmacology, Physics, Physiology and Zoology.

Master of Science in Nursing (MScN) in Nursing Administration and Nursing Education.

GRADUATE

Residence Requirements

The academic year in the Faculty of Graduate Studies consists of three terms (Fall or third term, Winter or first term, and Spring or second term), commencing on or about September 15, January 15, and May 15. The minimum residence requirement for an academic year is two terms. This does not reduce the requirements of paying for three terms in order to receive credit for one year of residence. In most Departments residence for a certain number of Fall and Winter Terms is required.

Examinations Other Than Regular Examinations

(a) Graduate Students Taking Undergraduate Courses

Supplemental Examinations: A graduate student may apply to the Dean of Graduate Studies for permission to write a Supplemental Examination on the recommendation of the Department responsible for the course in which the student is registered. To be eligible to write a Supplemental Examination the student must have

(i) passed two-thirds of the year's work

(ii) obtained at least 40% in the course concerned

Deferred Examinations: A graduate student may receive permission from the Dean of Graduate Studies to write a Deferred Examination only on compassionate grounds.

Special Examinations: A Special Examination is an examination other than a regular or Supplemental examination. Permission to write a special Examination must be obtained from the Dean of Graduate Studies on the recommendation of the appropriate Divisional Committee and the Department responsible for the course in which the student is registered.

(b) Graduate Courses

For graduate courses **Special Examinations** only are permitted. Permission to write a Special Examination must be obtained from the Dean of Graduate Studies on the recommendation of the appropriate Divisional Committee and the Department responsible for the course in which the student is registered

Grading System

Graduate students are expected to maintain at least a B standing averaged over all their major courses, and at least a B standing averaged throughout their program.

All course standings within the Faculty of Graduate Studies will be reported as follows:

Major Courses

Major courses are usually courses offered by the Department (or Departments if the student is registered in a joint program) in which the student is registered.

A	Above 80%
B	70 - 79% inclusive
C	60 - 69% inclusive
COMPLETE	only for requirements other than full courses, e.g. thesis, field trips, etc.)
F	Fail, i.e. less than 60%
INCOMPLETE	(This will be interpreted "no grade received" and will be removed from the record if or when a grade is submitted.)

Note: Either a numerical or a letter grade may be submitted by the Department to the Registrar.

Minor Courses

Minor courses are usually courses offered by a Department other than that in which the student is registered.

A	above 80%
B	70 - 79% inclusive
C	60 - 69% inclusive
D	50 - 59% inclusive
COMPLETE	(this may replace either "C" or "D")
F	Fail, i.e. less than 50%
INCOMPLETE	(This will be interpreted "no grade received" and will be removed from the record if or when a grade is submitted.)

Note: Either a numerical or a letter grade may be submitted by the Department to the Registrar.

Adding and Dropping Courses

Following the submission of a completed "course enrollment" card, course changes may not be made except with the approval of the Departments concerned. A fee may be charged for each course change.

Withdrawal From Courses

Should a student suffer from an illness or accident which might impair his academic performance, documentary evidence from a physician must be submitted to the Department concerned or the appropriate Divisional Committee on Graduate Studies as soon as possible. Unless medical evidence is presented at this time it may not be considered in support of a subsequent appeal.

Doctor of Philosophy (Ph.D.)

Entrance Requirements
A candidate must be a graduate of an approved university or hold equivalent qualifications. He must have received a Bachelor's degree with Honors (or its equivalent), or a Master's degree, or a degree in Medicine, Dentistry, or Veterinary Medicine.

Academic Requirements
The degree of Doctor of Philosophy will be granted only to a candidate who has shown high aptitude and attainment in research and has presented in a scholarly manner a thesis containing an original contribution to knowledge. Graduate students are expected to maintain at least a B standing averaged over all their major courses, and at least a B standing averaged throughout their program.

Period of Study
The period of study will be determined by the academic qualifications of the candidate and by his previous experience in research. Usually three academic years full-time will be required, though this period of residence will be extended for part-time students. The time may be reduced to two academic years full-time, or longer for part-time students, if the candidate holds a Master's degree, or a degree in Medicine, Dentistry or Veterinary Medicine. If more than ten hours a week are spent in teaching or other departmental duties, the period of study will be extended. Students in the sciences are usually expected to continue their laboratory or field work during the Spring Term.

With the consent of the Chairman of the Department, School or Faculty, and with the approval of the appropriate Committee on Graduate Studies, permission may be granted to a candidate to study elsewhere. A maximum period of one academic year of such studies may be credited towards the period of study required for the degree.

COURSE OF STUDY

The course of study shall be determined by the Chairman of the Department in which the candidate is working and shall be approved by the appropriate Committee on Graduate Studies.

For each candidate the Chairman of the Department shall appoint an Advisory Committee consisting of a Chief Adviser and at least two Assistant Advisers.

LANGUAGE REQUIREMENTS

In those Divisions or Departments which require it, a candidate for the degree of Doctor of Philosophy must have a reading knowledge of at least one language, other than English, which is acceptable to his Department, School or Faculty, and is useful in his research. The candidate must furnish evidence of such reading knowledge either in the form of university credits or by passing an examination conducted by the language department concerned, except that in the case of French, German, Russian or Spanish, the examination shall be fulfilled by the use of the Graduate School Foreign Language Test of the Educational Testing Service, Princeton. This shall normally mean credit for at least one year's work in the language at college level, or its equivalent, e.g. French 20 or 45; German 20 or 45; Russian 1 and 10 or 15; Spanish 20 or 45; or the ETS Graduate School Foreign Language Test. One GSFLT is $10 and a penalty fee for late registration is $3.50. Information on testing dates can be obtained at the office of the Faculty of Graduate Studies. If the nature of a candidate's research makes it desirable, a Department, School or Faculty may require him to show reading knowledge of an additional language.

Courses in Scientific French, German, Russian and Spanish are given each year in the Faculty of Arts. Since language requirements differ from department to department, it is the student's responsibility to ascertain his department's requirements, to fulfill them, and check that the department records the completion of the requirement.

TEACHING

The University believes that a graduate student's training should include some experience in teaching. Students may, therefore, be called upon to undertake assignments in demonstrating or lecturing without remuneration. Departments are asked to make such opportunities available to their students when possible but the assignments should not be so heavy as to lengthen the student's normal graduate course.

(a) GENERAL SPECIFICATIONS

A thesis is required of every candidate for the degree of Doctor of Philosophy. The thesis must consist of the candidate's own account of his research. It may describe work done in conjunction with his supervisor if the candidate clearly states his personal share in the investigation. The candidate must indicate in what respects his investigations have increased the knowledge of the subject.

A candidate will not be permitted to submit a thesis for which he has previously received a degree. Permission may be given to a candidate by the appropriate Committee on Graduate Studies to incorporate in his doctoral thesis work included in a previous thesis.

(b) FORMAT SPECIFICATIONS

The regulations of the Faculty of Graduate Studies as to the quality of paper, type and layout must be fulfilled to facilitate the binding and microfilming of each thesis. A copy of the U.W.O. *Guide for the Preparation of Theses* must be obtained from the Thesis Division of the Faculty of Graduate Studies before the final draft of the thesis is typed. Students are asked to consult the Thesis Division about such matters as kind of paper, method of duplicating copies, use of an enumerator, binding personal copies, preparation of illustrative material and other related problems.

(c) SUBMISSION PROCEDURE

The candidate shall submit to his Chief Adviser portions of his thesis when requested and a complete draft on a date specified by his Adviser. When the candidate is prepared for the Faculty Oral Examination he shall submit to the Chairman of the appropriate Committee on Graduate Studies FIVE unbound copies of the completed thesis. The thesis may be submitted at any time of the year, but to be sure of being examined in time for graduation at any given Convocation, the candidate must submit the thesis at least FOURTEEN weeks before the date of that Convocation. Each copy of the thesis shall contain a technical Abstract of not more than five hundred words and the candidate's Vita. A copy of the Abstract will be made available to members of the Faculty on request by the Department concerned. Following a successful examination and at least SIX weeks before Convocation, the candidate shall present FIVE copies of his thesis to the Thesis Division of the Faculty of Graduate Studies.

(d) DISTRIBUTION OF THESES

The Faculty of Graduate Studies will pay for the cost of binding the required copies which are distributed as follows: two copies are kept in the thesis collection in The D. B. Weldon Library (or the appropriate Science Library); one copy is kept by the department; and two bound copies are returned to the doctoral candidate for his own use. If a student wishes to have more copies bound he is charged for the binding of each additional copy.

The thesis, with the written consent of the author, will be microfilmed by the National Library of Canada. The positive copies of the microfilms held in the National Library are listed in Canadiana, the monthly and annual national bibliography published by the National Library.

(e) DISTRIBUTION OF ABSTRACTS

All Ph.D. candidates must submit three abstracts of their thesis. One of these is kept in the library archival collection, one in the reference collection, and the third is sent by the Faculty of Graduate Studies, on the authority of the candidate, to be published in Dissertations Abstracts International. Instructions for the preparation of these abstracts can be obtained with a thesis guide.

DEPARTMENTAL EXAMINATIONS

Any department may require that a student pass any or all of: oral or written examinations on course work; a comprehensive examination; a qualifying examination. All requirements, including language requirements, must be completed (except with special permission of the Dean of Graduate Studies) before recommendation for the Faculty Oral Examination.

Notice of any type of examination required shall be given by the Chairman of the Department to the candidate at least two months before the date on which the examination is to be held.

Public Lecture

The candidate shall present a lecture on his research, open to all members of the University, to be followed normally within 24 hours by the Faculty Oral Examination. The public lecture shall be arranged by the Department concerned. However, the announcement of this lecture shall be arranged by the Dean of the Faculty of Graduate Studies in the weekly *University of Western Ontario News*. Departments shall arrange for a Chairman of the public lecture. Arrangements for the Faculty Oral Examination shall be made by the Dean of the Faculty of Graduate Studies.

The requirement of the public lecture is at the discretion of the Division concerned, and has been retained by the Biosciences and Physical Sciences Divisions. The requirement has been waived for all Departments in Arts and Social Sciences.

Faculty Oral Examination

1. Board of Examiners

The Board of Examiners shall consist of:

(a) a non-voting Chairman appointed by the Dean of Graduate Studies,

(b) the following four Examiners:

(i) Two Examiners who shall normally but not necessarily be from the candidate's Department.

(ii) a third Examiner from outside the candidate's Department (or discipline where no department exists). This Examiner shall be knowledgeable in the general field of the thesis and may be from this University or any other institution.

(iii) a fourth Examiner who shall be from outside this University and who shall be competent in the special field of the thesis.

The Board of Examiners shall exclude the candidate's Chief Adviser. The presence of the fourth Examiner (1 b.iii) at the oral examination may be waived by the Dean.

2. Appointment of Examiners

All Examiners (1 b.i., b.ii., b.iii.) shall be appointed by the Dean after consultation with the appropriate Divisional Committee.

3. Evaluation of the Candidate

Each Examiner shall examine the thesis in detail and make a written evaluation of the content and form of the thesis, to be received in the Office of the Faculty of Graduate Studies at least 48 hours before the examination. Those examiners present at the examination shall also evaluate the oral defence of the thesis.

The acceptability of the content of the thesis shall be determined by the vote of three of the four Examiners, such majority vote to include the vote of the external Examiner (1 b.iii).

The acceptability of the form of the thesis shall be determined by a majority vote of the Examiners.

The acceptability of the oral defense of the thesis shall be determined by a majority vote of the Examiners present at the examination.

Where substantial disagreement arises as to the acceptability of the content of the thesis the Dean shall appoint an *ad hoc* committee to determine the course of action to be taken. The candidate's Chief Adviser shall be a member of this committee.

If the thesis is acceptable, but the oral examination is unsatisfactory, a second oral examination (with preferably the same Examining Board) shall be scheduled at least three months later.

If the content of the thesis is unacceptable, the *ad hoc* committee shall establish the basis for this decision, and advise the candidate of the reasons for its unacceptability. The oral examination may be rescheduled when appropriate steps have been taken to make the thesis acceptable (mandatory three-month delay).

If the content is acceptable, but the form is unacceptable, the candidate shall be advised in what respects the thesis is deficient. The Examiners must be satisfied with any amendments or changes before signing the thesis for submission to the Thesis Division.

4. The Examination

The Faculty Oral Examination shall consist of:

(a) A brief introduction of his work by the candidate from a Division not requiring the public lecture as part of the oral examination.

(b) Questioning on the subject of the thesis, and/or on pertinent topics arising from the thesis by the Board of Examiners and by any other members of the Faculty of Graduate Studies present at the examination.

The candidate's Chief Adviser shall attend the examination but may not take part in the examination except with the permission of the Chairman.

The Faculty Oral Examination may be attended by members of the Faculty of Graduate Studies, and visiting faculty members from other institutions on the invitation of a member of the Faculty of Graduate Studies. Other persons may attend the examination only on the invitation of the Dean.

5. Decision

The decision to recommend the awarding or withholding of the degree shall be rendered at the end of the examination, following discussion by the Board of Examiners and the candidate's Chief Adviser, but in the absence of the candidate, and shall be lodged with the Office of the Dean immediately following the examination. Each Examiner shall record his decision on official Faculty of Graduate Studies forms.

Master of Arts (M.A.)
Master of Engineering Science (M.E.Sc.)
Master of Science (M.Sc.)

1. Entrance Requirements

A candidate must be a graduate of an approved university or hold equivalent qualifications. Normally only applicants who have graduated with at least a B standing and who, by their undergraduate records have demonstrated the potential ability to succeed in graduate work, will be considered.

2. Academic Requirements

Graduate students are expected to maintain at least a B standing averaged over all their major courses, and at least a B standing averaged throughout their program.

3. Period of Study

The duration of the program will be adjusted individually for each candidate. A minimum of one academic year full-time, or two academic years part-time, will be required of graduates from Honors Programs in Arts, Business Administration, Music, Natural Sciences, Social Sciences, or graduates in Medicine, Dentistry, Engineering Science or Veterinary Medicine. A minimum of two academic years will be required of candidates with a General Course degree. If more than ten hours a week are spent in teaching or other departmental duties at least two academic years will be required. Students in the Sciences are usually expected to continue their laboratory or field work during the Spring Term.

4. Course of Study

The course of study shall be determined by the Chairman of the Department, School or Faculty in which the candidate is working and shall be approved by the appropriate Committee on Graduate Studies. For each candidate the Chairman of the Department, School or Faculty shall appoint at least one adviser.

5. Language Requirements

In those Divisions or Departments which require it, a candidate for the Master's degree must have a reading knowledge of at least one language other than English which is acceptable to his Department, School, or Faculty, and is useful in his research. The candidate must furnish evidence of such reading knowledge either in the form of university credits or by passing an examination conducted by the language department concerned, except that in the case of French, German, Russian or Spanish, the examination shall be fulfilled by the use of the Graduate Foreign Language Test of the Educational Testing Service, Princeton. This shall normally mean credit for at least one year's work in the language at college level, or its equivalent, e.g. French 20 or 45; German 20 or 45; Russian 1 and 10 or 15; Spanish 20 or 45; or the ETS Graduate Foreign Language Test. If the nature of a candidate's research makes it desirable, a Department, School or Faculty may require him to show reading knowledge of an additional language.

Courses in Scientific French, German, Russian and Spanish are given each year in the Faculty of Arts. Since language requirements differ from department to department, it is the student's responsibility to ascertain his department's requirements, to fulfill them, and check that the department records the completion of the requirement.

6. Departmental Examinations

Oral or written examination on course work, as well as a comprehensive examination, may be required by the Department, School or Faculty concerned. Notice of the type of an examination required shall be given by the Chairman of the Department, or equivalent appropriate authority, to the candidate at least two months before the date on which the examination is to be held.

A final oral examination on the thesis will be conducted under the supervision of the appropriate Faculty Committee on Graduate Studies, which will appoint a Chairman and an Examining Board on the recommendation of the Chairman of the Department, School or Faculty concerned. The Board will consist of a Chairman and at least three Examiners, at least one of whom will be from another Department, School or Faculty, in those Divisions or Departments which require it. At the discretion of the Department, a student who has been permitted to substitute additional course work for a thesis may be required to pass an oral comprehensive examination conducted by a similar Examining Board.

The Chairman of the Department, in consultation with the Chairman of the appropriate Committee on Graduate Studies, may request that a thesis be read by an External Examiner.

The candidate's Chief Adviser shall attend the examination but may not take part in the examination except with the permission of the Chairman. Any other members of the Faculty of Graduate Studies may attend and participate in the examination, but only members of the Examining Board shall vote on the approval of the candidate. To be successful a candidate must be approved by a majority of the Examining Board.

(a) General Specifications

A Thesis, incorporating the results of an investigation in the field of the major subject, may be required.

(b) Format Specifications

The regulations of the Faculty of Graduate Studies as to the quality of paper, type and layout must be fulfilled to facilitate the binding and microfilming of each thesis. A copy of the U. W. O. *Guide for the Preparation of Theses* must be obtained from the Thesis Division of the Faculty of Graduate Studies before the final draft of the thesis is typed. Students are asked to consult the Thesis Division about such matters as kind of paper, method of duplicating copies, use of an enumerator, binding personal copies, preparation of illustrative material and other related problems.

(c) Submission Procedure

The candidate shall submit to his Chief Adviser portions of his thesis when requested and a complete draft on a date specified by his Adviser. Final revisions as demanded by his Adviser or committee shall be completed. THREE unbound copies of the completed thesis shall be submitted to the Chairman of the Department or to the Chairman of the appropriate Committee on Graduate Studies. The thesis may be submitted at any time of the year, but to be sure of being examined in time for graduation at any given Convocation, the candidate must submit the thesis at least NINE weeks before the date of that Convocation. Each copy of the thesis shall contain an abstract of not more than SIX hundred words and the candidate's Vita.

Following a successful examination and at least SIX weeks before Convocation, the student shall present THREE copies of his thesis to the Thesis Division of the Faculty of Graduate Studies.

(d) Distribution of Theses

The Faculty of Graduate Studies will pay for the cost of binding the required copies which are distributed as follows: two copies are kept in the thesis collection in The D. B. Weldon Library (or the appropriate Science Library) and one copy is kept by the department. If a student wishes to have more copies, he is charged for the binding of each additional copy.

The thesis, with the consent of the author, will be microfilmed by the National Library of Canada. The positive copies of the microfilms held in the National Library are listed in Canadiana, the monthly and annual national bibliography published by the National Library.

(e) Distribution of Abstracts

All M. A. candidates must submit two abstracts of their thesis. One of these is kept in the library archival collection and one in the reference collection. Instructions for the preparation of these abstracts can be obtained with a thesis guide.

Master of Business Administration (M.B.A.)

1. Admission

A candidate must be a graduate of an approved university or hold equivalent qualifications. Only students who by their undergraduate records and performance on the Admission Test for Graduate Study in Business have demonstrated the potential ability to do graduate work will be considered. Proficiency in English is required.

2. Course of Study

The course of studies covers two years.

The graduate student is required to take a specific group of closely related courses during the first year of his program. In the second year the graduate student is required to take the equivalent of five courses.

Further details concerning this program should be obtained from the Admissions Officer of the School of Business Administration.

Master of Clinical Science (M.Cl.Sc.)

The objective of the M.Cl.Sc. degree is the attainment by medically trained people of a level of experience in clinical research and an association with a Basic Science Department not only to satisfy the need for special experience but also to serve as an encouragement to the development of the clinical investigator.

Admission

A candidate must have an M.D. or an equivalent degree in Medicine, from an institution recognized as suitable by the Biosciences Divisional Committee of the Faculty of Graduate Studies and must have one year of experience as a general or rotating intern, or an acceptable equivalent. It is considered desirable, but not necessary, for the candidate to have in addition at least one year of experience in the clinical specialty of his choice. Normally only applicants who have graduated with at least a B standing will be considered.

The Biosciences Divisional Committee of the Faculty of Graduate Studies in accepting the registration of a suitable candidate for the M.Cl.Sc. shall appoint a supervisory committee to act in the academic guidance and direction of the work of the candidate. This supervisory committee shall consist of:

1. A representative of the Clinical Department to which the candidate is attached.
2. A representative of a Basic Science Department interested in the research to be undertaken.
3. A member of a Department not directly involved in the candidate's work. This committee shall appoint its own chairman.

The course and duration of study required of an individual candidate shall be a matter of recommendation by the supervisory committee and be ratified by the Biosciences Divisional Committee of the Faculty, but shall be not less than one academic year. Course work shall be considered in terms of its particular appropriateness to the area of research.

Candidates are encouraged to have competence in at least one language other than English; this requirement may be satisfied by credit for a university course in a foreign language.

The candidate must sit for those examinations formally required for the course work assigned by the Biosciences Divisional Committee. A general examination may be required and its form determined by the supervisory committee provided that the student is given a warning of at least three months. In all examinations a 60% mark will be required for passing.

A thesis shall be presented by the candidate in accordance with the standards and regulations outlined for the M.A., M.Sc. and M.E.Sc. degrees.

There shall be a thesis examination with at least three examiners appointed by the Biosciences Divisional Committee of the Faculty of Graduate Studies and one of these shall be an Examiner External to the University whose presence shall be requested at the examination.

Master of Engineering (M.Eng.)

1. Course of Study

Course work programs leading to the degree of Master of Engineering are offered to those engineers whose interests lie in analysis, design, and development rather than research. An individual program shall consist of a minimum of 5 courses (totaling at least 10 credits), a project (3 credits), and a seminar, and shall be approved by the appropriate Graduate Board. Credits for courses shall be computed on the basis of 1 credit for each hour per week of lectures and 1 credit for each three hours per week of laboratories.

2. Academic Qualifications

A canadidate for the degree of Master of Engineering must be a graduate of a recognized university or hold equivalent qualifications. Only students who by their previous academic records have demonstrated their potential ability to succeed in graduate work will be considered. Proficiency in English is required of non-English speaking students, who are required to show evidence of proficiency by satisfactory achievement in the University of Cambridge Certificate of Proficiency in English, or the Test of English as a Foreign Language administered by the U.S. Educational Testing Service.

3. Qualifying Students

An acceptable graduate whose background is such that he may not register immediately as a candidate for the degree may be registered in the Prerequisite Year of the Faculty of Graduate Studies. On the successful completion of an individually prescribed program of study, he will then be permitted to register as a candidate for the degree.

4. Period of Study

The minimum period of full time study is one academic year, i.e. the Fall and Winter Terms in residence. Students may be permitted to undertake the program on a part-time basis provided that satisfactory arrangements can be made for the project; this may require that not less than one term be spent in full time studies. Students registered on a part-time basis must complete all the requirements for the degree within the four year period following registration as a graduate student.

5. Advisers

A faculty adviser shall be appointed for each candidate; additional advisers may be appointed as required.

6. Project

The project report shall be read by at least two examiners only one of whom need to a member of the Faculty. The candidate shall be required to give a public lecture on the subject of his project but shall not be required to defend it at an oral examination.



Master of Library Science (M.L.S.)

1. Admission

A candidate for admission to M.L.S. studies must be a graduate of an approved university or hold equivalent qualifications. Normally only applicants with at least a B standing can be considered. Candidates with a four-year honors degree or its equivalent may be admitted to the School's three term program at the beginning of any of the three terms. Candidates who wish to transfer at the end of one year from other graduate library schools with a two-year M.L.S. or who hold a B.L.S. from another accredited library school or its equivalent may complete their M.L.S. after two terms. Candidates who have a three-year or four-year Bachelor's degree with at least B standing may undertake a prerequisite year (two terms) of undergraduate concentration. They should apply to the appropriate Department for advice on the graduate studies in the area of undergraduate concentration. They honors courses that would be necessary to raise their degree to the necessary standard for admission to the Faculty of Graduate Studies. Upon successful completion of this prerequisite year, they may apply for admission to the three-term program. Candidates who have a three-year or four-year Bachelor's degree with at least B standing may also be considered for admission to the prerequisite year program of the School. This consists of three (preferably honors) courses in other Departments on campus and four half-courses within the School. Special arrangements must be made through the School when those admitted are determining their program. Prospective school librarians who have completed a year of study, with at least B standing, at a College of Education or its equivalent, may be admitted to the three-term program. All students must have proficiency in spoken as well as written English in order to contribute to seminar discussions. The School requires students to obtain a grade of at least B (70%) in each of the required courses.

2. Period of Study

Dependent upon the conditions laid down upon admission to the Faculty of Graduate Studies, a student may complete his studies for the M.L.S. in two or three consecutive terms. It is possible to earn the M.L.S. in summer terms or in summer sessions plus a final term. The program may also be taken part time.

3. Language Requirements

Because of the importance of languages in the field of library and information science, a reading knowledge of at least one language other than English is expected. The second language must be useful in study and research in the School's field of knowledge.

GRADUATE

Master of Music (Mus.M.)
Master of Musicology (M.A.)

Areas of Concentration

The Master of Music degree is offered in the field of Music Theory, Music Education, Composition, and in Music Literature and Performance. The Master of Arts degree is offered in Musicology.

1. Admission

A candidate must be a graduate of an accredited university or hold equivalent qualifications, including an Honors degree (Bachelor of Music) or its equivalent with at least a B average. Students who have taken a Pass degree (three year) program may be admitted conditionally, but they must complete a Prerequisite year before being admitted to candidacy or must demonstrate exceptional competence beyond the Pass degree on entrance examinations and auditions. A student shall be recommended for candidacy when all admission requirements have been met.

2. Entrance Examinations

All prospective graduate students shall be required to take a number of examinations which serve as placement tests. These examinations are given at various times during the year and must be taken prior to registration. Deficiencies that become apparent as a result of these examinations must be removed at the earliest opportunity through approved courses or re-examination. A student will be presumed to be deficient in any area in which he does not take the entrance examination.

Students should achieve an A on the entrance examination in their chosen area of specialty, and not less than B in the other areas. Deficiency courses may not be used as a means of improving the academic average to meet the minimum level for admission to candidacy.

Entrance examinations will be given in the areas of Music Theory, Music History, Piano Proficiency, and in the student's Applied Music area (piano, voice, violin, etc.). The content of these examinations may be obtained by writing to the Dean of the Faculty of Music.

3. Special Prerequisites

A course in Acoustics and undergraduate training in Orchestration is required of candidates pursuing the degree in Music Theory. Knowledge of German is required of candidates in Musicology.

Students concentrating in Music Education must have completed two years of classroom teaching. This prerequisite does not apply to all courses, but it does apply to the Music Education Seminar and Thesis.

Candidates in Composition must submit scores of their recent compositions and have them accepted by the Graduate Music Faculty.

Candidates in the areas of Literature and Performance must demonstrate in their audition a level of performing ability comparable to an A standard of the final undergraduate year before being admitted to candidacy.

4. Language Requirements

Before being admitted, all candidates must demonstrate competence in the English language. In certain programs, a student must also have a reading knowledge of at least one language other than English which is acceptable to the student's department and is useful in his research. If a student is not able to meet the foreign language requirement at the time of his application for admission, he may be allowed to pursue some graduate courses while he is gaining language competence.

Musicology majors will be required to obtain a reading knowledge of German and any other language necessary for the student's research. Voice majors, in addition to obtaining a reading knowledge of one language other than English, must satisfy the Graduate Committee of the Faculty of Music that they have facility in the pronunciation of German, French, and Italian before graduating.

In the Music Education program, the foreign language requirements may be waived depending on the nature of the student's research. This will be done only on the recommendation of the student's faculty adviser and with the approval of the Professional Degree Committee for Music.

5. Period of Study

Candidates shall be required to spend at least two terms of each academic year in residence, and to complete the program within five years. Students must register for each session during which they plan to use any university facilities, and must register in the session during which they plan to complete their degree program.

The minimum time in which the requirements can be completed is one full year (three terms), but the actual duration will depend upon the proposed course of study. Candidates who undertake remunerative employment must be prepared to spend additional time. When a deficiency in any area is indicated by the entrance examinations, the student must plan to devote more than one academic year to complete the program.

6. Course of Study

The course of study shall be initially proposed by the student's adviser and the chairman of the department in which the candidate is working and shall be approved by the Graduate Music Committee. For each candidate, the Graduate Music Committee shall appoint at least one adviser.

The program of study normally involves five courses (fifteen hours) and a thesis. The suggested content of the study program in each of the areas of concentration may be obtained from the Dean of the Faculty of Music.

Participation in Ensemble is required of all students majoring in Literature and Performance and is recommended for all students.

7. Thesis and Document

A thesis incorporating the results of an investigation in the field of the student's major area is required of all candidates in Music Theory, Musicology, Music Education, and Composition. Students working toward a Master of Music in Literature and Performance will present a document following the procedure laid down for theses. The regulations of the Faculty of Graduate Studies will be followed concerning the preparation and presentation of the thesis and document and the make-up of the examining board that conducts the oral examination on the thesis or document.

8. Examinations

Oral or written examinations on course work, as well as a comprehensive examination, may be required. Notice of the type of any examination required shall be given by the chairman of the department to the candidate at least two months before the date on which the examination is to be held.

A final oral examination on the thesis or document will be conducted under the supervision of the Professional Degree Committee in Music, which will appoint a chairman and an examining board. The board will consist of a chairman and at least three examiners, at least one of whom will be from another department, school or faculty. At the discretion of the department, a student who has been permitted to substitute additional course work for a thesis may be required to pass an oral comprehensive examination conducted by a similar examining board.

The chairman of the department, in consultation with the chairman of the appropriate Committee on Graduate Studies, may request that a thesis be read by an external examiner.

The candidate's chief adviser will attend the examination but may not question the candidate except with the permission of the chairman. Any other members of the Faculty of Graduate Studies may attend and participate in the examination, but only members of the examining board shall vote on the approval of the candidate. To be successful, a candidate must be approved by a majority of the examining board.

1971-72 placement examinations will be held at the Faculty of Music on January 10, 11, 1972 and June 26, 27, 1972.

Master of Science in Nursing (M.Sc.N.)

Programs offered, Periods of Study

Two graduate programs in nursing are offered. One program leads to the degree of Master of Science in Nursing (Administration) in hospital nursing service administration OR public health nursing service administration OR administration of schools of nursing. The other leads to the degree of Master of Science in Nursing (Education) and is intended for not only beginning, but experienced teachers in schools of nursing. The program with a major in administration is two academic years in length. The program with a major in teaching may be one to two academic years in length, dependent on the educational background of the student. With either major students may elect to study or continue research during the summer months (see section on Nursing under Social Sciences Division).

For length of academic years and relevant payment of fees, refer to Regulations Governing Advanced Degrees.

Admission

A. Major in Administration

1. A Bachelor's degree in Nursing or
2. A Bachelor's degree in Arts or Science, in addition to graduation from an approved diploma school of nursing and an academic year of post-basic study with a diploma in one of the nursing specialties at a university school of nursing and
3. An overall B average in undergraduate courses.

B. Major in Teaching

Entrance is to the final year of the teacher preparation program for graduates with an overall B average, in the year 1971 or later, of either the four-year Basic Baccalaureate program, or the three-year Post R.N. Baccalaureate program of the Faculty of Nursing, The University of Western Ontario, or their equivalent. Other students will be considered on an individual basis and may be required to take the prerequisite year or part thereof before acceptance into the program with a major in teaching.

Students will receive assessment of progress in individual courses as each term proceeds. Arrangements for counselling regarding their overall progress in the program may be made with the Dean or Coordinator of the Graduate Programs as appropriate. Such counselling may be initiated by the students or the faculty. One such counselling session will be scheduled regularly before the termination of the Spring Term for all full-time students. Applicants or students may be required to complete additional or alternative courses, depending upon facility in the use of the English language, previous academic studies, nursing experience and/or the subject chosen for research.

Admission of students from countries other than Canada will be considered on an individual basis. Students coming directly from countries other than Canada or the United States may be required to attend summer school to complete at least one course successfully and to have a period of planned clinical experience in their area of interest in nursing. Following this, an assessment will be made as to whether the candidate will be admitted to graduate work.

Academic Standards to be Maintained

An average of B is required each year. An assessment is made of each candidate's progress at the completion of year one, and no student is allowed to continue into year two of the program with anything less than a B average without special permission from the Professional Degree Committee (Nursing) of the Faculty of Graduate Studies. Such special permission will be granted only if unusual extenuating circumstances have appeared to affect an otherwise satisfactory record.

If a student fails one course but otherwise maintains an average of B, the matter will be considered by the Professional Degree Committee of the Faculty of Nursing in consultation with the professor(s) of the course. Decisions regarding appropriate alternatives open to the student will be made on an individual basis and will be communicated to the student only after ratification by the Dean of the Faculty of Graduate Studies.

Individual Programming for Students

It is expected that students will complete the program they select according to the usual arrangement of courses. It is recognized that part-time students require individualized planning of their programs. Counselling is available for this. Exceptions to the regulation that the Qualifying year will be completed before any final year courses are undertaken will be made under only very unusual circumstances on recommendation of the Professional Degree Committee and with permission of the office of the Dean of the Faculty of Graduate Studies.

Fellowships and Scholarships

The University awards a limited number of graduate fellowships, teaching fellowships, research assistantships, and demonstratorships tenable within the Departments of Arts, Biosciences, Physical Sciences, and Social Sciences. Prospective candiddates should direct their inquiries to the Chairman of the Department in which they wish to work.

Scholarships awarded by the University of Western Ontario shall be tenable only at the University, unless the provisions of a particular scholarship state otherwise.

The University reserves the right to modify or cancel scholarship offerings after the date of publication of this Calendar.

NOTE: Many of the university awards are tenable only by Canadian citizens or landed immigrants who have obtained their landed immigrant status before applying for an award. Iqnuiries as to eligibility for awards ought to be made to the office of the Faculty of Graduate Studies.

Henry Lewis Caulkins Scholarship

This scholarship was provided from the estate of the late Donald L. Springer and is tenable by a graduate of The University of Western Ontario at the University of Michigan for graduate study in any academic discipline. The value of the scholarship is approximately $2,000 (Canadian). Applications should be submitted to the Dean of Graduate Studies of the University of Western Ontario by March 15.

Ivie Cornish Memorial Fellowship

Graduate Fellowship in History, value up to $2,000 a year. Applications should be submitted to the Chairman, Department of History, not later than March 15. The award may not be made in any one year at the discretion of the Faculty of Graduate Studies.

Sir Arthur Currie Memorial Scholarship

Graduate Fellowship in the Social Sciences, preferably in some branch of Economics, value $500 a year; open to graduates of any Canadian university; tenable at this University unless the winner is a graduate of this University, in which case the award will be tenable at this or any other Canadian or British university designated by the winner. Applications should be submitted to the Dean of Graduate Studies not later than March 15.

Nellie L. Farthing Memorial Fellowship

Graduate Fellowship in the Medical Sciences, value $1,500 per academic year. This Fellowship is availablee to students engaged in graduate work or medical research. Applications should be submitted to the Dean of Graduate Studies no later than March 15.

McIntosh Scholarships in Geography

Two scholarships of approximately $300 each are awarded annually for high academic achievement to graduate students in the Department of Geography. These scholarships will be given to graduates in Honors Georgraphy at The University of Western Ontario or to students who have completed graduate degrees with distinction in the Department of Geography of The University of Western Ontario.

J. A. F. Stevenson Memorial Scholarship

In commemoration of the great contribution made to the scientific and general academic life of Canada by Dr. Stevenson (1918-1971), former Dean of the Faculty of Graduate Studies, the Board of Governors established this scholarship valued at $1,000 to be awarded annually to a student in the Faculty of Graduate Studies. Applications should be submitted to the Dean of Graduate Studies not later than March 15. The award may not be made in any one year at the discretion of the Faculty of Graduate Studies.

CANADA COUNCIL GRANTS

The Canada Council offers fellowships and grants in the Social sciences and humanities and a variety of assistance to professional artists.

Among Council programs of aid are: Doctoral fellowships, Leave fellowships, Research grants, Arts awards, Arts bursaries, Short term grants.

Brochures giving detailed information, including deadlines for annual competitions, on these and other Canada Council programs of aid are available from The Canada Council, 140 Wellington Street, Ottawa 4, Ontario, as follows: Awards Service (for annual competition), The Social Sciences and Humanities Division (for research grants), Arts Division (for short term grants).

CANADIAN TRANSPORT COMMISSION FELLOWSHIPS

The Canadian Transport Commission plans to award a limited number of fellowships for graduate study in any discipline related to transportation leading to an advanced degree for which there is a thesis requirement. Candidates must be Canadian citizens or landed immigrants. Stipends are $3,600 for students proceeding to a master's degree and $4,500 for students proceeding to a doctoral degree. (Successful applicants with one or more dependent children will receive an additional $1,000.) A travel allowance will also be paid.

Application forms may be obtained from the Executive Assistant, Research Branch, Canadian Transport Commission, Ottawa 4, Ontario. Completed applications must be forwarded by the Chairman of the Department in which the applicant intends to study, not later than March 15.

CENTRAL MORTGAGE AND HOUSING CORPORATION GRADUATE FELLOWSHIPS

Central Mortgage and Housing Corporation offers fellowships for graduate study in various fields or urban and regional affairs in approved Canadian universities and elsewhere. Candidates must be Canadian citizens or landed immigrants in Canada. Stipends are $3,000 plus tuition fees for students proceeding to a master's degree and $4,000 plus tuition fees for students beyond the master's level proceeding to a doctoral degree. (Successful applicants receive an additional $500 for each dependent child.)

Application forms available from the Administrator, Advisory Group, Central Mortgage and Housing Corporation, Ottawa 7, Ontario, must be submitted through the appropriate department of the university in which the student proposes to enroll. Applications for study at Canadian universities must be sent to CMHC by March 1; applications for study at universities outside Canada by April 15.

COMMONWEALTH SCHOLARSHIP AND FELLOWSHIP PLAN

Under a Plan drawn up at a conference in Oxford in 1959, each participating country of the Commonwealth offers a number of scholarships to students from other Commonwealth countries. These scholarships are mainly for graduate study and are tenable in the country making the offer. Awards are normally for two years and cover travelling, tuition fees, other university fees and a living allowance.

Details from the relevant government office in applicant's own country or the Canadian Commonwealth Scholarship and Fellowship Committee, c/o Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario.

MEDICAL RESEARCH COUNCIL

A limited number of Studentships and bursaries (valued at $3,600 and $3,000 respectively) are offered by the Medical Research Council to highly qualified graduate students of the pre-doctoral level who are undertaking full-time training and research leading to a higher degree under the supervision of members of departments of medical schools.

Applications received by 1 January are considered in March; the closing date for those to be considered in June is 1 April.

All communications concerning the Studentships and bursaries and other pre-doctoral Awards should be addressed to: The Secretary, Medical Research Council, Montreal Road, Ottawa 7, Canada.

MILITARY SERVICE SCHOLARSHIPS

The Department of National Defence sponsors programs of university education for young men who have the potential to become officers in the Canadian Armed Forces. The programs include Regular Officer Training Plan, Medical Officer Training Plan, Dental Officer Training Plan, and Reserve Officer University Training Plan.

Applicants must be Canadian citizens. For full information contact: The University Liaison Officer, Canadian Forces Base Toronto, Downsview, Ontario.

NATIONAL RESEARCH COUNCIL POSTGRADUATE SCHOLARSHIPS AND BURSARIES

Each year the National Research Council offers a number of postgraduate awards of different types to assist students in undertaking graduate study and research leading to advanced degrees. These awards are open to men and women on equal terms and are awarded on the basis of high scholastic achievement and evidence of capacity to do research.

Types of Awards Available

1. Postgraduate Scholarships

Postgraduate Scholarships valued at $3,800 for 12 months, plus a travel grant if required are awarded in two categories:

(a) for the first year of postgraduate study in Canada, in which case the award is not renewable, but recipients may apply for a scholarship mentioned in (b) below for a second and succeeding years of graduate studies.

(b) for second or subsequent years of postgraduate study in Canada, renewable on the basis of certified reports of satisfactory progress. Only two such renewals may be granted.

2. Bursaries

Bursaries are awarded on the recommendation of a university. The qualifications are the same as for Postgraduate Scholarships. These awards are valued at $3,200 for 12 months. They are not renewable but may be awarded for each subseauent vear of araduate study. A student may receive a maximum of 4 awards at the predoctorate level consisting of any combination of Bursaries and Postgraduate Scholarships.

Conditions of Eligibility Applying to All NRC Awards

The foregoing awards may be granted for study and research in the field of agriculture, biology, chemistry, physics, geology, physical geography, mathematics, engineering, experimental psychology, science education and the history and philosophy of science.

At the time of application, an applicant must be either a **Canadian citizen** of a **landed immigrant.** Tenure abroad will not be granted to students who are landed immigrants unless they have received a degree in science from a Canadian university. To be eligible for a first scholarship award, an applicant must not have reached his 30th birthday by March 31. A scholarship application is considered to be for a first award if the applicant is not engaged in study and research under the terms of an NRC scholarship at the time of his application.

Additional information on NRC awards may be obtained from the Office of the Dean of Graduate Studies, or from The Scholarships Officer, Awards Office, National Research Council of Canada, Ottawa 7, Ontario.

Application forms are made available through Departmental Offices in mid-October. The deadline for return of complete applications to the Chairman of the appropriate Departments usually late November.

DEPARTMENT OF NATIONAL DEFENCE SCHOLARSHIPS

The Department of National Defence has established three scholarships for military and strategic studies of interest to Canada and may comprise work in one or more of the following areas: National and International aspects of security, studies of strategic theory, alliances and United Nations, civil-military relations. Candidates must be Canadian citizens. Stipends are $4,000 plus academic fees.

Closing date for receipt of applications March 1. Further information may be obtained from: Director of Awards, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario.

Ontario Graduate Fellowships

The Government of the Province of Ontario provides annually a number of postgraduate awards known as "The Ontario Graduate Fellowships," tenable at Ontario universities only, for students who plan a career in university and college teaching.

The awards are open only to graduates of, or final year students in, an Honors Bachelor of Arts or Bachelor of Science degree program from an Ontario University, or the equivalent, with at least second class honor standing. Special students, non-degree students and students engaged in Prerequisite year or make-up studies are not eligible. A student must have applied for admission to a department as a full-time student at the time he completes his Fellowship application, or be registered in the Faculty of Graduate Studies.

The awards are intended primarily for students who are Canadian citizens or landed immigrants and who are residents of Ontario at the time of application. Application for landed immigrant status must have been made before submitting an Ontario Graduate Fellowship application, and no award will be offered until a certificate showing landed immigrant status is received in the Office of the Faculty of Graduate Studies. Consideration will be given to awarding a limited number of Fellowships to students not now residents of Ontario. All applicants must give a clear indication that they have a serious interest in pursuing careers in university or college teaching in Ontario upon completion of their graduate studies. Students studying in Canada on student visas are not eligible under this program.

GRADUATE

For 1972-73, Fellowships are available at the University of Western Ontario in the following departments:

Arts and Social Science

Classics
Economics
English
French
Geography
German
History
Library Science
Music (MA only)
Nursing Education
Philosophy
Political Science
Psychology
Sociology
Spanish

Science and Mathematics

Anatomy
Applied Mathematics
Astronomy
Bacteriology
Biochemistry
Biophysics
Chemistry
Computer Science
Engineeeing Science
Geology
Geophysics
Mathematics
Pathological Chemistry
Pharmacology
Physics
Physiology
Plant Sciences (Botany)
Zoology

A Fellow will receive the amount of $1,500 for one "academic year" (which in this case means September to April). A third term Supplement ($750) may be awarded for full time study during the Spring term provided it is study towards the degree for which the academic Fellowship is held or an advanced degree beyond that level. A Spring term Supplement may not be held independently, but must be attached to a two-term Academic Award. The maximum amount a student may receive through the Ontario Graduate Fellowship Program is $3,000 to the Master's degree level and $7,750 to the Doctor of Philosophy degree level. Partial awards will not be made; if a new award would bring the total assistance to a level above the limit, no award will be made.

A Fellow must be registered as a full-time graduate student during the tenure of his award. A Fellow may not hold two major awards. He may accept a part-time assistantship or demonstratorship that does not interfere with the Fellow's status as a full-time graduate student and provided the total amount paid to any Fellow within a period of twelve months concurrent with the holding of the Fellowship shall not exceed, including the Ontario Graduate Fellowship: $4,500 at the Master's level, and $5,000 at the Doctor of Philosophy level.

Application forms for Ontario Graduate Fellowships are available from the Office of the Faculty of Graduate Studies. For 1972-73 applications will be available in December, 1971, and must be received in the above Office by February 15, 1972. Late applications will not be accepted.

THE QUEEN ELIZABETH II ONTARIO SCHOLARSHIPS

The Government of the Province of Ontario makes available a number of scholarships valued at $5,000 each to candidates nearing the completion of the Ph. D degree in the humanities, social sciences and mathematics at Ontario universities. Preference will be given to candidates who are residents of Ontario.

Applications are available at the office of the Faculty of Graduate Studies and are submitted to the Dean of the Faculty of Graduate Studies before December 1.

THE SIR JOHN A. MACDONALD GRADUATE FELLOWSHIP IN CANADIAN HISTORY

The Government of the Province of Ontario makes available each year one Fellowship of $4,000. The award is tenable for two years, making the maximum value of each award $8,000. This Fellowship is tenable at an Ontario university by a Canadian citizen resident Ontario, for graduate studies with a major emphasis on Canadian history.

Application forms (available at the Faculty of Graduate Studies) must be submitted to the Secretary, Committee of Selection, Sir John A. Macdonald Graduate Fellowship in Canadian History, Department of University Affairs, Suite 700, 481 University Avenue, Toronto 2, before January 29.

Outside Agencies

BELL CANADA CENTENNIAL FELLOWSHIPS

The Bell Telephone Company of Canada offers up to eight graduate fellowships of $5,000 ($3,500 to the Fellow, and $1,500 to the University) to candidates who are proceeding towards a Master's degree. Preference will be given to subject areas relevant to the scientific, political, social or economic needs of Canada. Candidates must be Canadian citizens or have held landed immigrant status for one year prior to submitting application, and must be graduates of a university or college with standards accepted by the Association of Universities and Colleges of Canada. Fellowships are tenable at any Canadian university or college which is a member, or affiliated to a member, of the A. U. C. C.

Application forms may be obtained from the Director of Student Awards, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario. Final date for receipt of applications March 1.

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN FELLOWSHIPS

Margaret McWilliams Travelling Fellowship	$3,500
Professional Fellowship	$2,500

(Library Science, Social Work, Education or similar professional School.)

Further information may be obtained from: Miss Christine Irvine, Dean of Women, Shirreff Hall, Dalhousie University, Halifax, Nova Scotia. Applications must be submitted before February 1.

CHEMCELL LIMITED FELLOWSHIPS

Six awards are made annually to Canadian residents who are graduates of recognized Canadian universities. The awards are valued at $3,500 ($2,500 to the Fellow and $1,000 to the relevant department) and are for graduate study in Chemistry, Engineering, Physics, or Mathematics.

Application forms from the Director of Awards, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario, must be returned by March 1.

CHEVRON STANDARD LIMITED GRADUATE FELLOWSHIP

Chevron Standard Limited offers annually five graduate fellowships which are tenable in selected Canadian universities to students proceeding to a graduate degree in one of the fields of Geology, Geophysics or Petroleum Engineering. The fellowships are tenable for one year in the amount of $1,000 each, plus a grant of $500 to the university department concerned. The awards are primarily intended to assist male Canadian students showing an interest in Earth Science related to oil exploration and to students who are interested in petroleum development and production. Application forms which list the universities in which the fellowships are tenable may be obtained from the Student Awards Officer, the department head, or by writing directly to the Secretary, Aids to Education Committee, Chevron Standard Limited, 400 Fifth Avenue S.W., Calgary 1, Alberta, and must be submitted prior to March 31 of the year in which the graduate program is to be undertaken.

GULF OIL CANADA LIMITED GRADUATE FELLOWSHIPS

Nine awards, valued at $4,500 ($3,500 to be paid to the successful candidate and $1,000 to the receiving university) will be made each year to candidates in engineering, chemistry, physics, mathematics and computer sciences, geology, geophysics and any related sciences, business and management studies and ecologically-oriented studies, who are Canadian citizens or who have held landed immigrant status for one year prior to submitting the application. Candidates must be graduates of a Canadian university or college which is a member, or affiliated to a member, of the Association of Universities and Colleges of Canada.

Fellowships are tenable at any of the above universities. Closing date for receipt of applications is March 1. Application forms may be obtained from: Director of Awards, Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario.

IMPERIAL OIL FELLOWSHIPS

Imperial Oil Limited in 1946 established for annual competition Graduate Research Fellowships, now five in number and having a potential value of $9,000 ($3,000 a year for a maximum of three years). No restriction is placed on the amount of similar assistance held concurrently. Successful applicants may attend any approved university.

The fellowships are open to graduates of any approved Canadian university and are offered for research leading to a Doctor's degree in the fields of pure and applied natural and/or exact sciences, including mathematics (3 fellowships) and social sciences and humanities (2 fellowships.) Nominations for the fellowships are made by Canadian universities, such nominations to be received by the Secretary, Committee on Higher Education, Imperial Oil Limited, 111 St. Clair Avenue West, Toronto 7, not later than February 1 of each year.

THE INTERNATIONAL NICKEL GRADUATE RESEARCH FELLOWSHIPS

The International Nickel Company of Canada has established a number of graduate research fellowships in engineering and science for annual competition of Canadian universities. Each award has a possible tenure of three years, and is valued at $4,500 annually of which $3,800 is payable to the Fellow and $700 to the department for materials and equipment to support the research.

The Fellowships are open to students who are proceeding to either the Master's or Doctor's degree and whose research will be concerned with basic science intrinsically related to the following specializations: Chemistry or Physics of Metals or Minerals, Geology (including Geophysics and Geochemistry), Metallurgy (both Physical and Extractive), Mineral Processing, and Mining.

Applications are made in letter form by the Candidate's supervising professor to The Administrator of Educational Affairs, The International Nickel Company of Canada, Limited, P.O. Box 44, Toronto-Dominion Centre, Toronto 111, Ontario, prior to January 15. Not more than one application (either new or renewal) will be considered annually from any one department, and not more than three Fellowships will be tenable annually at any one university.

SHASTRI INDO-CANADIAN FELLOWSHIPS

Pre-doctoral fellowships for research in India are offered in the humanities and social sciences to Students who are registered in the Ph.D. programs of recognized Canadian institutions of higher learning. These fellowships will normally be for a period of twelve months with a possibility of extension for a period not exceeding twelve months. Maximum amount of each fellowship will be the Rupee equivalent of $6,000 for a twelve month period. A fellowship can be used only in India. Dollar expenses must therefore be obtained by a fellow from other sources. The deadline for applications is October 1.

Apply to: President, Shastri Indo-Canadian Institute, McGill University, 3437 Peel Street, Montreal 2, P.Q.

SHELL CANADA FELLOWSHIPS IN ENGINEERING

Shell Canada offers a number of fellowships for postgraduate study in the following Engineering fields: Chemical, Civil, Electrical, Geological, Mechanical, Metallurgical, Mining and Petroleum Engineering, and Engineering Physics. Each fellowship is valued at $5,000 annually ($4,000 for the student and $1,000 grant in aid to the University), with an additional $500 to married students, and is tenable for up to three years at any Canadian University with a recognized graduate faculty and engineering research facilities. Candidates must be Canadian citizens or landed immigrants, and have completed at least one year of graduate study and research leading to a doctorate in Canada.

Applications from the Dean of Graduate Studies must be submitted not later than January 15 to: The Selection Committee, Shell Canada Fellowships in Engineering, c/o National Research Council, Ottawa, Ontario.

THE STEEL COMPANY OF CANADA LIMITED GRADUATE RESEARCH FELLOWSHIPS IN METALLURGY

Four fellowships, each of the value of $5,000, of which $4,000 will be awarded to the successful candidate and $1,000 to the department of the University in which research will be carried out. Renewal is possible, but the award may not be held for more than three years. Candidates must be Canadian citizens or have held landed immigrant status for one year prior to submitting application. Candidates must be graduates of a Canadian University or College which is a member or affiliate to a member of the Association of Universities and Colleges of Canada. Fellowships are tenable at Canadian universities that have a qualifying course in Metallurgical Research.

WOODROW WILSON DISSERTATION FELLOWSHIPS

Graduate students working towards a Ph.D. in the humanities or social sciences who expect to complete the dissertation no later than four calendar years after beginning post baccalaureate study, are eligible for nomination for a Woodrow Wilson Dissertation Fellowship. They must have fulfilled all predissertation requirements before the award can begin.

The stipend is $225 per month for up to 15 months. Fees and tuition will be paid by the Graduate School.

Application forms are available from the graduate dean. The dean must nominate each candidate by signing the completed application form before it is sent to the Foundation. Deadlines for receipt of Application forms is January 15.

Further Information

Information on extra-mural awards, fellowships and scholarships for master's and doctoral candidates, researchers, and post-doctoral students is available at the Office of the Faculty of Graduate Studies, and is published in the UWO News and SOGS Bulletin. A reference library of material on graduate education and an extensive collection of graduate calendars may be used by students, as well.

Prospective graduate students should consult the biennial publication of the Dominion Bureau of Statistics, Education Division, Higher Education Section, entitled **Awards for Graduate Study and Research.** This contains information concerning all such awards, their terms, dates and method of application. Students should also consult the publication entitled: **Fellowships and Scholarships offered by Private Donors and Foreign Governments for Canadian Students,** obtainable from the Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4.

Most graduate awards require the applicant to provide assurance that, if successful, he will be accepted by the university. Candidates should obtain such assurance by direct communication with the Chairman of the Department in which they wish to work.

Ontario Student Awards

These awards, which are a combination of Canada Student Loan and Province of Ontario Grant, are available to all full-time students registered at the university who are residents of Ontario, providing they can demonstrate financial need. There is no "academic average" requirement. Application forms, which are obtainable at all post secondary institutions, should be completed in duplicate and sent to the Financial Aid Office, The University of Western Ontario. Completion of this form automatically secures consideration for the majority of awards administered by the University. Further information may be obtained from the Financial Aid Office, Thames Hall, The University of Western Ontario, London, Canada.

Research Facilities

Cancer Research Laboratory

J.A. McCarter, Ph.D., Director

The Cancer Research Laboratory was established by a grant from the Ontario Division of the Canadian Cancer Society, and is maintained chiefly by annual grants from the National Cancer Institute of Canada. It is housed in its own building on the main university campus. Activities are centred on a variety of problems in basic cancer research. Senior members of the Laboratory hold joint appointments in appropriate departments of the Faculty of Medicine, and participate in the teaching of undergraduate and graduate students.

Graduate students may proceed to M.Sc. and Ph.D. degrees in the Laboratory receiving their advanced degree in whatever discipline their supervisor has his joint University appointment. These include at the present time Bacteriology and Immunology, and Biochemistry.

Centre for Radio Science

P.A. Forsyth, Ph.D., Director

The University of Western Ontario has developed a particular competence in the scientific aspects of the generation, propagation and detection of radio waves. The Centre for Radio Science is not an instructional unit in the University, but does provide facilities for graduate research in many areas of radio science. In order to make use of these facilities a graduate student must be registered in an appropriate Department or Faculty of the University and be supervised by a member or associate member of the Centre. The graduate courses and the student's degree program are administered by the Department or Faculty in which he is registered. Courses appropriate to graduate work in Radio Science are given in a number of departments in the Faculty of Science and in the Faculty of Engineering Science at The University of Western Ontario.

Facilities are now available for a variety of researches, including the generation and detection of radio waves ranging down to submillimeter wavelengths, laser spectroscopy, scattering and absorption of laser radiation in the infrared and optical regions by atmospheric gases and aerosols with applications to air pollution. Quantum electronics, quasi-optical techniques interaction of radio waves with solids, gases, plasmas and beams of charged particles, the exploration of all levels of the earth's atmosphere, the sun's atmosphere and the inter-planetary medium, using groundbased, rocket-borne and satellite-borne instruments.

Co-operative research arrangements exist with several universities in Ontario.

Inter-American Studies Group

N.L. Nicholson, Ph.D., Chairman

J.C.M. Ogelsby, Ph.D., Secretary

This group is a unit within the Faculty of Graduate Studies and is responsible to the Dean of Graduate Studies. Its purpose is to encourage and facilitate a cross-disciplinary and sometimes a cross-faculty approach to inter-American studies in close co-operation with existing faculties and departments. It does so by such means as promoting closer liaison between departments and faculties, assisting in building up the resources of the library and in general by any other method approved from time to time by the Graduate Dean and Faculty.

Canadian-American Studies — The University of Western Ontario has long been concerned with Canadian-American studies. It began offering a course in United States history, the first in Canada, in 1909; and it has given special attention to and emphasized work on North American (United States and Canadian) literature, including French-Canadian literature, since 1934. Its Department of Geography is particularly concerned with regional studies of the Great Lakes area in international terms; and its Departments of Economics, Political Science, and Sociology have a strong North American orientation.

Latin American Studies — Since 1936 the University has extended the scope of its interest in Canadian-American affairs to include Latin America, whose history has been taught since 1942 and whose literature has been taught since the late 1940's. Specialists in Latin America have been appointed in Geography, History, Political Science, and Sociology, and the Department of Economics has begun offering work on developing countries including Latin America. The Department of Spanish and Italian offers courses in the Spanish and Portuguese languages and Latin American Literature. It is now possible for a student interested in Latin America to do graduate work in a specific discipline and to include course work from other departments.

Further information concerning programs in the Inter-American field may be obtained from the Chairman or the Secretary of the Group.

Inter-University Consortium for Political Research

T.G. Harvey, I.C.P.R. Official Representative

The University of Western Ontario is an Associate Member of the Inter-University Consortium for Political Research (I.C.P.R.). According to the I.C.P.R. "Memorandum of Organization", the I.C.P.R. ". . . is conceived as a partnership between a group of universities . . . and the Survey Research Center of the University of Michigan . . . The purpose of the Consortium is to promote the conduct of research on selected phases of the political process. It is expected that both partners will contribute to the success of the Consortium and that each will benefit from the association." In order to realize its aims, the I.C.P.R. offers summer seminars in research design, data analysis, mathematical politics, and special selected topics of general interest, serves as a repository for a wide variety of data, and provides technical services. Seminars, data, and technical services are available at little or no charge to faculty and students of member universities.

Those interested in further information on the I.C.P.R. should contact either their representative on the Committee or the I.C.P.R. Official Representative.

Urban and Regional Development Studies

E.A. Beecroft, Ph.D., Director

The University provides facilities for interdisciplinary research by its faculty and students in the field of urban and regional development. Through the Urban and Regional Development Studies Group, a unit of the Faculty of Graduate Studies, it enables the student seeking a Master's or Doctor's degree to undertake a program of courses and research projects in a number of departments and/or faculties. While each student is expected to take his degree in his basic discipline, arrangements are made, with the approval of the academic units concerned, for a program that includes work in other disciplines. The interests and proposals of each student are considered in defining his program.

Such interdisciplinary programs are intended for students desiring to prepare for research, teaching, administration or planning in the field of urban and regional development.

A number of students already engaged in such programs at the University are receiving assistantships and fellowships from the University and from the Canada Council, Central Mortgage and Housing Corporation, and other sources.

For further information, the student should write to the Director, Urban and Regional Development Studies.

Academic Rights of Students

Under the constitution of the Faculty of Graduate Studies, a graduate student has the right to make an appeal concerning admissions, examinations, supervisors, theses, and other matters. He should inquire at the office of the Faculty of Graduate Studies as to the proper procedure to follow.

Office of International Education

The Office of International Education was established by the Senate in December, 1968, to facilitate the involvement of faculty, students, and the London community in international development and cross-cultural programs.

More specifically, the Office provides assistance to students who are engaged in development or cross-cultural projects as well as providing information on travel and study programs abroad.

The Office has developed a Cross-Cultural Learner Centre which is located at Westminster College. The Centre contains an extensive collection of films, slides, tapes, books and periodicals related to Africa. A unique feature of the Centre is the computer information retrieval system which enables the user to locate specific information related to his topic. This facility is available for use by anyone interested.

SUMMARY OF REGISTRATION—1971-72

Arts	249
Biosciences	351
Physical Sciences	374
Social Sciences	996
	1970

DEGREES CONFERRED—1971

PhD	97
MA	195
MBA	188
MEng	24
MESc	15
MLS	168
MSc	69
MScN	8
MCISc	1
	765

SOGS

The Society of Graduate Students is the recognized organization for all full-time graduate students, excluding those in the MBA programs. The Society's aims are to give graduate students a recognized organization to voice their opinions and to promote friendship and co-operation among members, and these aims are fulfilled through meetings, athletic, cultural and social activities, "Happy Hour" (SOGS Pub), publications and a host of other varies activities. These services are provided in collaboration with the University Students Council.

SOGS has representatives or channels of communication in almost all areas of the University including representatives to the University Senate and to the Council of the Faculty of Graduate Studies and is able to ensure that the interests of graduate students are protected. The Society is governed by a Council consisting of the Executive Officers and elected representatives from all departments. The SOGS President is elected by a campus-wide ballot of graduate students in March of each year, other officers are elected by Council from the total membership.

Academic Prizes

Detwiler Award

This award is recommended by the Department of Zoology to be awarded annually at Fall Convocation to the most meritorious graduate student obtaining a Ph. D. or M.Sc. in Zoology during the year based on the merit of the candidate's thesis and final oral examination.

The award may not be made in any one year on the decision of the judges.

Collip Medal for Graduate Students

A medal to be awarded at Spring Convocation to the most meritorious graduate student obtaining a Ph. D. degree in the Medical Sciences during the past year.

The award shall be made on the merit of the candidate's thesis, final oral examination and ability shown during his graduate training.

The award may not be made in any one year on the decision of the judges.

DEPARTMENT and GRADUATE DEGREE PROGRAMS

Introduction

The courses of instruction available in the various Departments, Divisions, Schools, and Faculties are given on the following pages. Not all courses are offered every year and their content may, at the discretion of the instructor, be modified for certain individuals. For additional details and preliminary enquiries about graduate work, students are urged to communicate with the Department concerned.

The Council of the Faculty of Graduate Studies reserves the right to withdraw any course or subject listed in this calendar.

The courses of study listed in this calendar are subject to the restrictions of timetable.

Anaesthesia

Professor

Spoerel, W.E., MD Frankfort-on-Main. Head of Dept.

Associate Professor

Webster, A.C., BSc., MB, ChB Leeds

Clinical Associate Professors

Aitken, R.R., MD UWO

Keeri-Szanto, M., MD Budapest

Assistant Professor

Sellery, G.R., MD Toronto

Graduates in Medicine who have served one year of rotating internship in an approved hospital may apply for a three year course of training in Anaesthesia in a plan using the facilities of Victoria, St. Joseph's and Westminster Hospitals and of the Faculty of Medicine. This training is fully approved by The Royal College of Physicians and Surgeons of Canada.

A fourth year of postgraduate training is required for Certification and Fellowship in the Royal College of Physicians and Surgeons of Canada. This additional year may be spent in full-time research in Anaesthesia or in one of the Basic Science Departments. Such training is designed for those wishing to qualify for the degree of Master of Clinical Science (MClSc).

The main research interests of the Department are the development and evaluation of techniques of clinical anaesthesia, the study of problems in the care for critically ill patients, the treatment of respiratory failure, the evaluation and improvement of resuscitation techniques and the management of pain problems.

Anatomy

Professors

Barr, M.L., SM UWO; BA, MSc, MD; Hon. LLD Queen's, Toronto, Alberta and Dalhousie; Dr. Med h c Basel; FRSC

Buck, R.C., MD, MSc, PhD London. Chairman of Department

Associate Professors

Gwinnett, A.J., BDS Birmingham; PhD Bristol

Gwyn, D.G., MB, BS London; PhD Birmingham

Montemurro, D.G., BA, MSc, PhD UWO

Wilson, A.S., MB, ChB, MD Glasgow

Associate Professor of Human Genetics

Soltan, H.C., BA, PhD Toronto

Assistant Professors

Altmann, G.G., BSc Dalhousie; MSc, PhD McGill

Donisch, E.W.K.F., MD Bonn; MSc UWO

Flumerfelt, B.A., BSc, Sir George Williams, MSc, McGill, PhD Cantab

Gammal, E.B., MD, BCH Cairo; PhD UWO

Sergovich, F. R., BA McMaster; PhD UWO

Shaver, Evelyn L., BSc, MSc, PhD UWO

Singh, R.P., BA, MSc, PhD UWO

Todd, Mary E., BA, MSc, British Columbia PhD Glasgow

Honorary Lecturers

Robinow, C.F., MD Hamburg; FRSC. Professor of Bacteriology and Immunology

Walden, D.B., BA Wesleyan; MSc, PhD Cornell. Associate Professor of Botany.

The Department of Anatomy accepts qualified degrees of MSc and PhD, as well as those not proceeding to a degree. Applicants for admission may have a background in either the Biological or Medical Sciences.

For advanced training of the professional anatomist the Department offers excellent facilities in the various branches of anatomicall science. The current research interests of members of the Department include the following: histology, cytology, cytogenetics, neuroanatomy, reproductive biology, electron microscopy, tissue culture, cancer research, and certain aspects of gross anatomy. Graduate students may carry out their research projects in one of these fields.

Some medical graduates spend a year or more of their Fellowship training period on a research project in the Department, proceeding, if they wish, to the MSc degree. Other medical graduates, seeking an opportunity for intensive review of gross anatomy as part of their training in surgery, study in the Department, and act as demonstrators.

While the emphasis in the graduate program is on research, students proceeding to a degree are required to take courses selected with the advice of the supervisor and the Chairman of the Department. This part of the program is designed to provide a sound knowledge of various branches of anatomy, together with some insight into ancillary sciences. Students taking the PhD will be expected to take a departmental comprehensive examination before the end of their second year in two branches of anatomical science, i.e. two of: Gross Anatomy, Histology and Cytology, Neuroanatomy, Developmental Anatomy, Cytogenetics.

Applications for admission should, in the first instance, be made to the Chairman of the Department. A brochure describing the research activity of the Department will be sent on request.

COURSES

500. Histology
510. Current Topics in Anatomy
530. Medical Genetics
531. Medical Histology
532. Neurological Science (Medical)
533. Medical Neuroanatomy
534. Medical Gross Anatomy and Embryology
535. Dental Gross Anatomy and Embryology
536. Dental and Oral Histology
560. Gross Anatomy, Regional and Systemic
561. Systemic Gross Anatomy
562. Cytogenetics
563. Embryology
564. Neuroanatomy
590. M.Sc. Thesis
661. Cell Structure
690. Ph.D. Thesis

Applied Mathematics

Professors

Blackwell, J.H., BSc Melbourne; M, MSc, PhD UWO Head of Department

Dennis, S.C.R., ARCS, DIC, BSc, PhD London

Ehrman, J.B., AB Pennsylvania; AM, PhD Princeton.

Fraser, P.A., BSc UWO, MS Wisconsin, PhD UWO

Naylor, D., BSc, PhD London.

Sakmar, I.A., MSc Instanbul; PhD California, Berkeley.

Talman, J.D., BA MSc UWO; PhD Princeton.

Associate Professors

Deakin, A.S., BSc Carleton; MA, PhD Toronto.

Luke, T.M., BSc Queen's; MSc, PhD McGill.

MacNeill, I.B., BA Saskatchewan; MA Queen's PhD Stanford.

Manuel, P.W., BSc, MSc, PhD UWO.

Nerenberg, M.A.H., BSc, PhD McGill.

Assistant Professors

Clements, D.L., BSc, MSc Canterbury; PhD Melbourne.

Migneron, J.H.R., BA Montreal; BSc Ottawa; MSc Cornell; PhD London.

Sullivan, P.J., BASc, MASc Waterloo; PhD Cantab. Joint appointment with the Faculty of Engineering Science.

Zamir, M., C. Eng., AFRAeS, BSc, PhD London.

Visiting Professor

Bessis, J.D., Doctorat es science Sorbonne. Directeur de Recherche, Centre d'Etudes Nucleaires, Saclay. Joint appointment with the Department of Physics.

The Department of Applied Mathematics offers programs leading to the MSc and PhD degrees. Current research interests of the faculty include:

Continuum Mechanics: Fluid Dynamics (boundary layer theory, potential flow problems, numerical solutions of the Navier-Stokes equations, applications of tensor analysis to the equations of fluid dynamics, heavy vortex rings, turbulent dispersion, magnetohydrodynamics, dusty gases); Solid Mechanics (linear isotropic and anisotropic elasticity problems); Heat Flow and Diffusion Theory (boundary-value problems).

Theoretical Physics: Atomic and Molecular Physics (low energy collisions, resonant states); High Energy Physics (strong interactions, Regge theory, Veneziano model); Many Body Systems; Nuclear Structure (applications of group theoretic and other methods to nuclear structure calculations); Plasma Physics and Relativistic Electron Flow; Solid State Physics (ionic spectra in crystals).

Mathematical Methods: Asymptotic expansions and matching techniques; Eigenfunction expansions in singular non-self adjoint boundary value problems; Asymptotic solutions in wave propagation; Solutions of non-linear dispersive partial differential equations;

Time series analysis and other topics in applied probability theory, Applications of statistical techniques to marine biology.

DEPARTMENTAL REGULATIONS

In addition to the general degree requirements listed earlier in this Announcement the Department requires the following:

MSc Degree

(1) Before being allowed to register, any candidate may be required to write the Graduate Record Examinations.

(2) A candidate having an Honors Bachelor's Degree or equivalent, and who is judged to have a sufficient background in applied mathematics, shall complete the requirements for the Degree of MSc in one of two ways. Either he shall complete satisfactorily a minimum of two courses at the graduate level and prepare a thesis under the direction of a member of the faculty, or he shall complete four courses, of which at least two shall be at the graduate level, and prepare and present a review paper under the direction of one of the members of the Department.

(3) A candidate not satisfying the conditions of (2) shall first be required to enroll in a prerequisite year, during which he must complete satisfactorily a minimum of five undergraduate honors courses.

(4) A candidate for the Degree of M.Sc. will be required to demonstrate ability in computer programming. Short courses leading to proficiency in this subject are offered from time to time.

PhD DEGREE

(1) An applicant for the PhD Degree will ordinarily be expected to hold an MSc Degree or else register for it first. In any case, the Department may require any accepted candidate to enroll first in the MSc program.

(2) Shortly after enrolling in a PhD program, ordinarily within one month, a PhD candidate will normally be required to pass a preliminary examination dealing in a general way with Applied Mathematics. The purpose of this examination is diagnostic, and any weaknesses in background detected at this examination can normally be overcome by completion of particular courses.

(3) A candidate for the Degree of PhD must complete satisfactorily at least three courses at the graduate level, in addition to the requirements for the MSc Degree listed above, and prepare a thesis under the direction of a member of the Department.

(4) Each candidate shall prepare and present at least one paper at a graduate seminar, on a subject to be approved by his supervisor.

(5) After submission of his thesis, each candidate will be required to undertake an oral examination within the Department; this examination will be primarily concerned with the contents of the thesis but may include questions of a general nature relating to his field of specialization.

COURSES

The following is a selection of courses offered from time to time within the Department. The selection offered depends upon the interests of the graduate students enrolled at that time. Course programs are arranged in consultation with the student's supervising committee.

500. Methods of Applied Mathematics.
506. Partial Differential Equations.
510. Special Topics in Continuum Mechanics.
511. Magnetohydrodynamics.
512. Special Topics in Fluid Dynamics.
515. Turbulence.
521. Relativity Theory.
522. Plasma Physics.
530. Special Topics in Theoretical Physics.
531. Nuclear Physics.
532. The Physics of Elementary Particles.
552. Fluid Dynamics.
553. Solid Mechanics.
554. Quantum Mechanics.
556. Non-linear Mechanics.
560. Numerical Methods.
570. Mathematical Methods for Engineers.
588. Biomathematics 11.
589. Biomathematics 1.
590. MSc Thesis.
591. MSc Review Paper.
690. PhD Thesis.

Note: At the discretion of the candidate's supervising committee, certain graduate courses in other Departments may be accepted as equivalent to Applied Mathematics courses.

Astronomy

Professor

Wehlau, W.H., AB, PhD California, Berkeley. Head of Department

Associate Professors

Gray, D.F., BSc Wisconsin; MSc, PhD Michigan

Marlborough, J.M., BA, MA Toronto; PhD Chicago

Assistant Professors

Landstreet, J.D., BA Reed College; MA, PhD Columbia

Mitalas, R., BA, MA; Toronto; PhD Cornell

Moorhead, J.M., BSc California Institute of Technology; MA California, Los Angeles

Wehlau, Amelia W., AB, PhD California, Berkeley.

Honorary Lecturer

Manuel, P.W., BSc, MSc, PhD UWO. Associate Professor of Applied Mathematics.

The primary fields of interest in the Department are in astrophysics, particularly spectroscopy, photometry, variable stars, stellar atmospheres, radiation transfer, stellar magnetism, stellar evolution, optical instrumentation. Studies in solar magnetohydrodynamics, and observational radio astronomy are conducted in co-operation with the Departments of Applied Mathematics and Physics. Facilities include a 48-inch Ritchey-Chretien telescope equipped with Cassegrain and coude spectrographs, photo-electric photometers and a Cassegrain correcting system for direct photography. On the campus, additional facilities are provided in the Hume Cronyn Memorial Observatory.

Any student intending to do graduate work in astronomy should have adequate undergraduate preparation in Astronomy, Physics or Mathematics. Students who have not completed Astronomy 320 (Astrophysics 1) and Astronomy 420 (Astrophysics 11) or their equivalent will be required to take Astronomy 541 in their first year in residence. The Department may require a student to elect any other courses it deems necessary for graduate study preparations.

Students are expected to obtain practical experience in Astronomy if they do not already have it. This may be satisfied by one summer in residence at the observatory or by equivalent experience.

MSc REQUIREMENTS

MSc candidates will plan their program of study in consultation with, and subject to, the approval of Departmental advisors. There is no foreign language requirement. The student must pass a comprehensive examination in astronomy. In addition the student must complete one of the following programs. The choice of program is subject to the approval of the Departmental advisors.

Program One—a) Complete a minimum of two graduate astronomy courses other than Astronomy 541.b) Complete a thesis based on original astronomical research.

Program Two—a) Complete a minimum of three courses, including two graduate astronomy courses other than Astronomy 541. b) Complete a comprehensive review paper on an astronomical topic.

Program Three—a) Complete a minimum of four courses, including two graduate astronomy courses other than Astronomy 541. b) This program is normally restricted to students who have had substantial experience in astronomical research.

Ph.D. REQUIREMENTS

PhD applicants must have fulfilled the requirements for the MSc: An advisory committee will guide the student in his studies and research. The student must pass a comprehensive examination in astronomy and take such courses as the advisory committee may require. The student must demonstrate a reading knowledge of a foreign language, normally selected from French, German, and Russian. Thesis regulations are stated elsewhere in this Announcement.

COURSES

Courses numbered 500-519 are offered starting in even years, those from 520-539 starting in odd years.

501. Steallar Atmospheres.
503. Galactic Structure.
*__505. Variable Stars.__
*__506. Galaxies.__
521. Stellar Interiors.
*__523. Gaseous Nubulae and Interstellar Matter.__
*__524. Photometry.__
*__525. Spectroscopy.__
*__526. Stellar Positions and Motions.__
*__540. Astrophysical Laboratory.__
541. Advanced General Astronomy.
569. Research Review.
570. Topics in Astronomy (The Topics Considered will vary from year to year).
590. MSc Thesis.
690. PhD Theses.

Bacteriology & Immunology

Professors

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

Murray, R.G.E., BA, MA Cantab; MDCM McGill; FRSC. Head of Department

Robinow, C.F., MD Hamburg FRSC

Clinical Professor

Hatch, L.A., MBBS London

Associate Professors

Ebisuzaki, K., BSc UWO; MS, PhD Wisconsin

Medzon, E.L., BSc, MSc Manitoba; PhD McGill

Robinson, J., BSA British Columbia; MSc, PhD McGill

Zajic, J.E., BA Kansas, MS Wisconsin; PhD California; JD Oklahoma. Professor of Engineering Science.

Clinical Associate Professor

Bakerspigel, A., BA MA McMaster; PhD UWO

Assistant Professors

Rozanis, J., MSc Hebrew University; PhD McGill

Sinclair, N.R., BSc, MD, PhD Dalhousie

Strejan, G.H., MS Bucharest; PhD Hebrew University

Wilkins, P.O.B., MS Hawaii; PhD Pennsylvania

Clinical Assistant Professor

Campsall, E.W.R., BA Queen's; MD, CM McGill

Honorary Lecturers

Chodirker, W.B., BSc (MED), MD Manitoba

Hannay, C.L., BSA Toronto; DIC, PhD London

Roslycky, E.B., BSc, MSc Manitoba; PhD Wisconsin

Toogood, J.H., MD Toronto

Courses are offered leading to the degree of MSc or PhD Prospective graduate students should have an Honors degree, or its equivalent (prefereably in Microbiology, Biology, Biochemistry or Physiology) or have an MD, a DDS or a DVM.

A program of research and directed reading is accompanied by courses offered by the Department or given in collaboration with Departments of the Faculty and may include tutorials and graduate seminars. Students registered in the Department for degree courses must attain the required level (B grades) in the departmental courses. Those taking a PhD will be required to pass a departmental comprehensive examination in the second year of their course.

The present research interests of the Department include: the structure of bacteria and fungi; the application of cytochemical and biochemical methods of the analysis of cell structure; the synthesis of protein cell components; endospores; macromolecular architecture of bacterial cell walls; taxonomy; toxin production, cell lysis and other physiological problems; bacterial metabolism; virus cell interactions; bacteriophage genetics; immunological and hypersensitivity problems; oral microbiology. Facilities for electron microscopy, electrophores, analytical ultracentrifugation and other instrumentation are in the Department.

Applicants with acceptable training in biochemistry may be considered for research problems in microbial biochemistry, which are supervised conjointly with the Department of Biochemistry. Opportunities for research in clinical microbiology (including bacteriology, mycology and virology) are offered with the resources of the teaching hospitals at hand. Opportunities in immunological research and training have been increased, and it is considered acceptable that candidates may specialize in either microbiology or immunology.

COURSES

500. Microbiology. A comparative study of the morphology, biology and relationships of algae, protozoa, fungi, bacteria and viruses. Given in collaboration with the Department of Botany.

530. Medical Microbiology. A course of lectures, seminars and laboratory exercises for medical students and others requiring a basic knowledge of medical microbiology and applied immunology. 3 to 14 hours each week according to the quarter of the year.

531. Oral and Dental Microbiology. A course of lectures, seminars and laboratory exercises for dental students and others requiring a similar background.

541, 542. Seminar. Seminar courses involving detailed consideration of selected topics in microbiology.

560. Advanced Microbiology. An advanced treatment of the biology and physiology of microbes with particular emphasis on the bacteria and their viruses.

561a. Microbial Anatomy. A survey of cytological methods and applications to the understanding of the structure of procaryotic organisms and fungi.

562b. Advanced Virology. Current topics of the biochemistry of virus-cell interactions.

565. Microbial Biochemistry. Topics involving the biochemical activities and processes of microbes.

567a. Microbial Genetics. Aspects of genetics applying to micro-organisms. (Given in collarboration with the Department of Botany).

568. Medical Bacteriology. A lecture course concerned with pathogenesis and exemplary problems in diagnostic and determinative medical bacteriology.

569b. Medical Mycology. A consideration of fungi pathogenic for man and animals.

570a. Immunology. An introductory lecture course concerned with immunological theory and interpretation of basic and medically applied immune phenomena (given in collaboration with the Department of Medicine).

571b. Immunobiology. An advanced course dealing with cellular mechanisms involved in the immune response, the ontogeny and phylogeny of the immune response, general concepts in immunopathology and immunological disease, and other topics of current interest. Prerequisite: Bacteriology and Immunology 570a or its equivalent.

572b. Immunochemistry. An advnaced course dealing with the chemical structure of and the interaction between antigens and antibodies in vitro and in vivo. Prerequisite: OBacteriology and Immunology 570a or its equivalent.

575, 576. Immunology Seminars. Seminar courses involving detailed consideration of selected topics in immunology.

590. MSSc Thesis
610. Comprehensive (PhD)
690. PhD Thesis

Biochemistry

Professors

Bigelow, C.C., BASc Toronto; MSc, PhD McMaster

Carroll, K.K., BSc, MSc New Brunswick; MA Toronto; PhD UWO

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

McCarter, J.A., BA, MA British Columbia; PhD Toronto; FRSC

McMurray, W.C., BSc, PhD UWO

Rossiter, R.J., BSc Western Australia; BA, MA, DPhil, BM, BCh, Dm Oxon; FRSC. Vice President (Academic) and Provost

Smith, D.B., BA, MA British Columbia; PhD Toronto

Stewart, H.B., MD, PhD Toronto; PhD Cantab. *Head of Department*

Strickland, K.P., BSc, MSc, PhD UWO

Associate Professors

Ball, Judith D., BSc Mount Allison; MSc, PhD Dalhousie

Heagy, F.C., MD MSc, PhD UWO

Magee, W.L., BSc, MSc, PhD UWO

Walker, I.G., BA Saskatchewan; MA, PhD Toronto

Webling, D.D'A., BSc, MB, BS, PhD Adelaide

Assistant Professors

Cook, R.A., BSc, MSc, PhD Manitoba

Donisch, Valentine, MD Bonn; PhD Manitoba

Galsworthy, P.R., BSc Queen's; PhD Wisconsin

Gatfield, P.D., MD Queen's

Gordon, B.A., MDCM, MSc, PhD Queen's

Guthrie, J.P., BSc, PhD Harvard

Haines, D.S.M., BA MD, PhD Toronto

McDonald, J.W.D., MD PhD UWO

Possmayer, F., BSc, Toronto; PhD UWO

Trevithick, J.R., BSc Queen's; PhD Wisconsin

Honorary Lecturers

Chefurka, W., BSc Manitoba; MSc Montana State; PhD Harvard

Hudson, A.J., BSc, MD Toronto

Krupka, R.M., MA Saskatchewan; PhD McGill

Spencer, E.Y., BSc, MSc Alberta; PhD Toronto

The minimum requirement for acceptance into courses leading to the degree of MSc or PhD is an MD or an Honors degree, or its equivalent, in Biochemistry, Biology, Chemistry, Microbiology or Physiology.

The research interests of the Department are in the following general fields: Chemistry, metabolism and biosynthesis of phosphatides, chemistry and metabolism of brain, biochemistry of developing brain, biochemistry of mental disease, biochemical genetics, biod chemistry of congenital abnormalities, fat metabolism, carbohydrate metabolism, metabolism of degenerating muscle, physical and chemical properties of proteins, allosteric control of enzymes and the chemistry of differentiation.

Applicants with acceptable training in Bacteriology may be considered for research problems in microbial biochemistry, which are supervised conjointly with the Department of Bacteriology and Immunology. In arrangement with the Department of Physiology, students may take Biochemistry and Physiology as a major subject.

In addition to the general systematic course, tutorials, directed reading and research, graduate seminar courses are provided.

Students who wish to obtain the Masters degree will normally take the equivalent of two full courses and candidates for the Doctoral degree will normally take the equivalent of three full courses in addition to research and thesis requirements. Consideration is given to course work previously completed. Students seeking the Doctoral degree are expected to complete successfully an oral examination on the general field of biochemistry during the period of registration for the advanced degree.

COURSES

500. General Biochemistry. A survey course.

513. Current Topics in Biochemistry. A course of variable content dealing with contemporary problems in biochemistry.

514. Topics in Lipids and Neurochemistry. A survey of the composition and metabolic processes of lipids with particular reference to nervous tissues. Prerequisites, Biochemistry 500, 530 or equivalent.

530. Medical Biochemistry. A survey course in biochemistry related to medicine.

560. Biochemistry. An advanced treatment of intermediary metabolism. Prerequisites, Biochemistry 500, 530 or equivalent.

561. Nucleic Acids and Protein Synthesis. A discussion of the role of nucleic acids in promotion and regulation of protein synthesis. Prerequisite: Biochemistry 500, 530 or equivalent.

564. Enzymology. A course of lectures dealing with kinetics, thermodynamic and mechanistic characteristics of enzyme action. Prerequisites: Biochemistry 500, 530 or equivalent.

568. Physical Biochemistry. A discussion of the physicochemical properties of macromolecules of biological interest. Prerequisite, an introductory course in physical chemistry and Biochemistry 500, 530 or equivalent.

590. MSc Thesis

690. PhD Thesis

NOTE: All courses are not offered every year.

Biophysics

Professor (Part-Time)

Burton, A.C., BSc London; MA, PhD Toronto; LLD Alberta; FRSC

Professor.

Roach, Margot R., BSc New Brunswick; MD, CM McGill; PhD UWO.
Chairman of Department

Associate Professors

Groom, A.C., BSc, PhD London

Inch, W.R., BSc Queen's; PhD UWO

Taylor, C.P.S., BA British Columbia; BA, MA Oxon; PhD Pennsylvania

Assistant Professors

Canham, P.B., BASc Toronto; MSc Waterloo; PhD UWO

Duncan, R.I., BS, MS, PhD Oklahoma

Sherebrin, M.H., BSc Manitoba; MSc, PhD Rochester

Sutherland, R.M., BSc Acadia; PhD Rochester

Honorary Lecturers

Johnson, L.N., BS Pacific; MS Oregon; PhD Michigan

Miller, D.M., BSc Alberta; PhD McGill

Nagai, T., M.Eng., MSc, DSc Tokyo

Graduates from physical or biological sciences or medicine are accepted for the degrees of MSc or PhD in Biophysics. Previous training in physics and mathematics is desirable. Graduate students are required to make up any deficiences in physics, mathematics and biology during their program.

The present research interests of the Department are in the following general fields: fundamental hemodynamics and hemorheology, the state and function of the blood vessel wall, contraction of neonatal blood vessels to oxygen, microcirculation and capillary exchange, micromanipulation of living cells, protoplasmic streaming, electrical activity of muscle, bioelectric intercell communication in culture, biophysics of muscular contraction, mechanochemistry of contractile systems, studies of excitable membranes by infra-red spectrophotometry, studies on hemoproteins by electron paramagnetic resonance, respiration and photosynthesis in algae and bacteria, effect of ionizing radiation and chemicals on growth of solid tumors, properties of cultured mammalian cells in relation to malignancy.

The department is well equipped to study the application of physical laws to the behaviour of biological materials, living cells and organisms.

COURSES

500. General Biophysics. A survey of the Physics of living things.

501. Biophysical Analysis. The application of mathematics and physics to the functional behavior of living things. Emphasis is on the application of mathematics and physics and is not merely on these as subjects. A knowledge of first year calculus is assumed.

511. Current topics in Biophysics A. A review of recent advances and major papers in Biophysics.

512. Current topics in Biophysics.B. Not offered in 1972-73.

560. Cellular Biophysics. The Physics of cell shape and size, membrane structure and function, the role of cell water, cells as chemical and mechanical machines, and as control systems, investigative tools and techniques.

561a. Bio-electrical phenomena. Bio-electric potentials, excitability and conduction, mechanism of biological transducers, and cybernetics.

562b. Radiobiology and Molecular Biophysics. Nature and effects of electromagnetic radiations on biomolecular structure and on living cells. Applied radiobiology and radioecology. (Given in collaboration with the Department of Botany).

563a. Environmental Biophysics. The physical environment of life. The effects, on living things, of enviromental factors such as temperature, solar radiation, pressure, gaseous atmosphere, water and solutes, gravity, sound and vibration, electric and magnetic fields.

564b. Bio-thermodynamics. The first and second laws of thermodynamics and their application in biology. Topics include open systems — properties of solutions, chemical and membrane equilibria, whole cells — radiation and photosynthesis, information and entropy, irreversible thermodynamics.

570 Advanced Studies in Biophysics I. A detailed study of selected topics in Biophysics arranged to meet the needs of the student; may be taken only by permission of the Chairman of the Department, who will appint the instructor, and an examining committee consisting of the instructor and at least one other member of faculty.

571. Advanced Studies in Biophysics II. Regulations as for 570. This course permits a student to take a second, and different course of directed study.

590. M.Sc. Thesis.

690. Ph.D. Thesis.

Business Administration

The objective of the Master of Business Administration program is to develop professionally qualified managers. The two years of the program are concerned with the analysis of business problems and decision-making in organizations. During the first year, all students are required to take an integrated set of courses in the areas of marketing, production, finance, control, administrative practices, quantitative analysis, and economics.

Through the classroom discussion of cases, emphasis is placed on the development of verbal communication skills. Emphasis is also placed on written communications through a business report program, and on the development of effective interpersonal relations through group projects and study sessions. In the second year, the equivalent of five full courses is required. Of these, Business Policy is mandatory; the balance being chosen by the student from among those offered in various fields. Most of the second year courses are half-year courses, allowing up to eight half-year options.

The case method of study is the major learning vehicle in both years of the MBA program. Lectures, simulation exercises, special projects, and a variety of other teaching-learning techniques are also used.

The Program requires a high degree of fluency in both written and verbal English, due to the method of study. Applicants who are not fluent in English will be required to take the Test of English as a Foreign Language (TOEFL). All applicants must write the Admission Test for Graduate Study in Business (ATGSB). Test applications are available for both tests from Educational Testing Service, 20 Nassau St., Princeton, New Jersey 08540.

For further information and application forms, write the Secretary of Admissions, School of Business Administration, London 72, Ontario, Canada.

The PhD PROGRAM IN BUSINESS ADMINISTRATION

The PhD Program in Business Administration at The University of Western Ontario was the first doctoral program in management offered in Canada. Its objective is to prepare those who are interested in pursuing an academic career in Business Administration.

It is a three year program. The first year with its emphasis on economics, quantitative analysis, behavioral science, and general management prepares the candidate for the general fields examination. The second year provides an opportunity to study in depth a special area like marketing, control, finance, production, organizational behavior or quantitative analysis. The third year is spent on the preparation of a thesis.

It is an objective of the program to admit a small number of students with superior qualifications and subject them to an intensive program based on a close relationship with faculty members.

The normal admission requirement to the program is an MBA degree or equivalent completed with high academic standing. Candidates are usually asked to come for a personal interview before final acceptance is granted. A standard requirement of every candidate is that he must write the Admission Test for Graduate Study in Business. Test applications must be filed with the Educational Testing Service, 20 Nassau Street, Princeton, New Jersey 08540, at least three weeks in advance of the test.

For further information, application forms and calendar write the Director, Doctoral Program, School of Business Administration, The University of Western Ontario, London 72, Ontario

Chemistry

Professors

Allnatt, A.R., BSc, PhD London

Arnold, D.R., BS Bethany; PhD Rochester. Member of the Photochemistry Unit

Bolton, J.R., BA, MA Saskatchewan; PhD Cantab. Member of the Photochemistry Unit

Brand, J.J.C.D., BSc, MSc, PhD, DSc London. Member of the Photochemistry Unit

Clark, H.C., BSc, MSc, PhD Auckland; PhD Cantab. Head of Dept.

Jacobs, P.W.M., BSc, MSc Natal; PhD, DSc London. Member of the Photochemistry Unit

King, J.F., BSc, PhD New Brunswick

de Mayo, P., BSc, MSc, PhD London; D. es-Sc Orsay; FRSC. Director, Photochemistry Unit.

Scott, A.E., BSc, PhD St. Andrews; Dean of Science

Stothers, J.B., BSc, MSc UWO; PhD McMaster

Ware, W.R., BA Reed College; PhD Rochester. Member of Photochemistry Unit

Warnhoff, E.W., AB Washington; PhD Wisconsin

Associate Professors

Baird, N.C., BSc, PhD McGill. Member of the Photochemistry Unit

Baldwin, H.W., BA, MA Saskatchewan; PhD Chicago; University Research Officer

Bancroft, G.M., BSc, MSc Manitoba, PhD Cantab

Bidinosti, D.R., BSc, MSc Manitoba; PhD McMaster

Chan, R.K.C., BA, PhD Toronto

Graham, D.M., BSc, MSc Manitoba; PhD Brooklyn Poly. Inst.

Haines, R.A., BSc, MSc Dalhousie, PhD Pittsburgh

Howell, W.C., BSc, MSc, PhD UWO; Assistant Dean of Science

Kidd, R.G., BSc, MSc Manitoba; PhD London; Assistant Dean of Graduate Studies

Lorimer, J.W., BA, MA, PhD Toronto

Meath, W.J., BSc Carleton; PhD Wisconsin

Sukava, A.J., BSc, MSc Manitoba; PhD McGill

Willis, C.J., MA, PhD Cantab

Assistant Professors

Dean, P.A.W., BSc, PhD Imperial College London

Demas, P.A.W., BSc Alexandria; PhD London

Guthrie, J.P., BSc UWO; PhD Harvard

Hunter, D.H., BSc Alberta; PhD UCLA

Payne, N.C., BSc London; PhD Sheffield

Warnhoff, P.R., AB Trinity, Washington; MSc, MIT; PhD Southern California

Honorary Professors

Burns, J.W., BASc New Brunswick; MSc Queen's; LLD UWO

Spencer, E.Y., MSc Alberta; PhD Toronto

Watson, J.K., BA, MA McMaster; MA, PhD Toronto, University Registrar

Honorary Lecturers

Robinson, J.R., BSA Toronto; PhD UWO

Starratt, A.N., BSc, PhD UWO

Stoessl, A., BSc, PhD London

REQUIREMENTS AND PROCEDURES FOR ADMISSION

The Department offers programs leading to the degrees of MSc or PhD: For admission as MSc candidates, students should normally have, or expect to receive, an Honors degree in Chemistry from an accredited University or equivalent qualification (e.g. Grad. RIC). However, students with high standing in General degree courses may be granted admission to a Prerequisite Year.

Admission as PhD candidates will be given to students having an MSc degree from an accredited University or high standing in an Honors BSc degree. Applicants without a Master's degree may be required to register initially as MSc candidates, with the possibility of transferring to a PhD program after one year of satisfactory work.

Students registering in this grad school for the first time must write proficiency examinations in the main areas of Chemistry. In some cases, substitution of an examination in another scientific discipline for one of these may be permitted. These are held in early September every year, and incoming students are normally expected to arrive in time to write them. Details of these examinations may be obtained on application to the Department.

RESEARCH INTERESTS OF THE DEPARTMENT

Physical: Mass spectrometry. High resolution electronic spectroscopy. Chemistry and physics of high pressures; electrolytic conductance, dielectric properties and dipole moments. Kinetics of free radical reactions. Phtochemistry — mechanisms, knetics and primary processes. Electron spin resonance spectroscopy. Electrical conductance and thermoelectric power of ionic crystals; color centres in alkali halide crystals; thermal and photomechanical decomposition of solids. Isothermal and non-isothermal transport of electrolytes and non-electrolytes in ion-selective membranes; light scattering in liquids and polymer solutions. Cathode overpotential, electrosorption of additives, and interfacial phenomena in electrosdeposition.

Theoretical: Equilibrium statistical mechanics of crystals and simple fluids; theoretical and experimental studies of matter transport in solids and liquids. Semi-empirical and non-empirical calculations of bonding, energies and geometries for molecules. Atomic and molecular quantum mechanics; intermolecular and intramolecular forces; perturbation theory.

Inorganic: The chemistry of complex ions, including tracer studies, magneto-chemistry, liquid ammonia solutions, spectral studies of metal chelates, stero-chemistry of optically active metal complexes and broadline NMR, studies of metal-ligand bonding. Organometallic chemistry, including synthetic, structural and spectroscopic studies on compounds of metals or metalloids containing metal—metal or metal hydrogen bonds, perfluoroalkyl groups of fluorinated alkoxy groups. Chemistry of highly acidic media. Single crystal X-ray structural studies of transition metal complexes. Determination of absolute configurations from the anomalous scattering of X-rays. Mossbauer spectroscopy.

Organic: Studies of the kinetics and mechanism of enzyme catalyzed reactions, and of enzyme model systems. Applications of ^{1}H and ^{13}C NMR techniques in structural, stereochemical and mechanistic studies. The preparation of complex heterocyclic compounds. The study of synthetic applications and mechanisms of reactions of sulphenes and other organo-sulfur compounds. Synthesis and mechanistic studies in photochemistry. The chemistry of carbanions. Conformational methods of elucidating reaction mechanisms. New reactions at high temperatures (flash thermolysis) and related mechanistic studies. The synthesis of natural products. Alkaloid chemistry.

COURSE WORK REQUIREMENTS

On the basis of past work and of the results of the proficiency examinations the candidate is advised about the courses in which he should enroll. Students with incomplete backgrounds will be required to take advanced undergraduate courses. Unsatisfactory examination results will require the student to withdraw.

The following outline provides a guide to the minimum requirements for graduate students in Chemistry:

MSc—2 graduate courses plus 558, 590
PhD—2 graduate courses plus 558, 690

Note: A graduate course is any Chemistry course at the 500 or 600 level, or a Chemistry course at the 400 level (final undergraduate year) outside the field of specialization, or a course at the 300 (third year) or higher level outside the Department. For MSc candidates at least one of the graduate courses must be a chemistry course at the 500 or 600 level and for PhD candidates at least two of the graduate courses must be at this level.

COURSES

The courses of instruction listed below are provided by the Department. All courses will not necessarily be offered every year, and the contents may be modified from time to time to suit the specialized needs of individual students.

Half Courses

*501. **Topics in Inorganic Chemistry I**/Staff
*504. **Group Theory**/D.M. Graham
*511. **Inorganic Problem Seminars** /Staff
*514. ***Microwave and Magnetic Resonance Spectroscopy***/J.R. Bolton
*521. **Electronic Spectroscopy of Transition Metal Compounds** /R.G. Kidd
*524. **Electrochemistry**/A.J. Sukava
*531. **Mossbauer Spectroscopy**/G.M. Bancroft
*533. **Biorganic Chemistry**/J.P. Guthrie
*534. **Dielectric and Magnetic Phenomena**/R.K. Chan
*541. **Crystallograph I**N.C. Payne
*543. **Quantum Organic Chemistry** /N.C Baird
*544. **Chemical Kinetics**/D.M. Graham
553. **Physical Organic Chemistry** /Organic Staff
554. **Statistical Mechnaics**/A.R. Allnatt
558. **Seminar**/Staff
*561. **Applications of NMR Spectroscopy to Inorganic Chemistry**/R.G. Kidd, P.A.W. Dean
*563. **Organic: Modern Synthetic Methods**/W.C. Howell, E.W. Warnhoff
564. **Solid State**/P.W.M. Jacobs
568. **Research Proposition**/Organic Staff

The selection and written presentation of one or more original chemical research problems, and the defence of the choice. Good background knowledge and familiarity with general modern concepts will be expected. (This does not count as a formal graduate course).

*571. **Optical Activity in Inorganic Systems**/R.A. Haines, N.C. Payne
573. **Organic Problem Seminars** /Organic Staff
(This does not count as a formal graduate course, but it is a requirement for all PhD candidates in Organic Chemistry).

574. **Quantum Mechanics I** /W.J. Meath
*581. **Vibrational Spectroscopy of Inorganic Systems**/C.J. Willis
583. **Organic: Photochemistry**/P. de Mayo
590. **MSc Thesis and Research**
*593. **Nuclear Magnetic Resonance Spectroscopy**/J.B. Stothers
*594. **Advanced Thermodynamics** /J.W. Lorimer
*601. **Topics in Organic Chemistry II** /Staff
*603. **Organic: Nitrogen Compounds** E. W. Warnhoff
*613. **Organic: Sulfur Compounds** /J.F. King
*614. **Vibrational and Electronic Spectra of Molecules**/J.C.D. BRand
*623. **Organic: Carbanions**/D.H. Hunter
*633. ***Organic: Selected Topics*** /Organic Staff
*641. **Crystallography II**/N.C. Payne
*651. **Organometallic Chemistry** /H.C. Clark
*653. **Organic: Selected Topics** /Organic Staff
*661. ***Organometallic Chemistry II/C.J. Willis***
*663. **Organic: Natural Products** /E.W. Warnhoff
*673. **Organic: Stereochemistry**/J.F. King
674. **Quantum Mechanics II**/W.J. Meath
*681. **Inorganic Reaction Mechanisms**/H.W. Baldwin
684. **Molecular Orbital Theory.** /N.C. Baird
690. **PhD Thesis and Research**

Classics

Professors

Gerber, D.E., BA, MA UWO; PhD Toronto Chairman of Department

Lambert, G.R., BA, MA, Toronto (Althouşe College of Education)

Raymond, A.E., BA UWO MA Toronto; PhD Chicago.

Associate Professors

Avotins, I., BA Toronto; AM, PhD Harvard

Murison, C.L., MA Edinburgh; MA Cantab

Timothy, H.B. MA, BD Glasgow; BA London; PhD Edinburgh

Assistant Professors

Broege, Valerie A., AB Vassar; MA, PhD Byn Mawr

Crowther, N.B., BA Leeds; MA, McMaster; PhD Sheffield

Littlewood, A.R., BA Leeds; BLitt Oxon

Stanley-Porter, D.P., BA Toronto; PhD London

The M.A. in Classics, Latin or Greek may be taken either by four courses or by two or three courses plus a thesis, subject to approval of the Department. Detailed information is available from the Department of Classics; information is also available regarding special arrangements for applicants without knowledge of Greek. A selection from the graduate courses listed below is offered each year.

*Half Courses

LATIN COURSES

500. Roman Historians/C.L. Murison
510. Roman Orators/A.E. Raymond
520. Lucretius/I. Avotins
521. Ovid/V.A. Broege
522. Catullus/N.B. Crowther
523. Horace/V.A. Broege
525. Roman Satire/A.R. Littlewood
526. Scriptores Erotici Latini/A.R. Littlewood
530. Graeco-Roman Philosophy /H.B. Timothy
540. Roman Drama/D.E. Gerber
550. Graeco-Roman Education/G.R. Lambert
***560. Reading Course in Latin Authors**/Staff
590. M.A. Thesis

GREEK COURSES

500. Greek Historians /C.L. Murison
510. Attic Orators/A.E. Raymond
520. Greek Lyric/D.E. Gerber
521. Greek Epic/D.E. Gerber
522. Greek Writers under the Roman Empire/I. Avotins
526. Hellenistic Greek Poetry/A.R. Littlewood
530. Greek Philosophers/H.B. Timothy
540. Greek Tragedy/D.E. Gerber, D.P. Stanley-Porter
***560. Reading Course in Greek Authors**/Staff
590. M.A. Thesis

Computer Science

Professor

Hart, J.F., BA, MA, PhD Toronto. Chairman of Department

Vsiting Professor

Salomaa, A., BA, MA Turku; PhLic Helsinki; PhD Turku.

Associate Professors

Beckhoff, G.F., MSc Southern Methodist; PhD Laval

Carroll, J.M., BS Lehigh; MA Hofstra; PhD New York

Pylyshyn, Z.W., BEng McGill; MSc, PhD Saskatchewan. Associate Professor of Psychology

Gargantini, Irene, BA, PhD Milan.

Assistant Professors

Dunham, C., MA British Columbia; PhD UWO

Mullin J.K., BS, MS, PhD Carnegie-Mellon

Kuehner, D.G., BSc Bishops; MA Queens; PhD Edinburgh

Steinby, M, BSc, MSc, PhD Turku.

Honorary Lecturer

Thierrin, G., Lic. Math. Doc. Math. Fribourg; Doc. Math. Paris

Slemon, A.G., BA Manitoba; MA UWO; PhD Toronto (Althouse College of Education)

REQUIREMENTS FOR THE MSc DEGREE IN COMPUTER SCIENCE

Qualifications for MSc degree are noted under General Admission Requirements.

Students who do not have an Honors BSc in Computer Science enter the following two year graduate program leading to an MSc Degree in Computer Science:

Prerequisite Year: A minimum of four courses at the 300 and 400 level, three of which are normally CS 304, 313 and 405.

Second Year: Normally two graduate courses in Computer Science and a thesis. With the permission of the department, the thesis may be substituted either by a project and an additional course or by two more courses.

Half of the student's course work may consist of graduate courses offered by other Departments of the university. In all cases, the selection of courses is subject to approval of both departments concerned.

Students with an Honors degree in Computer Science or equivalent may enter directly into the second year of the program. Arrangements may be made for part-time enrolment in the graduate program.

COURSES

Note: The following courses will not necessarily all be offered every year and may be modified from time to time to suit special needs of individual students.

**Courses may be taken concurrently

500. Mathematical Foundations of Computer Science. Selected topics in present research areas in mathematics created by the advent of the computer: number systems for computers, algebraic foundations of Computer Science, mathematical models of computation, foundation of mathematical linguistics; computer oriented topics in combinatorics, graph theory and probability theory. (Full course)

501a. Information Structures. Management of information resources by digital computers. Characteristics of basic file structures and strategies for searching and retrieving information from them. Principles of automated text processing and analysis of document contents. Development, implementation, and evaluation of storage and retrieval systems in a resource-sharing computer environment.

501b. Information Structures. Continuation of 50a.

****502A. Selected Topics in Numerical Analysis.** *Constructive aspects of the* fundamental theorem of algebra; uniformly convergent algorithms for the simultaneous approximation of all zeros of a polynomial; cubically convergent iterative methods for polynomials and entire functions.

****502b. Selected Topics in Numerical Analysis.** Continuation of 502a

****502c. Selected Topics in Numerical Analysis.** Continuation of 502b.

503. Theory of Approximation. Approximation of one — and several — dimensional functions, approximation in abstract spaces, approximation by linear families with respect to a norm, uniform approximation by non-linear families; algorithms for best approximations.

504a. Artificial Intelligence. A study of the classic treatments of game playing, theorem proving, problem solving heuristics, pattern recognition, question answering, industrial process control, studies in robotics.

504b. Artificial Intelligence. Continuation of 504a.

505. Computer Simulation of Complex Processes. Use of digital computers to study complex, interactive systems. Design of sampling plans. Real-time automatic data-acquisition techniques. Formulation and validation of mathematical models, and their use in evaluating alternative polices and predicting system behaviour.

506. Topics in Statistics and Information Processing. Theories of information and communication, applications of computers to statistics, application of statistics to information processing, information systems for computer assisted instruction.

507. Theory of Data Communication. Sampled-data systems, digital filter design, discrete communication channels (memory-less, with finite memory), coding theory (fixed-length codes, variable-length codes), encoders and decoders.

508. Topics in General Systems. Theory of General Systems and properties common to many or all systems, mathematical models of systems, study and/or mathematical formulation of interaction, dependence and control, self-organization in large systems, specific theories of deterministic and stochastic systems with applications to physical, biological and economic systems.

512. Sequential Machine Theory. Synchronous and asynchronous sequential machines, generalized and incomplete machines, iterative, time-variant and probabilistic machines. External and structural properties, *decomposition and synthesis,* application to computer design and decision problems.

513. Theory of Recursive Functions and Computability. Turing machines, mathematic logic and computable functions, unsolvable problems, degrees of recursive unsolvability, classification of functions by computational complexity.

514. Advanced Programming Systems (Software). Basic architecture or large systems, multiprogramming systems and time-sharing systems (resource allocations, CPU and I/O scheduling algorithms). Measurements on MP and TS systems (benchmarking, hardware monitors, modeling of algorithms), macro processors, compilation.

515. Advanced Programming Systems (Hardware). Timing analysis of circuits, architecture of *small computers,* languages for hardware.

516. Computer Assisted Instructional Systems. The analysis of systems and programming requirements for computer-assisted and computer-managed instruction, computer controlled learning aids and data acquisition systems, the implementation of computer-assisted instruction. Cybernetic models of learning processes. Each student will carry out the analysis and design of a specific system.

523. Theory of Formal Languages and Automata. Language-generating devices (grammars) and language-recognizing devices (automata). Hierarchies of languages and of automata, operations with languages and classification of languages by various measures of complexity.

533. Algebraic Theory of Formal Languages. Formal power series in non-commutative variables, rational and algebraic languages and their representations, tensor product and diverse other products of formal power series, transductions and transducers, application to combinatorial (enumeration) problems.

580. Project. (Full Course).

590. Thesis. (Equivalent to two full courses.)

Diagnostic Radiology

Professor

Carey, L.S., MD, CM, MSc (Med) Queen's; MS Minnesota. Chairman of the Department

Clinical Associate Professors

Allcock, J.M., MRCS, LRCP (Eng), MB BS London; DMRD (Eng), FFR
Johnston, E.E., MDCM, DMR Queen's; CRCP(C)
Wilkins, W.W.J., MDCM Queen's; DMR Toronto; FRCP(C)

Clinical Assistant Professors

Agnos, J.W., MD UWO; DMR, Toronto; CRCP(C)
MacDonald, A.C., MD UWO; FRCP(C)
Nicol, D.A., BA Saskatchewan; MD, DMR Toronto; CRCP(C)
Rajic, D.S., MD Graz; CRCP(C)

Clinical Lecturers

Coates, R.K., BA, MD UWO; FRCP(C)
Edgar, H.W., MD UWO; DMR McGill; CRCP(C)
Hamilton, G., MD UWO; FRCP(C)
Reid-Smith, E.A.M., BA, MB, BCh Dublin; DMRD London; CRCP(C)

Honorary Lecturers

Hauch, P.P., MD UWO; DMRD London; CRCP(C)
Hill, M.B., MDCM Queen's; CRCP(C)

Instructors

Black, J.H.D., MB, BCh Dublin; MRCPI, FRCP(C)
Brown, T.C., MD UWO; CRCP(C)
Greenhow, P., MD Toronto; CRCP(C)
Harwood, R.A., MD UWO; CRCP(C)
Linsdell, F.J., BA, MD UWO; CRCP(C)

Graduates in Medicine who have served a year of rotating internship in an approved hospital may apply for admission to the integrated training program in Diagnostic Radiology.

This training is designed for those intending to sit the examination of either Certification or Fellowship of the Royal College of Physicians of Canada, as modified for Diagnostic Radiology. Residents are encouraged to undertake research projects in Clinical Diagnostic Radiology, in cooperation with members of other Clinical Departments, or in purely radiological fields.

The staff of the Department of Diagnostic Radiology participates extensively in the activities of the cardiovascular, neurological and paediatric services, and considerable specialization of both staff and equipment in those areas has developed.

Economics

Professors

Bodkin, R.G., BA Swarthmore; MA, PhD Pennsylvania
Brown, T.M., BA UWO; MA Toronto; PhD Australian National
Burley, K.H., BA, PhD London
Courchene, T.J., BA Saskatchewan; PhD Princeton
Kadiyala, K.R., BSc Andhra; M. Stat. Indian Stat. Inst.; PhD Minnesota.
Melvin, J.R., BSc Manitoba; MA Alberta; PhD Minnesota
Nagar, A.L., BSc, MSc Lucknow; MA, PhD Netherlands Sch. Econ.
Reuber, G.L., BA UWO; MA, PhD Harvard. Dean of Social Science
Wonnacott, R.J., BA UWO; AM, PhD Harvard. Chairman of Department

Associate Professors

Batra, R.N., BA Punjab; MA Delhi Sch. Econ.; PhD Southern Illinois
Leith, J.C., BA Toronto; MSc, PhD Wisconsin
Saraydar, E., BA Syracuse; MA, PhD Rochester
Thanh, P.C., B.Com., PhD NSW

Assistant Professors

Bhatia, K.B., B.Com., M.Com Delhi; PhD Chicago
Boyer, R.S., BA Columbia; MA Wisconsin; PhD Chicago
Clark, C.S., BA Queen's PhD California
Dick, T.J.O., BA Carleton; MA Toronto; PhD Washington
Frankena, M.W., BA Swarthmore; PhD MIT
Fried, J., BA Stanford; PhD Northwestern
Gately, F.D., BS Holy Cross; MA, PhD Princeton
Haessel, W.W., BSc, MSc Alberta; PhD Iowa State
Johnson, H.T., AB Harvard; MBA Rutgers; MA, PhD Wisconsin
Kirkham, P.G., BASc British Columbia; MBA, MA UWO; PhD Princeton
Oaxaca, R.L., BA Fresno State; MA PhD Princeton
Palmer, J.P., BA Carleton College; PhD Iowa State
Parai, L., BA Alberta; MA Toronto; PhD Yale
Plourde, C.G., BA, MA Queen's; PhD Minnesota
Rao, V.S., BA Andhra; PhD Minnesota
Scheffman, D.T., BA Minnesota PhD MIT
Toda, Y., BA, MA Tokyo; PhD Harvard
Vickery, W.E., BE Vanderbilt; MBA Harvard; PhD Chicago

The Department offers programs of study leading to the degrees of MA and PhD. In its graduate courses the Department emphasizes a combination of advanced theoretical and quantitative analysis.

Candidates are admitted at the discretion of the Department. The MA program for suitably qualified candidates normally requires one year; the PhD program requires a minimum of two further years of residence.

Detailed information about these graduate programs and their admission requirements may be obtained from the Director of Graduate Studies in Economics, Department of Economics.

COURSES

A full range of advanced courses (at the 600 level) and reading courses (at the 700 level) are available in the above listed subjects. All courses will not necessarily be offered in any one year; (a) denotes first term and (b) second term, otherwise courses are for both the Fall and Winter terms.

Math 254. Mathematics for the Social Sciences.
505a. Introduction to Statistics.
505b. Introduction to Econometrics.
510. Mathematical Economics.
533a. Monetary Theory.
533b. Monetary Institutions.
534a. Industrial Organization.
534b. Industrial Organization Policy.
537. North American Economic History.
538. Economic Development.
539. Regional Economics.
540. Macro-economics.
547. European Economic History.
551a. International Trade Theory.
551b. International Trade Policy.
555. Econometrics.
560. Micro-economics.
563a. Public Finance.
563b. Fiscal Economics.
575 Economics of Human Resources.
580. Recent Developments in Economic Theory.
599. Capital and Growth Theory.
590. MA Thesis.
690. PhD Thesis.

English

Professors

Atkinson, W.E.D., BA Cantab; PhD Chicago

Barker, A.E., BA, MA Toronto; PhD London, Professor of Renaissance Literature

Bates, R.G.N., BA, MA, PhD Toronto

Conron, A.B., BA, MA UWO; MA, PhD Harvard

Fleck, P.D., BA, MA UWO; PhD Belfast Chairman of Department

Graham, J.W., BA Manitoba; MA, PhD Toronto

Hieatt, A.K., BA Louisville; PhD Columbia

Hieatt, Constance B., BA, MA Hunter College; PhD Yale

Klinck, C.F., BA MA UWO; PhD Columbia; FRSC, Senior Professor

Rans, G., BA, MA Cantab; PhD Leeds

Rajan, B., BA, MA, PhD Cantab; Senior Professor

Reaney, J., BA, MA, PhD Toronto

Sanborn, C.E., BA, MA, PhD Toronto

Sharp, Corona (Sister), BA UWO; MA, PhD Notre Dame

Woodman, R.G., BA British Columbia; MA Manitoba; PhD Toronto

Associate Professors

Bandeen, Betty I., BA UWO; MA, PhD Radcliffe

Bolgan, Anne C., BA D'Youville; MA, PhD Toronto

Chapin, D.F., BA, MA, PhD Toronto, Chairman of Department Committee on Graduate Studies (as of July 1, 1972)

Collins, T.J., BA, MA UWO; PhD Indiana

Devereux, E.J., BA, MA Newfoundland; DPhil Oxon

Hair, D.S., BA UWO; MA, PhD Toronto

Kaula, D.C., BA Cornell; PhD Indiana

Parker, G.D., BA Acadia; MA Dalhousie; PhD Toronto

Somerset, J.A.B., BA Toronto; MA, PhD Birmingham

Stingle, R.M., BA, MA Toronto

Wilson, H.R., BA, MA Toronto; PhD Michigan

Assistant Professors

Dragland, S.L., BA, MA Alberta; PhD Queen's

Hensley, D.H., BA, MA Oregon; PhD Wisconsin

House, G.S., BA, MA, PhD California (Berkeley)

Lundgren, B.R., BA Manitoba; MA, PhD UWO

Straulman, Ann T., BA Wellesley; MA Kansas City; PhD Wisconsin

Surette, Leon, BA Queen's; MA, PhD Toronto

Tausky, T.E., BA McGill; BA Cantab; MA, PhD Yale

Special regulations governing the MA and PhD in English are available on request from the Department. All requests for information should be addressed to the Chairman of the Committee on Graduate Studies in English.

Application forms for admission to the Faculty of Graduate Studies may be secured from the Department of English and should be returned to the Chairman of the Committee on Graduate Studies in English.

The Department must be notified before Registration which graduate courses you wish to take. The final decision on your admission to a particular graduate course cannot be made before Course Enrollment Day, but preference will naturally be given to students who have had undergraduate training in the area of literature with which the course deals.

The Department reserves the right to limit enrollment in any course.

Teaching Fellowships

The Department offers a number of Teaching Fellowships which involve tutorial work of not more than two hours a week.

GRADUATE

SUMMER 1972

A course in Eighteenth Century Literature—To be announced

A course in Modern American Literature—To be announced

585. Ontario Literature and Culture/J. Reaney

FALL AND WINTER 1972-73

500. M.A. Comprehensive

502. Tutorial

503-509. Literary Theory, Genres, and Problems

520-525. Mediaeval Language and Literature

521. The Poetry of Cynewulf and the "Cynewulfian School"/C.B. Hieatt

526-528. Linguistics

530-539. Renaissance Literature

531. Chaucer and Spenser/A.K. Hieatt

533. The Metaphysicals and Milton /A.E. Barker

537. Renaissance Bibliography 1450-1700/E.J. Devereux

538. Marlowe and Jonson/D. Kaula

539. The Pastoral in Drama/G. House

540-549. Literature of the Restoration and Eighteenth Century

550-559. Romantic Literature

554. The Romantic Long Poem/R.G. Woodman

560-569. Victorian Literature

561. Dickens /B.R. Lundgren and R.M. Stingle

570-579. Modern Literature

575. Inheritance and Adaptation Studies in Eliot, Milton and Yeats /B. Rajan

576. Ideas of the Tragic in Modern Drama/G.D. Parker

578. Shem the Penman—Studies in Joyce/R.G.N. Bates

580-589. North American Literature

582. Walt Whitman/G. Rans

587. Canadian Literature in English: Problems in Criticism and History C.F. Klinck

590. M.A. Thesis

606. Bibliography and Scholarly Methods/E.J. Devereux

This is a compulsory half-course for all students in the MA Year or in a PhD programme. Any student who regards his previous training in bibliography as satisfactory must arrange to see Professor Devereux, who will assess his previous training and determine whether or not he must take English 606.

610-620. PhD Qualifying Examinations

610. Area of Concentration

611. Oral in the Area of Concentration

612. Major Text

613. Old and Middle English

614. Renaissance Dramatic

615. Renaissance non-Dramatic

616. Restoration and Eighteenth Century

617. Nineteenth Century

618. Modern Literature

619. American

620. Canadian

690. PhD Thesis

Engineering Science

Professors

Beecroft, E.A., BA, MA Toronto; PhD Yale. Professor of Political Science

Bergougnou, M.A., MS Nancy; PhD Minnesota

Bulani, W., BSc, MSc Saskatchewan; PhD McGill

Davenport, A.G., BA, MA Cantab; MASc Toronto; PhD Bristol

Foreman, J.E.K., BASc Toronto; MME Cornell

Geach, G.A., BSc, MSc, PhD Sheffield

Inculet, I.I., Dipl. Ing Bucuresti; MSc Laval

Johnson, A.I., BASc Toronto; MChE Brooklyn; PhD Toronto. Dean of Engineering Science.

Lauchland, L.S. ED, BASc, MASc Toronto.

Novak, M. Dipl Ing Prague; PhD Acad Sc Prague.

Nowak, E.S., BEng McGill; phD Purdue.

Poucher, M.P., BSc, MSc, DIC London.

Quigley, R.M., BASc, MASc Toronto; PhD MIT. Associate Professor of Geology

Sullivan, J.L., BS, MS, PhD New Southwales

Zajic, J.E., BA Kansas; MS Wisconsin. PhD California, Davis; JD Oklahoma. Associate Professor of Bacteriology and Immunology

Shelstad, K.A., BE Saskatchewan; MSc Dalhousie; PhD Toronto.

Stewart, J.W., CD, BA, BSc Saskatchewan; MSc Micigan.

Swartman, R.K., BSc, MSc Queen's.

Tarazuk, J.D., BASc, MASc Toronto; PhD Saskatchewan.

Assistant Professors

Baker, C.G.J., BSc, DIC, PhD London

Base, T.E., BSc Bristol; MSc Bristol; MSc Brown; PhD Southampton.

Bonnema, T., BSc Queen's; MASc Toronto; PhD Purdue.

Castle, G.S.P., BESc, MSc, DIC London; PhD UWO.

Dickinson, S.M., BSc, PhD Nottingham.

Duerden, I.J., BSc Leeds; DPhil Oxon.

Kosaric, N., MESc Zagreb; PhD UWO.

Livinstone, C.E., BSc, MSc British Columbia; PhD UWO.

Peacock, W.H., BASc, MASc Toronto; PhD Berkeley, Cal.

Rosati, P.A., BA MA Oxon; MESc UWO.

Sherebrin, M.H., BSc Manitoba; MSc, PhD UWO. Assistant Professor of Biophysics

Svrcek, W.Y., BSc, PhD Alberta.

Wilkins, P.O., BMus Roch; MS Hawaii; PhD Pennsylvania. Assistant Professor of Bacteriology and Immunology.

Associate Professors

Abu-Sitta, S.H., BSc Cairo; PhD London.

Beeckmans, J.M., BSc London; MASc, PhD Toronto.

Brown, J.D., BSc McMaster; PhD Maryland.

Chess, G.F., CD, BASc Toronto; MEng McGill

Davis, W.H., BASc Toronto.

Dillon, R.M., BA UWO; SM MIT

Emmerson, G.S., BSc Glasgow; MSc London.

Lo, K.Y., BSc Hong Kong; MSc, DIC, PhD London.

MacDonald, J.A., BE Be NSTech; MSE Michigan.

Olson, A.T., BSc Queen's; MSc Birmingham.

Roy, C., BSc Laval; DIC, PhD London.

Sheasby, J.S., BSc Birjingham; PhD New South Wales

Three degrees are offered in Engineering Science. The M.E.Sc. and PhD are based on research while the M.Eng. is based on course work. Arrangements may be made for part-time enrolment in all programs.

MASTER OF ENGINEERING SCIENCE

For M.E.Sc. candidates an individual program will consist of a minimum of two graduate courses (or the equivalent), a thesis and a seminar. The program of study for each candidate will be approved by the appropriate Graduate Board. On the advice of this Committee and with the concurrence of the Chairman concerned, candidates may elect or be required to take graduate courses of Honor courses offered in other University departments.

Included are such courses as Mathematics, Computer Science, Chemistry, Physics, Geology, and Medical Sciences.

The student is encouraged to select the program which best suits his individual interest and aptitude and which meets the general requirements of the Faculty of Graduate Studies.

With the approval of the Dean of the Faculty of Graduate Studies, a candidate for the degree of Master of Engineering Science who is unable to attend full-time study may undertake his course work on a part-time basis provided satisfactory arrangements can be made for his thesis work.

MASTER OF ENGINEERING

Master of Engineering (M.Eng.) programs are designed primarily for the practising engineer and students wishing to obtain specialized academic training beyond the Bachelor's level. Emphasis is placed on specialized techniques, analysis and engineering design, associated with current engineering practices. M.Eng. programs comprise a prescribed set of at least five courses together with a project and engineering report. The requirements are completed within one academic year (8 months) except in the case of part-time candidates.

DOCTOR OF PHILOSOPHY

The program of study for each candidate for the PhD degree must be approved by the Engineering Science Committee on Graduate Studies. The minimum requirements for the degree are listed below.

A. Six courses consisting of at least three from (1) and the remainder from (1), (2) and (3).

(1) An Engineering Science course at the 500 or 600 level.

(2) An Engineering Science course, outside the candidate's field of specialization, at a level not lower than 400.

(3) A course outside the Faculty of Engineering Science at a level not lower than 300.

B. A reading knowledge of at least one language other than English.

C. Comprehensive Examination: an oral or written examination normally taken in the first year of the PhD program. The main purpose of the examination is diagnostic, to assist the student and his committee in recommending a program of study.

D. Seminar: A candidate must prepare and present a paper or papers on his thesis research to the faculty and graduate students. A candidate may be required to submit essays on assigned topics.

E. Thesis.

COURSES

NOTE: All of the following courses may not be offered.

*Half Course

500. M.Eng. Project and Report. Investigation of an engineering problem. A detailed engineering report is required and each candidate will present this material in a public lecture. Problems may be assigned in consultation with the candidate's employer./I.I. Inculet
(6 hours, both terms)

505. Electronic Instrumentation. Systems of electronic instrumentation for measurement (analog and digital), control, amplification, data processing and generation of time varying signals. (Primarily for nonengineering students; no prerequisites)./T. Bonnema
(2 hrs/wk lectures, 1½ hrs/wk lab)

***511. Applied Catalysis 1.** Principles of heterogeneous catalysis. Kinetics and mechanism of selected catalytic reactions. Case studies of several industrial catalysts and associated catalytic processes./K.A. Shelstad
(1 hour, both terms)

***512. Advanced Chemical Reactor Design.** Nonideal flow in chemical reactors and its study through tracers, Micromixing and macromixing. Turbulence and its effect on chemical reactions./M.A. Bergougnou
(2 hours, first term)

***513. Advanced Fluidized Bed Reactor Design.** Fundamentals of all operations involving the interaction of fluids and particles. Systematic study of the design and scale-up fundamentals of fluidized bed ractors./M.A. Bergougnou
(2 hours, first term)

514. Food Engineering. Detailed review and analysis of the processes and operations of Goof Production./N. Kosaric
(2 hours, both terms)

***515. Biochemical Engineering.** The application of the unit operations of chemical engineering to biochemical process. Engineering concepts in the manufacture of beer, cheese, vinegar and other classical fermentation products as presented as well as problems in agitation mixing, aeration and batch fermentation kinetic./J.E. Zajic.
(1 hour, both terms)

516. Chemical Process Simulation. Simulation of chemical plants on the computer. Convergence and optimization problems in chemical plant simulation./A.I. Johnson
(2 hours, both terms)

518. Advanced Process and Plant Design. Process engineering study of a new process. Detailed design of reactors, disillation columns, controls, start-up systems, optimization and simulation./M.A. Bergougnou
(2 hours, both terms)

519. Chemical Engineering Economics. A critical examination of cost factors and of the procedures available for minimizing costs of chemical processes and plants./C.J.G. Baker
(2 hours, both terms)

GRADUATE

***520a. Engineering Statistics and Reliability.** A basic course in the theory of probability, statistics and reliability with special application to engineering. Discussion of data analysis, probability distributions, sampling theory probability of failure and elementary Bayesian decision theory./A.G. Davenport
(2 hours, first term)

***520b. Random Vibrations.** Theory of random vibrations of single and multi degree of freedom linear systems subject to random loading. Steady state response to stationary Gaussian processes, transient response to non-stationary Gaussian loading, and non-stationary response to non-stationary loading is considered. Applications to wind, earthquake and other random loadings./A.G. Davenport, M. Novak
(2 hours, second term)

***521a. Properties of Concrete.** Properties of the constituent materials; mix design, rheology of fresh concrete; strength, shrinkage and creep; other topics./M.P. Poucher
(2 hours, first term)

***552a. Advanced Soil Mechanics.** *Prerequisite: 426 or equivalent.* Principle of effective stress; shear strength parameters and their relationship, stress-strain-time relationship, and pore pressure equations. Consolidation and settlement. Effect of sample disturbance. Application to the design and construction of various types of shallow and deep foundations./K.Y. Lo, R.M. Quigley.
(3 hours, first term)

***523. Gerotechnical Properties of Soils.** The engineering properties of clay soils are related to the clay minerals present, the chemistry of the pore fluid and the fabric of the soil as derived from its environment of deposition. Emphasis is placed on the selection of engineering parameters for design purposes./R.M. Quigley
(3 hours, first or second term)

***524a. Elasticity I.** Theory of deformations. Equilibrium equations. Energy principles. Applications./S.H. Abu-Sitta
(2 hours, First term)

***524b. Elasticity II.** Fundamental formulae of linear elasticity. St. Venant's problem. Plane problem. Applications. Numerical methods./S.H. Abu-Sitta
(2 hours, second term)

***525a. Plates and Shells.** Introduction to the classical analysis of plates and shells. Small deflection behaviour of plates, considering various shapes, loads and boundary conditions./S.H. Abu-Sitta
(2 hours, first term)

***525b. Plates and Shells II.** Membrane and bending behavior of cylindrical shells, translational shells and shells of revolution. Edge disturbance theory. Numerical methods./S.H. Abu-Sitta
(2 hours, second term)

526. Science of Structures. A fundamental study of structural media and their environment. To include inelastic action, matrix methods, dynamics of structures etc. A critical study of the insufficiency of structures in relation to the actual loads imposed on them./A.G. Davenport
(2 hours, both terms)

***527. Reading Course in Engineering Geology.** Difficult engineering design and construction problems markedly influenced by geological factors will be studied in detail. Emphasis to be placed on such topics as: aggregate selection for concrete and asphalt mixes, geophysical methods of exploration used in engineering practice, ground water and its importance in design, properties of glacial deposits, frost action, permafrost, etc.

This course may also be adapted to the needs of graduate students in other disciplines such as geology and geography to enable them to study special topics in Soil Mechanics. By arrangement only./R.M. Quigley

***528. Seepage.** Prerequistie: 426 or equivalent. Fundamentals of ground water seepage with application to engineering design of earth and rockfill dams, large excavations, sheet pile, walls and cofferdams. This course should be of interest to environmental engineers interested in ground water pollution./Staff.
(2 hours, first or second term)

***529a. Foundation Engineering.** Prerequisite: 426 or equivalent. Current practice in the design of foundations for all types of structures. Spread footing, raft and piled foundations, bulkheads and retaining walls, floated foundations, sheeted excavations, etc./Staff
(3 hours, second term)

530. Electric Power Systems. General problems; elements of power systems; parameters of transmission lines, transformers, synchronous and induction machines; voltage regulation; economic operation; power system stability; surge phenomena; special problems of extra-high-voltage transmission./L.S. Lauchland
(2 hours, both terms)

531. Electromechanical Energy Conversion. Dynamic behavior of electromechanical energy converters as individual devices and as inter-connected devices in control systems and in power systems./L.S. Lauchland and I.I. Inculet
(2 hours, both terms)

532. Equivalent Circuits of Electric Machines. General theory of equivalent circuits; primitive and actual machines; symetrical-component theory, transformation from physical to sequence axes; space and time harmonics; interconnected machines./I.I. Inculet
(2 hours, both terms)

535. Advanced Electromagnetic Theory. Potentials, forces, and energy in electro-static and magnetic-static fields, plane waves, cylindrical waves, spherical waves, radiation, boundary value problems./G.F. Chess
(2 hours, both terms)

536. Control Systems. The analysis and design of linear systems is extended to include some elements of system optimization. Non-linear systems are examined using both describing function and phase plane techniques./G.F. Chess
(2 hours, both terms)

537. Optimization Theory for Control Systems. State-determined dynamic processes; optimization using calculus of variations; dynamic programming; linear optimum control systems; computational method for two-point boundary value problems./G.F. Chess
(2 hours, both terms)

538. Electrostatic Theory and Engineering Application. Review of basic principles; fields and charges, duality between electrostatics and electromagnetics, bonding theory, theory of metals, semiconductors and dielectrics, static electrification, the corona discharge and discharging of aerosols, electrets.

Applications, high voltage electrostatic generators, capacitors, electrostatic precipitation, xerography, electrostatic hazards in industry, static eliminators, etc./I.I. Inculet, J.D. Brown, and G.S.P. Castle.
(2 hours, both terms)

539. Aerosol Mechanics. Methods of characterization and collection of aerosol particles for analytical purposes, methods for the generation of aerosols. Basic mechanics of aerosols, theory and practice of industrial filtration; electrostatic precipitators, cyclones, scrubbers etc./J.M. Beeckmans, J.D. Brown, G.S.P. Castle, I.I. Inculet.
(2 hours, both terms)

***540a. Principles of Nuclear Reactors.** Nuclear energy and nuclear reactions, fission process, critical mass, radioactivity, interaction of alpha, beta, gamma and neutron radiation with matter. The principle of the fission chain reactor. Reactor fuels, radiation protection and reactor safeguards./G.S. Emmerson
(2 hours, first term)

***540b. Nuclear Reactor Engineering.** Nuclear reactor systems and characteristics. Engineering design aspects — materials, energy removal, power plant./G.S. Emmerson
(2 hours, second term)

***541. Mechanical Analysis and Measurements.** Selected topics in mechanical design involving experimental analysis: transducers, instrumentation, techniques and evaluation in temperature, measurement of variable such as strain, pressure, vibration, sound, flow./J.E.K. Foreman
(2 hours, first)

***542a. Viscous and Boundary Layer Theory.** Viscosity, review ot vectors and tensors, the Navier-Stokes Equations, the viscous flow energy equation and dissipation function, creeping flow, laminar and turbulent boundary layer, mechanisms of transition, concepts of statistical theory of isotropic turbulence./J.W. Stewart
(2 hours, first term)

***542b. Hydrodynamics.** Kinematics and dynamics of two and three-dimensional fluid fields, vortex generation and dissipation, graphical, numerical and analogy methods of solution, conformal transformation and selected topics from thin aerofoil and finite wing theory./J.W. Stewart
(2 hours, second term)

***543a. Classical Thermodynamics.** Review of First and Second Law, availability and irreversibility, thermodynamic relationships, and dissociation in chemical reactions./E.S. Nowak
(2 hours, first term)

***543b. Statistical Thermodynamics.** Introduction to Kinetic theory of ideal and real gases. Some models for the thermodynamic and transport properties of real gases will be studied./E.S. Nowak
(2 hours, second term)

***544a. Conduction Heat Transfer.** One and two-dimensional conduction, transient conduction, variable conducticity, numerical solutions and advanced topics./E.S. Nowak
(2 hours, first term)

***544b. Convection Heat Transfer.** Governing equations for flow in various coordinate systems. Free and forced convection in internal and external flows, similarity transforms, Reynolds analogy, turbulence, Von-Karmans analogy, liquid metals and selected topics./J.D. Tarasuk
(2 hours, second term)

***545a. Energy Conversion.** Review of energy sources, methods of energy release such as combustion, and methods of energy conversion including turbomachinery, positive displacement machinery and non conventional methods. Economics of plant selection.
(2 hours, first term)

***545b. Solar Energy Utilization** Nature of solar radiation, flat plate collectors and their design, solar concentrators, solar stills, energy storage, solar power generation, and other techniques of solar energy utilization./R.K. Swartman
(2 hours, second term)

***546a. Advanced Vibrations 1.** Free and forced vibrations of lumped and distributed parameter systems like beams and frames; modal analysis of excited vibrations; Rayleigh method; nonlinear and self-excited oscillations and their application to aerodynamic stability of structures and bridges./M. Novak
(2 hours, first term)

***546b. Advanced VibrationsII.** D'Alembert's and Hamilton's principles. Lagrange's equations of motion, generalized coordinates; Ritz and Galerkin methods; vibrations of plates; dynamic stability (parametric resonance); transient vibrations, movable load on beams; integral transforms, particularly Laplace transform./M. Novak
(2 hours, second term)

547a. Shock in Engineering. Analysis of shock loads on simple systems. Revision of Laplace Transform theory. Shock spectra and response spectra with application to crate design. Continuous systems with suddenly applied loads, visco-elastic material models, shock testing techniques and instrumentation, three dimensional stress systems and the derivation of primary and secondary waves. Shock wave theory, the detonation process and detonation waves, shock waves in water./T.E. Base
(2 hours, first term)

***548a. Convective Phenomena in Fluids.** General dicusision of free convection. Boussinesq approximation. Plumes, thermals, forced plumes and "buoyant" vortex rings in varios environmental conditions. Density currents. Rayleigh-Jeffreys instability and Bernard cells. Langmuir helical vortices. Bubble induced convection./P.J. Sullivan
(3 hours/week, first term.)

549b. Acoustics and Noise Control. A. Condensation, dilatation and acoustic velocity, the differential equations of the plane and spherical wave and their periodic solution; energy flow, intensity, impedance and power for plane and spherical waves; sound intensity level, power level, and pressure level; sound transmission phenomena; resonators and filter; architectural acoustics. (b.) Noise—the hearing mechanism, deafness, threshold shift and recovery; frequency spectrum and bandwidth; critical band and masking; loudness, approvance and noisiness; a rief study of some typical noise sources such a automotive traffic; aircraft, ventilating systems and machinery; methods of noise control by damping, isolation, absorption, operating procedures, design./J.W. Stewart
(3 hours/week, first term)

551. Mechanical Properties of Materials at High Temperatures. Meachnisms of deformation and sources of strength within materials at high temperatures. Failure at high temperatures. The development of materials for use at high temperatures./G.A. Geach
(2 hours, both terms)

552. The History of Materials Science. History of the development and application of materials, its interplay with development and application of materials, its interplay with developments in other learning, technologies, war and the status of nations. Factors which have led to discovery and progress in the uses of materials./G.A. Geach
(2 hours, both terms)

Q554a. X-ray Spectroscopy. Excitation processes, qualitative and quantitative analysis, matrix effects, soft x-ray spectrography, electron probe microanalysis, industrial applications.
(2 hours, first term)

***554b. Spectroscopic Methods.** Theory and applications of selected methods of spectroscopy including IR, UV, Mossbauer, etc. Topics chosen on basis of class interestes.
(2 hours, second term)

555. Techniques for the Study of High Temperature Chemical Reactions. Review of chemical thermodynamics, thermodynamic diagrams and calculations, phase stability, shape stability, reaction rate theory, diffusion in solids, application of statistical mechanics, experimental techniques.
(2 hours, both terms)

***556a. X-ray Techniques in Engineering.** Study of diffraction techniques to determine: alloy composition, composition of soils, concretes, etc., residual stresses, texture structures./I.J. Duerden
(2 hours, first term)

***556b. Advanced X-ray Techniques.** Prerequistie: 556a or equivalent. Study of x-ray methods for chemical analysis, determination of particle size, grain orientation, crystal structures, (complex) deformation and relaxation./I.J. Duerden
(2 hours, second term)

557. Alloy Theory. Electron theory of metals. Factors affecting formation and structure of phases. Types of phases. Thermodynamics of all alloys./I.J. Duerden
(2 hours, both terms)

***558b. Electron Microscopy.** Electron Optics, diffraction contrast, phase contrast, resolution dark field imaging, identification of dislocations, Bergers vectors, sample preparation electron diffraction, crystal orientation, lattice parameters./J.D. Brown
(1 hour plus 3 hour Lab., second term)

559. Advanced Experimental Techniques. Lecture and laboratory course on modern laboratory techniques including termperature measurement, high vacuum systems, controlled atmosphere systems, radiation monitoring, selected specialized x-ray diffraction and spectrographic measurements, high and low temperature electron microscopy./Materials Science Staff.
(1 hour lecture, 2 lab hours, both terms)

560. Selected Topics in Biochemical Engineering. Course deals with specialized aeration techniques, viscosity effects, scale-up problems, process optimization and new biochemical products./J.E. Zajic, N. Kosaric
(2 hours, both terms)

GRADUATE

***561a. Air Pollution Sources and Control.** A general introduction to air pollution science and engineering including source types and characteristics, nature and extent of urban air pollution and resulting problems, review of combustion and gas flow systems, description and criteria for selection of control equipment./J.L. Sullivan, J.M. Beeckmans, I.I. Inculet
(2 hours, first term)

***561b. Air Pollution Measurements and Surveys.** Methods of sampling for particulate and gaseous pollutants, measurement and control of noise, analysis of samples including description of instrumental methods, description and operation of monitoring instruments, calibration procedures, design and conduct of surveys and interpretation of results./J.M. Beeckmans, J.L. Sullivan, J.E.K. Foreman
(2 hours, second term)

***562a. Water Pollution: Biological Unit Processes.** Course covers all aspects of biological oxidation, it includes activated sludge, anaerobic digestion, trickling filters, oxidation ponds and lagoons, biological control, odours control, slimes, etc./J.E. Zajic
(2 hours, first term)

***562b. Water Pollution: Chemical Unit Processes.** Many subjects are presented. Included are information theory, chemical basis of pollutions, treatment techniques for cyanide, chromium and phenolic wastes. Unit processes discussed are solvent extraction, flotation, chemical treatment, oxidation—eduction, flocculation and clarification, precipitation, ion-exchange, absorption, wet combustion, incineration, sterilization and disinfection./J.E. Zajic
(2 hours, second term)

***563. Industrial Processes.** This course provides a descriptive view of major industrial processes with special emphasis on the operations and problems relevant to control of waste by-products./W. Bulani
(2 hrs, first term)

564. Environmental Biology. A special course covering elemental and theoretical information needed in determining normal and abnormal biological environments. Subjects covered are bacteriology, fungi, viruses, parasitology, nematodes, algae, botany, ecology, etc. Chemical control mechanisms of aquatic life using algicides, herbicides and insecticides will be presented. An extensive laboratory is given in conjunction with this course introducing methods of growth, identification, and control./P.O. Wilkins and D.A. McLarty
(6 hours, first term; 4½ hours, second term)

***565. Legal and Administrative Controls of Pollution.** Judicial control of pollution through common law, nuisance laws, legislation to regulate and establish standards, structures and control by local governmental authorities, enforcement techniques./P.S. Elder
(2 hours, second term)

***566. Biological and Other Effects of Environmental Pollution.** Review of factors including air, water and soil pollution, noise, radiation, etc., and their effects upon man, animals, vegetation, meteorology and economic welfare in terms of overall human society and other eco systems. Covers description of community environemental problems, clinical medicine, physiology, epidemiology, survey methodology, interrelationships in eco-systems, global effects including meteorology, etc./J.L. Sullivan, D.B. Shaw
(2 hours, both terms)

567. Environmental Engineering Seminar. A special course reviewing the latest developments in environmental engineering./J.L. Sullivan.
(2 hours, both terms)

568. Environmental Engineering Laboratory. Laboratory in Water Pollution: (1) aeration (2) B.O.D. and C.O.D. (3) activated sludge (4) refuse separation (5) flocculation and clarification (6) flotation (7) lagoons (8) Trickling filter (9) solvent extractions (10) filtration (11) gravity separators (12) emulsion breaking (13) incinerators./J.E. Zajic
(3 hours, first term)

Laboratory in Air Pollution: Methods of sampling and analyzing ambient air pollution, monitoring instruments, particle collection and particle size, frequency analysis, source sampling and analysis, control equipment studies including critical and centrifugal collectors absorption and absorption systems, electrostatic precipitators, etc./J.M. Beeckmans
(3 hours, second term)

***569. Pollution Control:** Politics, Administration and Finance. A review of institutional problems arising in Pollution Control./E.A. Beecroft
(2 hours, first term)

***570. Soil Mechanics Seminar.** Lectures and discussions on current engineering projects, research programs, design techniques, etc. The course will include active participation by external practising soils engineers and professors. Students participation will include attendance at all seminars and presentation of up to two seminars each./R.M. Quigley
(2 hours, both terms)

571a. Turbulent Flow 1 (Random Processes). Description and analysis of stochastic processes, with emphases on methods of correlation and spectral analysis. A number of laboratory sessions are included; for these use will be made of equipment available at the Boundary Layer Wind Tunnel Laboratory./A.G. Davenport
(2 hours, first term)

***571b. Turbulent Flow.** An introduction to the statistical theory of turbulence. Mixing length theories and applications to flow in pipes, boundary layers, wakes and jets. Statistical theory and scales, correlations, and spectra./T.E. Base
(2 hours, second term)

574. Advanced Structural Analysis. Use of numerical and other methods to solve structural problems. Finite Differences. Stiffness Method. Finite Elements Transfer Matrices. Eigenvalue problems. Large systems of equations. Application to high rise building, chimneys, dams, shells, etc./S.H. Abu-Sitta
(2 hours, both terms)

***575. Dams and Slopes.** Earth and earth-rock dams; design procedures and factors controlling design. Stability conditions at end of construction, steady seepage and drawdown; factors of safety. Cracking of dams; piping design of filters. Control of seepage through and beneath dams. Common mechanisms of failure in dams. Use of observational procedure in earth dam design.

Short and long term stability of natural slopes, excavations and embankments. Strength anisotrophy, stratified soils, fissured clays, residual strength. Analysis of failure and remedial measures./K.Y. Lo
(3 hours, second term)

***576a. Dynamics of Soils and Foundations I.** Prerequisite: 426 or equivalent. Vibrations of foundations on soil, elastic elements and piles, hammer foundations, turbomachinery frame foundations, pile driving, mechanical models of foundations./M. Novak.
(2 hours, first term)

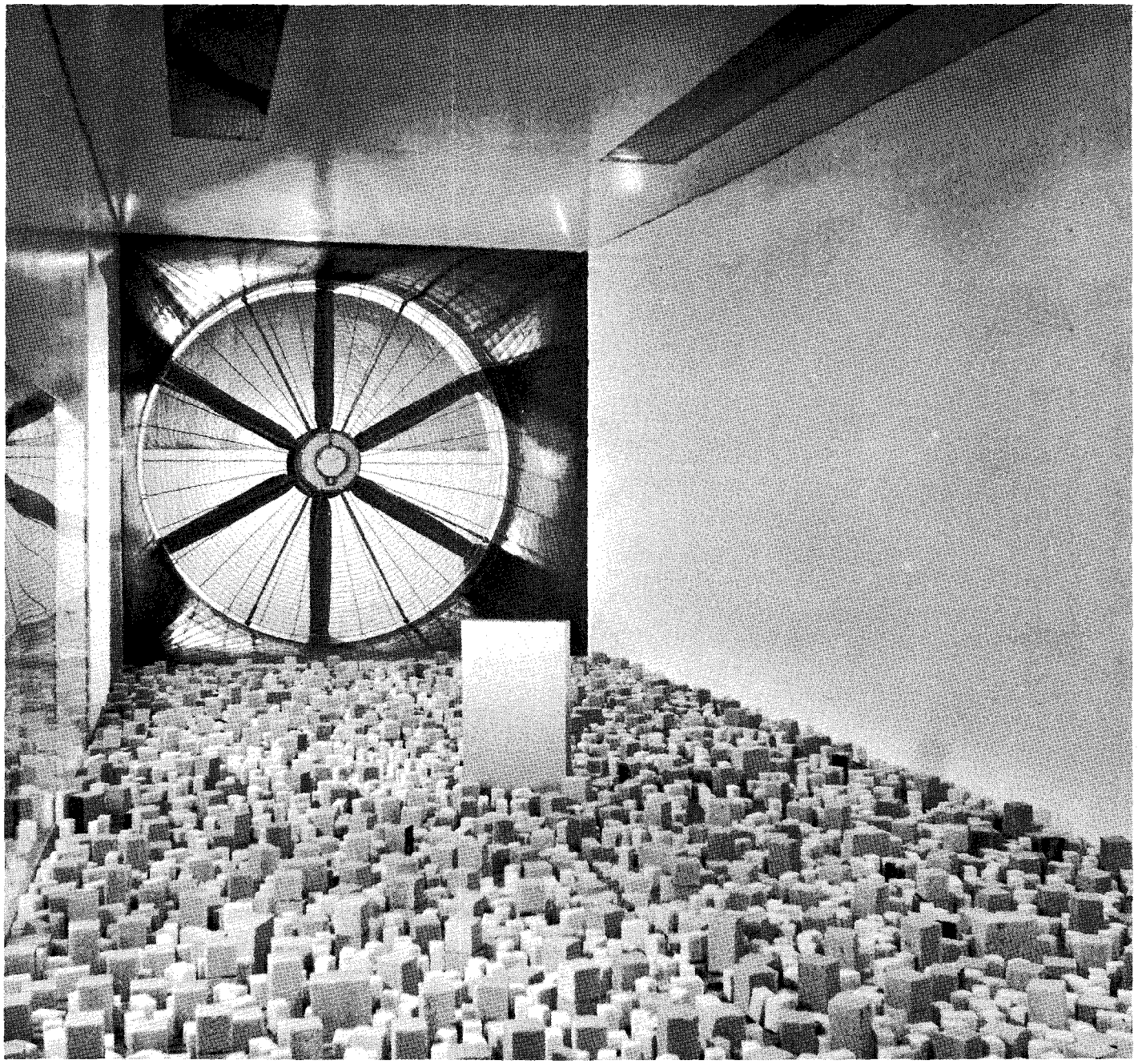
576b. Dynamics of Soil and Foundations II. Prerequisite: 576a. Wave propagation in elastic half space, layered medium and water saturated soils, vibration of rigid bodies on half space, behavior of granular and cohesive soils under the effect of dynamic load./M. Novak.
(2 hours, second term)

***577a. Rock Mechanics I.** Geological and engineering classification of intact and fractured rock. Structural defects and their measurements, mass properties.

Theories of failure of rocks. Stress distribution around an elliptic crack. Griffith and extended Griffith theory of rupture. Phenomenogical theories. Statistical aspect of strength of rock. Mechanical behaviour of rocks. Various types of tensile and compressive tests and their interpretation. Triaxial testing of intact and fractured rocks. In-situ testing of rock mass./K.Y. Lo.
(2 hours, first term)

***577b. Rock Mechanics II.** Design problems in rock mechanics. Stability of rock slopes. Foundations on rock. Tunnels. Stabilization. In-situ stresses and their measurements. Case records./K.Y. Lo.
(2 hours, second term)

***578. Soil Engineering Laboratory.** Laboratory Testing techniques including triaxial, consolidation, direct shear, special compaction and stabilization, clay mineralogy by x-ray diffraction and fluorescence, aggregate classification, etc./Staff
(3 hours, both terms)



579. Structural Design and Behavior. The purpose of this course is to study selected design situations chosen to illustrate a variety of structural problems and to apply analytical techniques discussed in lectures to those problems in a design context./A. G. Davenport

(1 hour/lecture, 3 hour lab. both terms)

***580b. Selected Topics in Urban Engineering.** This is a lecture/seminar course which examines the urban and regional development trends in Canada. The course is developed on a case history basis and is intended to enable students with an engineering background to relate their special interest areas to selected problems./S. Janes

(2 hours, second term)

***581a. Thermodynamics of Multicomponent Systems.** Review of the thermodynamics of multicomponent liquid-vapour systems. Application of computer methods for the prediction of equilibrium data./J.M. Beeckmans
(1 hour, both terms)

***581b. Multicomponent Distillation.** Review of modern methods for analyzing the fractionation of multicomponent systems in a distillation column./J.M. Beeckmans
(1 hour, both terms)

GRADUATE

582. Chemical Process Control. Application of feed-back, feed-forward, adaptive and direct digital control to chemical processes./Staff
(2 hours, both terms)

***583a. Air Pollution Control Equipment Design.** Theory of operation and design of air pollution control equipment, including gas scrubbers, absorption and absorption incineration, electrostatic precipitation, benturi scrubbers, filtration in inertial and centrifugal separation devices./J.M. Beeckmans
(2 hours, first term)

***583b. Air Pollution Control Systems.** Criteria for the selection and specification of air pollution control equipment, case studies of industrial air pollution problems and the control measures implemented to control them, economic studies of control systems and analysis of future trends./J.M. Beeckmans, J.L. Sullivan
(2 hours, second term)

***584a. Computer Aid Process Analysis and Design: Part 1.** Deterministic modeling ot system components and a review of the numerical methods that are useful in digital computer modeling of systems./A.I. Johnson.
(2 hours, first term)

***584b. Computer Aided Process Analysis and Design: Part 2.** A review of steady state and dynamic simulation, but emphasis on design of systems using a modular approach and including optimization of such systems./A.I. Johnson
(2 hours, second term)

590. M.E.Sc. Thesis

591. Design of Materials. Nuclear Materials: Physical properties of fissile and structural materials for nuclear reactors; thermal and irradiation effects; principles of fuel element design; behaviour of fuel elements in service.

Design of Strong Alloys: Improvement of mechanical properties such as, Young's modulus, damping capacity, yield strength, resistance to brittle fracture, fatigue and creep strength./C. Roy
(2 hours, both terms)

592. Vibrational and Acoustics Laboratory. Prerequisite: 466 or equivalent. It is recommended that 549b be taken concurrently. Experiments conducted to illustrate: the use of instrumentation in sound and vibration analysis; vibration analysis of discrete mass; continuous systems and functioning mechanical equipment; determination of acoustic properties of materials and enclosures; frequency analysis, sound level and loudness measurements; measurement of air-borne and structure-borne sound./T.E. Base, S.M. Dickinson, J.E.K. Foreman, J.W. Stewart.
(1 hour plus 3 hour lab. both terms)

593. Applied Thermodynamics and Heat Transfer Laboratory. Topics to be covered will include metrology, P-v-T measurements of engineering fluids, boundary layer studies by shadow graph schlerien and interferometry, heat transfer from various geometries; combined modes of heat mass and momentum transfer, visual aids and films will be extensively employed. An experimental and/or design project will be required as part of the course./T.E. Base, E.S. Nowak, J.D. Tarasuk.
(1 hour plus 3 hour lab., both terms)

594. Dynamics of Mechanical Systems. A review of the principles of Newtonian and Lagrangian Mechanics, together with selected topics in dynamics of reciprocating and rotating machines, including analysis of gas and inertia forces, bearing loads, rocking and beaming couples of typical reciprocating engines, balancing of rotating and reciprocating machines. The course is designed to compliment and should be taken in sequence with 546 (Advanced Vibrations)/J.W. Stewart
(2 hours, first term)

611. Applied Catalysis II. Prerequisite: 511 or equivalent. A continuation of the subject matter of 511 with emphasis on recent developments and the theory of heterogeneous catalysis./K.A. Shelstad.
(2 hours, both terms)

612. Selected Topics in Chemical Engineering. The choice of topics discussed varies somewhat from year to year but centres about electrostatic charge and field effects on chemical and physical rate processes./W. Bulani
(2 hour, both terms)

***613. Advanced Mathematics for Chemical Engineers.** Application of operational and matrix calculus to the solution of complex chemical engineering problems./M. A. Bergougnou
(1 hour, both terms)

***620a. Advanced Science of Structures.** Prerequisite: 520a and b or equivalent. A continuation of 520a and b.

Advanced problems and more detailed application such as the design of tall building, towers suspension bridges./A.G. Davenport
(2 hours, first term)

***620b. Advanced Science of Structures II.** Prerequisite: 620a or equivalent. A continuation of 620a./A. G. Davenport
(2 hours, second term)

***622a. Advanced Topics in Geotechnical Engineering I.** Recent advances in theories, application and design concepts in soil and rock mechanics. Anisotrophy and inhomogeneity in getotechnical materials and other selected topics, included case histories of difficult design and construction problems./K. Y. Lo.
(2 hours, first term)

***622b. Advanced Topics in Geotechnical Engineering II.** Continuation of "I" above./K. Y. Lo.
(2 hours, second term)

***643a. Radiative Heat Transfer.** A study of the Physics and the application of thermal radiation heat transfer which will include thermal radiation laws, characteristics of ideal and real systems, energy exchange concepts, geometric factors, energy exchange in grey enclosures, non-grey and non-diffuse system analysis, and energy transfer in absorbing and emitting media./J.D. Tarasuk
(2 hours, second term)

***643b. Advanced Topics in Thermodynamics and Heat Transfer.** Selected topics which can be chosen to meet the needs of the class./E. S. Nowak.
(2 hours, second term)

***651a. Crystal Plasticity.** Introductory survey outlining the basic ideas of dislocation theory. Dislocations in real crystals e.g., the arrangement of dislocations in crystals and their interaction with other lattice defects. Defects in quenched and irradiated crystals. Review of the application of dislocation theory to studies of certain specific processes in crystalline materials e.g., crystal growth, work hardening, fracture etc./C. Roy
(2 hours, first term)

660. Biochemical Engineering Design. Design of all types of bioreactors are reviewed, e.g. open, closed, "4 phase", packed bed, etc. Also design features of all unit operations used to support the bioreactor and selected recovery processes are covered./J.E. Zajic, N. Kosaric
(2 hours, both terms)

690. PhD Thesis

910. Chemical and Biochemical Engineering Seminar. Review of research areas particularly under investigation at Western, other universities and industry. The objective is to develop the informational retrieval and oral and written communication skills of the student and to broaden his knowledge in current chemical and biochemical research areas./Staff
(2 hours, both terms)

920. Civil Engineering Seminar./ Staff
(2 hours, both terms)

930. Electrical Engineering Seminar. Seminar series dealing with contemporary problems and advances in electrical engineering. Topics to be covered will depend upon student and faculty interest and will deal with subject matter other than just the students' research interest./Staff
(1 hour, both terms)

Epidemiology and Preventive Medicine

Professors

Buck, Carol W., MD, PhD UWO Chairman of Department

McWhinney, I.R., MB, BSc, MD Cambridge

Associate Professors

Rand, C.G., BA Mt. Allison; MD, CM McGill; MPH Harvard

Wanklin, J.M., BA, PhD UWO

Associate Professors

Stavraky, Kathleen M., MD, PhD UWO

Thurlow, H.J.A., BA, MA, MD UWO

Williams, J.I. BA Nebraska Wesleyan; MA New Hampshire; PhD Florida State

The research interests of the Department are chiefly in the fields of epidemiology and biostatistics with current emphasis on studies of perinatal mortality, child development, cancer, mental illness and individual patterns of morbidity.

A graduate training program in epidemiology is available for a limited number of students. Suitable graduates in medicine, biology, mathematics or the behavioral sciences are eligible for training for the M.Sc. or Ph.D. degree.

Also it is possible for physicians proceeding to the Fellowship of the Royal College in some specialties to take Epidemiology as their basic science.

COURSES

510. Biostatistics

521. Epidemiology in Family Medicine

524. Social Epidemiology. Offered jointly with the Department of Sociology. It will include an examination of social epidemiological methods, patterns of acute and chronic morbidity, and the effects of social and psychological factors on health behavior. (half course)

530. Fundamentals of Epidemiology and Biostatistics

545. Community Aspects of Mental Health. Offered jointly with the Department of Sociology. It will include a study of the incidence and prevalence of mental disorders, their inter-relationship with socio-culture and emotional factors, and an evaluation of selected mental health programs and services. (half course)

546. Health Care Organization. Offered jointly with the Department of Sociology. It will include an analysis of the distribution of health resources with special consideration given to the effectiveness of health care delivery, public health policy, the health professions, and medical economics. (half course)

590. M.Sc. Thesis

610. Principles of Epidemiological Research

611. Statistical Methods in Epidemiology

612. Selected Topics in Epidemiology

690. PhD. Thesis

French

Professors

Barbier, C.P., BA, MA Leeds. Chairman of Department.

Bush, W.S., BA John B. Stetson; MA South Dakota; DU Paris

Lenardon, D., BA, BEd Alberta; MA PhD Toronto

Sanders, J.B., BA, MA Manitoba, DU Paris

Tuchmaier, H., DU Laval

Venesoen, C., DesL Laval

Associate Professors

Balse, M.L., BA, MA PhD Bombay; DU Paris

Creighton, D.G., BA, MA Toronto; PhD Columbia

Heller, L.M., BA, MA, PhD Wisconsin

Jones, Dorothy, F., BA Smith; MA Columbia; PhD Brown

Walters, R.L., BA Oberlin; MA, PhD Princeton

Assistant Professors

Arnold, I., BA London; MA British Columbia; PhD Toronto

Atance, F.R., BA Toronto; MA Nebraska; PhD UWO

Baguley, D., BA Nottingham; MA Leicester; DU Nancy

Cameron, J.L., BA New Zealand; MA Canterbury; MA, PhD Princeton

Forsyth, Louise H., BA Saskatchewan; MA, PhD UWO

Holder, M.A., BA, MA, PhD Toronto

Ross, Margaret H., BSc Dalhousie; LesL Orleans-Tours; MA Dalhousie; D Ille C Orleans-Tours

Saraydar, Alma C., BA California (Los Angeles); MA Chicago, PhD California (Berkeley)

Youssef, Zobeidah, LesL Lausanne, DU Paris

The Department of French offers programs leading to the degrees of MA and PhD. The special regulations governing these degrees are available on request from the Department of French.

There are two methods of qualifying for the MA degree. The student may take three courses and write a thesis, or he may take four courses and write an Extended Essay. One of the courses in each option will be a combination of two compulsory half courses in advanced French composition and in research methods.

Candidates for the PhD degree are required to take four courses beyond the Master's degree and to write, under supervision, a doctoral dissertation; one of the courses in advanced French composition and in research methods. This latter requirement may be waived by special permission of the Department. Candidates may also be required to carry reading assignments in selected areas.

Students must obtain an overall B average (70%) in their course work for the MA and PhD degrees.

Students wishing to take a course offered by the Department of French in the Summer Term should first consult the special regulations of the Department governing those courses to determine whether they are eligible to do so.

GRADUATE

COURSES

The Department of French does not offer all the courses listed below in any one Academic Year. Most of these course titles refer to a general area of study. Specific content of the courses offered each year will be outlined in a booklet issued by the Department in January.

500. M.A. Extended Essay
510. Advanced French Composition. (Compulsory half course for MA and PhD candidates)
520. Research Methods. (Compulsory half course for MA and PhD candidates)
530. Literary Criticism
540. General Linguistics
541. Old French: Language and Literature
560. The Literature of French Canada
562. XVIth Century French Humanism
563. XVIth Century French Poetry
570. XVIIth Century French Tragedy
574. French Classical Thought
575. XVIIth and XVIIIth Century Comedy
580. XVIIIth Century French Thought
585. XVIIIth Century French Novel
588. Art and Literature
590. MA Thesis
591. The Romantic Movement
592. Symbolist Poetry
593. XIXth Century French Theatre
597. XIXth Century French Novel
598. XIXth Century French Thought
600. XXth Century French Poetry
610. XXth Century French Theatre
620. XXth Century French Novel
630. XXth Century French Thought
690. PhD Thesis

German

Professors

Immerwahr, R.M., AB Swarthmore; MA Northwestern; PhD California (Berkeley). Chairman of Department

Tracy, G.L., BA Queen's; MA, PhD Wisconsin

Associate Professors

Anderson, A.R., BA Toronto; PhD
Schlutter, H.J., PhD Kiel
Spencer, Hanna, PhD Prague

Assistant Professors

Seufert, G.H., Staatsexamen Tubingen
Calbert, J.P., Licentia, Louvain

The Department of German offers courses leading to the degrees of MA and PhD. There are two ways of qualifying for the MA degree: the student may take three courses and write a thesis or he may take four courses and submit a formal seminar report. All MA candidates will take a departmental oral examination. New PhD candidates will not be admitted in 1972-1973.

Candidates for the PhD are required to take at least four courses beyond the Master's degree and to write, under supervision, a dissertation. Applicants should be graduates of an Honors Program in which German is one of the major subjects, or its equivalent.

Not all of the following courses are offered in any one year. Normally, each member of the Graduate Faculty offers only one course a year, and only those courses are offered for which there is sufficient demand.

COURSES

500. Reading and Research (Work with individual students on special reading and problems of critical evaluation).
501-505. Special topics.
506. Linguistics and Literary Style.
508. New Linguistic Approaches to the Structure of German.
510. Survey of German Literature.
520. Middle High German and Early New High German. (Phonology, Morphology, Syntax and Readings)
523. Mediaeval German Literature.
530. German Literature of the Reformation, Counter Reformation and Baroque.
540. Lessing and his Age.
545. The Pre-Romantic Period and Sturm und Drang.
550. Studies in Goethe.
551. Goethe's Faust.
552. Schiller.
560. German Romanticism.
570. Nineteenth-Century German Drama.
571. The Novel of the Nineteenth Century.
572. Nineteenth-Century German Poetry.
573. Heine. Das Junge Deutschland.
574. Stifter and Keller.
580. Twentieth-Century German Drama.
581. The Twentieth-Century German Novel.
582. Twentieth-Century German Poetry.
590. MA Thesis.

Graduate courses which will probably be offered in 1972-1973

500. Reading and Research
508. New Linguistic Approaches to the Structure of German. (J. P. Calbert)
545. The Pre-Romantic Period and Sturm und Drang (R. Immerwahr)
574. Stifter and Keller. (A. R. Anderson)
582. Twentieth-Century German Poetry. (G. L. Tracy and R. Purekevich)

Geography

Professors

Hosse, H.A., B.A., M.A. Manitoba Ph.D. Ottawa; Professor Political Science.

Nelson, J.G., B.A. McMaster Ph.D. John Hopkins

Nicholson, N.L., B.A., MSc UWO Ph.D. Ottawa. Senior Professor.

Packer, R.W., B.A., M.A. Cantab

Philbrick, A.K., B.A., MS. Ph.D. Chicago

Pleva, E.G., B.A., M.A., Ph.D. Minnesota.

Warntz, W., B.S., Ph.D., Pennsylvania; Chairman of the Department

Associate Professors

Bjorklund, Elaine M., BSc Utah, M.A. Washington, Ph.D. Chicago

Goodchild, M.F., B.A. Cantab, Ph.D. McMaster

Janelle, D.G., B.A. S.W. Louisiana, M.A., Ph.D. Michigan State

Longtvet, O.P., C.Mag, CPhil Oslo

McDaniel, R., B.A., M.A. UWO

Sim, V.W., B.A. McMaster, M.A. Clark, Ph.D. McGill

Taylor, H.W., B.A. Westchester State, M.A. Indiana, Ph.D. Maryland

Whebell, C.F.J. B.A., MSc, UWO, Ph.D. London

Wightman, W.R., B.A., M.A. UWO, Ph.D. Durham

Assistant Professors

Butler, R.W., B.A. Nottingham

Code, W., B.A. Queens, Ph.D. California, Berkeley.

Day, J., BSc, MSc, UWO, Ph.D. Chicago

King, R.H., BSc Wales, MSc Aberdeen, Ph.D. Saskatchewan

Smith, T., B.A. Cambridge, Ph.D. John Hopkins

Troughton, M.J., B.A., M.A., B.Litt Oxford, Ph.D. UWO

White, R., B.A. Swarthmore, M.A. North Carolina

The Department offers programs leading to the M.A., M.Sc., and Ph.D. degrees in Geography. The Department is prepared to supervise research within the principal interests of its staff, but particularly in the research foci of urban and regional studies, social geography, resources management, physical geography, and quantitative theory and spatial systems.

ADMISSION

Applicants for entry into the Master's program must have an Honors Bachelor's degree or equivalent in Geography with at least a B average from a recognized university, or have a degree in some other program with at least a B average and have completed a series of courses to the satisfaction of the Department. Applicants for the Ph.D. program who hold a Master's degree or equivalent are accepted at the discretion of the Department.

DEGREE REQUIREMENTS

The Masters Thesis and the Ph.D. Dissertation represent the end products towards which the program is directed. All degree candidates must defend their thesis/dissertation at an oral examination. All graduate students must complete a program of courses consisting of Geography 598/698 and 599/699 (The Graduate Forum on Spatial Concepts and Analysis), Geography 543/643 (Field Research), and a minimum of one additional course as specified at a diagnostic interview prior to registration. Ph.D. candidates are required to demonstrate a reading knowledge of a language other than English which is acceptable to the Department.

Additional information on admissions, programs and regulations is available from the Coordinator of Graduate Studies, Department of Geography.

GRADUATE

COURSES

NOTE: All courses will not necessarily be offered in any one year

*Half course.

500(a) Analysis of spatial pattern Methods for the description and analysis of geographic pattern. Probabilistic pattern-generating models, and optimising methods.

500(b) Models of geographical choice and decision Contemporary methods of analysis appropriate to consumer and recreational behaviour, resource management and other applied fields. Scaling, preference structures and the analysis of qualitative data.

502. Seminar on the teaching of geography/ E.G. Pleva

522. Development Aspects in Industrializing Nations. The social, economic, political and spatial structure and inter-related development problems in selected countries or regions. (Offered jointly with Political Science and Sociology) H.A. Hosse and Staff

530. Advanced Climatology. Examination of selected topics in theoretical, practical and applied climatology.

***Geography 531a. Slope Processes and Development.** A critical examination of geomorphic processes operating on slopes and the development of slopes./R.W. Packer, R.H. King

***Geography 531b. Pedogenic-Geomorphic Interactions.** A review of pedogenic pathways and an analysis of the spatial interactions between geomorphic processes and pedogenesis in selected case studies./R.H. King

***532a. Cultural Geography.** A process-oriented cultural geography with specific reference to both scientific and humanistic models. (Fall Term).E.M. Bjorklund, A.K. Philbrick

***532b. The Geography of Cultural Conflict.** Models of intercultural conflict evaluated and developed. There will be joint sessions with 533b. Enrolment in both courses is not permitted. (Winter Term).E.M. Bjorklund, D.G. Janelle, A.K. Philbrick.

***533a. Urban Spatial Models.** A critique of urban spatial models, including a review of recent literature emphasizing the development of inter-urban systems and the behavioral base of urban spatial structure. Problems of time-spatial. Forecasting and techniques of simulation are considered. (Fall Term)/D.G. Janelle.

***533b. The Geography of Urban Conflict.** Models of ecological-spatial structure, decision making and conflict resolution evaluated with respect to inter-cultural and locational conflicts in the city. A review of the literature and relevant techniques is included. There will be joint sessions with 532B. Enrolment in both courses is not permitted. (Winter Term)/E.M. Bjorklund, D.G. Janelle, A.K. Philbrick.

***534a. Urban Planning.** Problems of urbanization; concepts and processes of planning for urban development; critical evaluation of current practices. (Fall Term)/H.A. Hosse.

***534b. Regional Planning.** Systems approach to comprehensive regional development; spatial relationship of interactions within a region; examination of selected regional development schemes. (Winter Term)/H.A. Hosse.

***535a. Development and Management of Natural Resources.** Analysis of water use problems with emphasis on river basin development and water quality management. (Fall Term)/J.D. Day.

***535b. Development and Management of Natural Resources.** Analysis of problems related to the use, misuse and deterioration of mineral, soil, biotic and landscape resources. (Winter Term)J.D. Day.

***535e.** As 535a. but for Engineering Science students (Winter Term)

537. Recreation Resource analysis. The use of land and water for leisure and an analysis of factors affecting the variation in development and type of recreational activities; regional recreation resources; international aspects of the tourist industry./R.W. Butler.

***539a. Methods of Regional Analysis.** An examination of the nature and application of social accounts, statistics, and mathematics to spatially-oriented problems of socioeconomic development./(Fall Term) R. McDaniel.

***539b. Complex Spatial Systems Analysis.** An examination of the nature and implications of the global trend toward automated information systems and spatial model building./(Winter Term) R. McDaniel.

540. Political Geography Seminar. A study of the spatially-derived elements of political systems; models of territoriality; and selected themes and case studies./C. F. J. Whebell

541. Advanced Cartography. Studies of modern map making and atlas techniques; design and execution of cartograms./R. W. Packer

543. Field Methods and Practices. Departmental field camps and field trips as arranged. Mandatory for all M.A. students./Staff.

***545. Studies of the Great Lakes Basin.** /E. G. Pleva

547. Studies in Historical Geography. Methods, techniques and current research with special reference to Canada and Ontario./W. R. Wightman.

560. Canada. Current research problems of national significance with emphasis on resource survey and development./N. L. Nicholson.

569. Polar Lands. Recent research in the physical geography of polar lands; analysis of the cultural and economic factors involved in the development of polar areas./O. P. Langtvet

570. Latin America. Discussion of the problems of Latin America with particular emphasis on emerging social patterns and resource development./H. W. Taylor

580. The St. Lawrence Lowlands. The background, development and current issues in the Human Geography of southern Ontario and central Quebec./C. F. J. Whebell

***581a. Biogeography.** Principles of the distributional patterns of plants and animals with special reference to southwestern Ontario./C. F. J. Whebell

590. M.A. Thesis./Staff

***598. Graduate Forum on Spatial Concepts.** An examination of the conceptual basis of current geographic research. For Master's students. (Fall Term)/Staff.

***599. Graduate Forum on Spatial Analysis** An examination of the methods of geographic research. For Master's students. (Winter Term)/Staff.

643. Field Methods and Practices. Departmental field camps and field trips as arranged. Mandatory for Ph.D. students./Staff

***645. Problems in Environmental Analysis.** /E. G. Pleva

690. Ph.D. Thesis. /Staff.

***698. Graduate Forum on Spatial Concepts.** An examination of the conceptual basis of curent geographic research. For Ph.D. students. (Fall Term)/Staff.

***699. Graduate Forum on Spatial Analysis.** An examination of the methods of geographic research. For Ph.D. students. (Winter Term)/Staff.

Geology

Professors

Beck, A.E., BSc London; PhD Australian National University; Acting Head of Department

Dreimanis, A., Mag.rer.nat Riga; DSc Waterloo

Hutchinson, R.W., BSc UWO; MSc, PhD Wisconsin

Reavely, G.H., BA, MA UWO; DIC London. Emeritus

Suffel, G. G. BSc, MSc Queen's; PhD Stanford, Emeritus.

Associate Professors

Church, W.R. BSc, PhD Wales

Edgar, A.D., BA, MSc McMaster; PhD Manchester

Fleet, M.E., BSc, PhD Manchester

Lenz, A.C., BSc, MSc Alberta; PhD Princeton

Quigley, R.M. BASc, MASc Toronto; PhD MIT. Associate Professor of Engineering Science

Starkey, J., BSc, PhD Liverpool

Sutterlin, P.G., BSc McMaster; PhD Northwestern

Young, G.M., BSc, PhD Glasgow

Assistant Professors

Hodder, R.W., BA Queen's; PhD California, Berkeley

MacRae, N.D., BSc Queen's; MSc, PhD McMaster

Honorary Lecturers

Bancroft, G.M., BSc, MSc Manitoba; PhD Cambridge. Assistant Professor of Chemistry

Palmer, H.C., BSc St. Francis Xavier; PhD Princeton. Associate Professor of Geophysics

ADMISSION

Detailed instructions may be obtained by writing the Graduate *Student Co-ordinator, Department of Geology.* All graduate students upon first registration write a comprehensive examination to guide the faculty advisors in course selection.

MSc degree: Minimum requirements are two graduate or equivalent courses, one year residence, seminar, and thesis.

PhD degree: Minimum requirements from an Honors BSc degree are four graduate courses or equivalent, oral qualifying examination, three years residence credit, foreign language, seminars, and thesis.

RESEARCH INTERESTS OF THE DEPARTMENT

Details on these abbreviated listings can be obtained from the Chairman of the Department or a member of faculty as indicated by course offerings. Generally, financial assistance for research is available for these studies.

X-ray crystallography and crystal structure determinations

Experimental petrology, mineralogy of undersaturated alkaline rocks and eclogites

Crystallography and phase chemistry of sulphide minerals

Structural geology of western Newfoundland and the Proterozoic in Ontario. Ultramafic rocks, ophiolites and high-pressure mineral assemblages.

Genesis and metamorphism of base metal sulphide ores

Origin of mineral deposits, particularly rare-element pegmatites and evaporites

Lower and Middle Paleozoic stratigraphy

Glacial and Pleistocene geology especially sedimentation and stratigraphy

Invertebrate paleontology especially Paleozoic brachipods, corals, graptolites and conodonts

Proterozoic sedimentation and stratigraphy especially Ontario

Systems design for computers, especially storage and retrieval

Department facilities and equipment, and financial assistance is summarized on the graduate poster, available upon request.

An interdisciplinary **Quaternary Discussion Group** including participants from the fields of geology, geography and engineering meets on a regular basis.

GRADUATE

COURSES

515. Advanced Mineralogy and Crystallography. Introductory X-ray crystallography, powder methods, advanced mineralogical concepts, illustrated by reference to the crystal chemistry and structural crystallography of selected mineral groups./J. Starrey.

517. Advanced X-ray Crystallography: The fundamentals of X-ray crystallography and space group theory. Single crystal X-ray investigation. Crystal structure analysis. X-ray techniques applicable to polycrystalline aggregates to determine grain size, strain residual stress, preferred orientation./J. Starkey

520. Igneous Petrology. Assessment of equilibrium and non-equilibrium processes in silicate systems. Origin and subsequent changes of state of magma in relation to regional tectonic setting./A. D. Edgar.

521. Volcanology. The nature and origin of volcanic phenomena in the light of direct experimental results, theoretical considerations, and field observation. The distribution, products, mechanism of eruption with detailed description of selected oceanic and continental volcanic districts. The application of volcanology to igneous petrogenesis and tectonism throughout geological time. Registration by permission.

525. Metamorphis Petrology. Paragensis of metamorphic mineral assemblages. The relations between lithostatic and fluid pressure stress, and kinetics in the range of metamorphic temperatures are considered in terms of the methods and results of experimental petrology./N. D. MacRae.

527. Structure Petrology. Introduction to the techniques and principles of petrofabric analysis. Selected topics and applications./J. Starkey.

530. Advanced Geochemistry. Selected topics considered in detail./M. E. L. Fleet

539. Sulphide Phase Equilibria and Their Applications to Ores. Basic thermodynamic principles sufficient for understanding sulphide phase equilibria, details of the important sulphide systems, basic laboratory methods and procedures, and applications to naturally occurring ore-mineral assemblages will be present./N.D. MacRae

540. Structural Geology. Principles of geomechanics and theories of rock deformation; structural analysis./W.R. Church

542. Geotectonics. Selected topics./W.R. Church

544. Regional Metamorphism. A study of metamorphism as a phenomenon associated with orogenesis./W.R. Church

550. Economic Geology. Study of recent literature on theories of ore deposition together with original laboratory work on ore suites of current interest. Informal discussions pertaining to same./R.W. Hodder

551. Iron Ore Deposits. A study of the various types of iron ores throughout the world, with consideration of their relative importance to the steel industry. A detailed study of a prominent North American deposit.

552. Non-Ferrous Base Metal Deposits of Canada. A survey of actual and potential producers. The position of Canada with respect to world production, consumption and exports. A study of the properties and operations of a large Canadian company.

553. Non-metallic Mineral Deposits. A survey of principal industrial and non-metallic mineral deposits, particularly in North America. Economic importance and uses of these commodities. Part lecture, part seminar-discussion treatment./R. W. Hutchinson

554. Mineral Industry. Various aspects of the industry considered in relationship to interdisciplinary fields. Mineral exploration and exploitation; mineral economics and taxation; mine evaluation and finance; mineral rights, ownership and law. Coverage by lecture, seminar, guest speakers./R.W. Hutchinson

555. Genesis of Base Metal Massive Sulphide Deposits. Comparison of different types of massive sulphide deposits, consideration of their metallogenic relationships and distribution in space and time. Study of recent literature on theories of their genesis. Lectures, seminar-discussions and original laboratory work or literature review./R.W. Hutchinson

Note: 553, 554, 555 are given in successive years; 553 is planned tentatively for 1972-73.

559. Carbonaceous Fuels. The habitat of coal, petroleum, and natural gas; conditions of origin, methods of exploration, and economic aspects./P.G. Sutterlin and C.G. Winder

560. Stratigraphy. An advanced course on stratigraphic principles./ C. G. Winder

564. Advanced Sedimentation. Formation of sediments by physical, chemical and biological processes./G.M. Young

567. Advanced Glacial Geology. Selected topics./A. Dreimanis

568. Advanced Pleistocene Geology. Stratigraphy and correlations./A. Dreimanis

Note: 567 and 568 are usually given in alternate years; 568 is planned for 1972-73.

569. Paleoecology. The interpretation of original conditions within the depositional environment from sediments, the primary and secondary features within the sediments, and the nature of the fossil record. The student should have had the courses in sedimentation and invertebrate paleontology./C.G. Winder

570. Micropaleontology. Morphology, classification, ecology, and stratigraphic occurrence of principal forms. Conodonts are emphasized; laboratory exercises and problems./C.G. Winder

571. Palynology. With emphasis on pollen analysis and its applications in geology and archeology./A. Dreimanis

575. Invertebrate Macropaleontology. Advanced study of selected groups of Paleozoic invertebrates./A.C. Lenz

579. Organic Evolution and Fossils. Organic evolution from the geologic paleontologic viewpoint; incorporating biologic evidence. Illustrations from fossil record, and studies of particular invertebrates and vertebrate fossil groups, including man./A.C. Lenz

581. Graduate Seminar. /Staff

590. MSc Thesis.

598. Geological Data Analysis. Data presentation and analysis using graphic numerical and statistical methods; use of computers; courses in methematics desirable but not required, includes a short course in Fortran IV./P.G. Sutterlin

690. PhD Thesis.

Geophysics

Professors

Beck, A.E., BSc London; PhD Australian National University; Head of Department

Carmichael, C.M., BSc, MSC, PhD UWO

Associate Professors

Mansinha, L., BSc, MTech, IIT Karagpur; PhD British Columbia

Mereu, R.F., BSc, MSc Toronto; PhD UWO

Palmer, H.C., BSc St. Francis Xavier; PhD Princeton

Schloessin, H.H., BSc Zurich; PhD Cologne

Assistant Professor

Hayatsu, A., BSc, MSc Tokyo; PhD Toronto

The Department offers courses leading to MSc and PhD degrees in Geophysics. The laboratories have facilities for research in terrestrial heat flow and geothermometry, rock magnetism and paleomagnetism, seismology, gravitation, methods of exploration geophysics, theoretical and model studies of the earth's interior, geochronology, gamma ray spectrometry, physical properties of rocks at high pressures and high temperatures.

In any one year the selection of courses offered depends upon the programs of the students in the Department.

COURSES

506. Crustal Structure. A general course on the structure of the crust of the earth, together with a discussion of the mechanisms of mountain building and continent formation./H.C. Palmer

509. Deformation. Application of the theories of elasticity, viscosity and plasticity to the problem of the deformation of the earth's crust. Mathematical theories of folding. Fault and fracture propagation. Applications of dislocation theory./L. Mansinha

512. Theoretical Seismology. The theory of elasticity sufficient for application to the theory of seismology is developed. Other topics presented are — dilatational waves, rotational waves, Rayleigh waves, Love waves, dispersion, eflection, absorption, seismic ray theory, seismic wave generation, and applications./R.F. Mereu

520. Solid State Physics. A study of the elastic, thermal, electrical and magnetic properties of crystalline solids./C.M. Carmichael

550. Exploration Geophysics. The 550 set of courses are specialist courses in various exploration methods. The background theory and methods of interpretation will be discussed during term time and will be followed by a two week field camp in May when the students taking a course will be assigned a small field problem so that they may become familiar with the instruments used, field practice and interpretation of actual field phenomena. All of the 550 group have a course weight of 1/2 and will be taught by full time faculty members and visiting staff.

551. Gravity Methods.

552. Magnetic Methods.

553. Electromagnetic Methods.

554. Electrical Methods.

555. Seismic Methods.

556. Other Methods.

580. Graduate Seminar. A course wherein each graduate student is required to (a) prepare a note in acceptable form for publication and give a full lecture on topic; (b) prepare a full paper in acceptable form for publication and give a 15-minute talk on the topic at a symposium with all students taking part and all staff in attendance./Staff.

585. Special Topics/Staff and Visitors.

586. Special Topics/Staff and Visitors.

590. MSc Thesis.

690. PhD Thesis.

History

Professors

Balderston, W., BA, PhD Cornell

Ferguson, W.K., BA UWO; MA, PhD Cornell; DLitt, Senior Professor

Kerr, D.G.G., BA McGill; PhD London; Senior Professor

Lander, J.R., BA, MA, MLitt Cantab

Overton, R.C., AB, AM Williams; PhD Harvard. Senior Professor

Rowe, J.G., AB Harvard; BD Episcopal Theological School; MA, PhD Toronto; Dean of Arts

Talman, J.J., BA, MA UWO; PhD Toronto; DLitt Waterloo; FRSC

Wade, Mason, H., MA McGill; LLD New Brunswick; DesL Ottawa; Senior Professor

Zaslow, M., BA, BEd Alberta; MA, PhD Toronto

Associate Professors

Armstrong, F.H., BA, MA PhD Toronto

Dreyer, F.A., BA Toronto; BA Oxon; PhD St. Andrews

Emerson, R.L., BA Dartmouth; AM Brown; MA, PhD Brandeis

Gwynne-Timothy, J.R., BA, MA Toronto; DPhil Oxon

Hilborn, K.H.W., BA, MA Queen's; DPhil Oxon

Hohner, R.A., BA, MA, PhD Duke

Hyatt, A.M.J., BA RMC; BA Toronto; MA Carleton; PhD Duke

McLaughlin, J.P., BA Queen's; PhD London

Ogelsby, J.C.M., AM Stanford; MA, PhD Washington

Ruud, C.A., BA Willamette; AM Harvard; PhD Berkeley. Chairman of Department

Steele, I.K., BA Alberta; PhD London

Stockdale, W.H., BA, MA Alabama; PhD New York. Assistant Dean of Graduate Studies

Zoltvany, Y.F., BA Loyola; MA Montreal; PhD Alberta

Assistant Professors

Banks, Margaret A., BA Bishop's; MA, PhD Toronto

Emery, G., BA Queen's; PhD British Columbia

Guinsburg, T.N., AB, MA, PhD Columbia

Metzger, F. K., BA Bowdoin; MA Pennsylvania; PhD Rutgers

Neary, P.F, BSc, MA Memorial; PhD London

ADMISSION AND DEGREE REQUIREMENTS

Candidates should read the general university regulations for the MA and PhD degrees given elsewhere in this calendar. Candidates are admitted at the discretion of the Department.

For admission to the Prerequisite year, candidates require a middle B average in the five History courses already taken. Those with less than middle B averages may be admitted at the discretion of the Department, if they are recommended by at least two instructors acquainted with their work, and if their standing in related subjects is deemed satisfactory.

MA DEGREE

Admission requirements and period of study.

(1) Applicants with a first or second-class Honors degree or the equivalent in History may normally proceed to the MA degree by spending the Fall and Winter terms of one academic year in residence, if registered in the MA by thesis program, or one calendar year (Fall, Winter and Summer Terms), if registered in the MA by course program.

(2) Applicants possessing a first or second-class General Program degree, with History as their major subject, must normally enroll in a two-year program and spend two years in residence. During the first or Prerequisite year, such candidates will take four undergraduate Honors courses to equip them for graduate work. Admission to the second year depends on a student's performance in the Prerequisite year courses, with a middle B (UWO 74%) average as minimum qualification to proceed.

Degree Requirements

Candidates may proceed to the MA degree by either the thesis or the course program. In either case, however, they must demonstrate their reading knowledge of one language, acceptable to the Department, other than English (or French when this is their mother tongue).

(1) MA by thesis: The major requirement is a thesis, based on original research and demonstrating capacity for independent critical judgment. The student will submit to his supervisor an outline of his projected thesis research early in November of his MA year. When the thesis has been completed, the student will be examined orally on it and on the field in which it falls.

Candidates will take at least two graduate courses. A graduate course may be selected from among those offered in other disciplines, but in such cases the permission of the Department of History and of the other Department concerned is required. Similarly an Honors undergraduate history course may, with the permission of the *Graduate Committee*, be selected, but in this case the student will complete additional assignments.

Students are urged to complete their thesis before the fall of the year following that in which they enrolled; and in any case they must submit their theses not later than 15 August of the third year after completion of the course work. If a thesis is not ready for submission within this period of time, it will be necessary for the candidate to make application to the Graduate Committee for re-admission to the program and re-registration of his thesis topic.

(2) MA by Course: The MA by course program covers a full calendar year of studies (September to September in which the student will first take four courses during the regular academic year (September to May) and then devote the summer to preparing for comprehensive examinations in three fields. The comprehensives will be held in the two weeks immediately preceding Fall registration.

At least two of the courses must be graduate courses, one in British or European History and one in Canadian or United States History. The two additional courses may be from the third and fourth year History Honors Program with the permission of the Chairman of the Graduate Committee. A student may take a graduate course or an Honors course in another discipline as a substitute for either of the Honors courses, with the permission of both the department concerned and the History Department.

In choosing the courses the student should keep in mind the fields which he has selected for examination. However, none of the graduate courses will be as broad as the field, and none of the undergraduate courses as intensive; a student will therefore find it necessary to read widely on his own. The fields are in Canadian, United States, English, European, or general history and the student may select one area from each field after consultation with the Department.

Ph.D. DEGREE

Admission requirements and period of study.

Candidates must normally hold the M.A. degree in History and they will be required to spend at least two academic years in residence.

Degree Requirements

(a) Courses. Two graduate History seminars are normally required. A graduate course offered in another Department may be substituted for a History seminar but in this case the permission of the Department of History and of the other Department concerned is required. Candidates must have an A in one seminar and at least a B in the other to obtain credit. Candidates may be asked to withdraw at any time if in the Department's judgment their work is unsatisfactory.

(b) Comprehensives. At the time of registration each student will select, in consultation with his adviser, three fields of study, one in European History, one in North American History, and one other. These may be chronological fields (for example, Tudor England or Canada since Confederation) or functional fields (for example, United States Economic History, 1850 to the present, or Social History of England, 1800 to the present). When the course work has been completed, normally at the end of the first year after the M.A., each student will take comprehensive written or oral examinations in each of the three fields he has chosen. The examinations will be held in October of the candidate's second year.

(c) Thesis. A thesis showing evidence of scholarly research and originality is the major requirement. The candidate will select a topic in consultation with his adviser and will present an outline of his projected thesis no later than December of the second year of his doctoral program. When the thesis is completed, there will be a faculty oral examination. Before the examination the candidate will present a lecture on his research.

(d) Language Requirement. Candidates must demonstrate their reading knowledge in one language, acceptable to the Department, other than English (or French when this is their mother tongue).

The Ph.D. program provides opportunities for candidates to gain experience in teaching. The Department offers a number of teaching fellowships and students holding them lecture or assist with tutorial groups in undergraduate courses.

Further information may be obtained by writing to the Chairman, Graduate Committee, Department of History.

COURSES

504. French Canadian Origins: Selected topics in the Early History of French Canada./ Y. Zoltvany

505. Urbanization and the Growth of Elites in British North America, 1759-1880./ F.H. Armstrong

508. Social, Economic, and Cultural History of Ontario./ J.J. Talman

511. Post-Confederation Federal Elections./D.G.G. Kerr (Not offered 1972-73)

513. The Opening of the Canadian North./ M. Zaslow

515. Canadian-American Relations./ H.M. Wade

523. Tudor and Early Stuart England./ J.R. Lander

525. British Science and Society in the Seventeenth and 18th Centuries./ W. Balderston

527. British Government and Politics, 1760-1852./ F.A. Dreyer

531. The Medieval Monarchy: Papal and Feudal, 1050-1216./ J.G. Rowe

544. French Society and Government, 1763-1852./ J.P. McLaughlin

553. Selected Topics in U.S. Business History, 1860-1920./ R.C. Overton

565. Selected Topics in the First British Empire./ I.K. Steele

570. Historiography and the Philosophy of History./ W.K. Ferguson

578. Selected Topics in the History of Warfare./ A.M.J. Hyatt

579. Military and Strategic Studies: Selected Topics.

581. Selected Topics in International Relations./ K.H.W. Hilborn

587. Reading Course to be undertaken in consultation with a member of the Department.

590. MA Thesis.

686. Directed Study.

690. PhD Thesis.

Note: Facility in reading French is necessary for students wishing to take History 544. For History 531, students should have a good reading knowledge of one of the following languages: French, German, Italian, Latin.

History of Medicine and Science

Associate Professor

Richardson, R.A., BA Sir George Williams; MA McGill; PhD Wisconsin. Acting Chairman of Department

A program leading to a graduate degree is not yet available.

COURSES

540. History of Scientific Ideas. An introductory survey of the historical growth and expansion of scientific ideas from antiquity to the 20th century. Particular attention will be given to the development of the biological sciences during the past two centuries. (half course, fall term)

640. Selected Topics in the History of Scientific Thought. An advanced reading and research seminar, focusing in alternate years on the history of (1) biological sciences, (2) physical sciences.

Library and Information Science

Professor Emeritus

Reitman, E., LesL Paris.

Professors

Cameron, W.J., BA, MA Victoria, NZ; PhD Reading. Dean

Hotimsky, C.M., ACIA Shanghai; MA Waterloo.

Lee, R.E., BA Guilford; BSLS, MFA North Carolina; PhD Chicago.

Prodrick, R.G., BA Toronto; MS Columbia; MA Toronto.

White, Janette H., BA Toronto; MS Columbia.

Associate Professors

DeHart, Florence E., AB College of St. Elizabeth; MA Seton Hall; MLS, PhD Rutgers.

Fyfe, Janet, MA Edinburgh, FLA.

Jamieson, Alexis J., BA, BLS McGill; MA McMaster.

Neill, S.D., BA, BLS, MEd Toronto.

Pendrill, G.R., BA, MA Cantab; Dip Lib London; FLA

Tague, Jean M., BA Alberta; BLS McGill; PhD Western Reserve.

Assistant Professors

Bird, D.A., BA Queens; BA Waterloo; MLS UWO.

Strathern, Gloria M., BA New Zealand; Dip NZLA.

Schulte-Albert, H., BA, BS Kent; MA, MS, PhD Case Western.

Lecturers

Hansen, Kersti, BA, BLS McGill; MLS Toronto.

Janes, Donna Jean, BA Toronto; MLS UWO.

Ketchum, Elizabeth, BA, BLS Toronto; MLS UWO.

McCamus, Betty M., BA Toronto; MLS UWO.

Sprovieri, Carmen L., BA, MA Gonzaga; BLS UBC; MLS UWO.

Stuart, Nancy, BSc, Victoria; MLS UWO

Warden, Carolyn, BSc Furman; M.A.T. Emery; MLS UWO

Honorary Lecturers

McNamara, Carolyn, BA Hunter; MA Toronto; MLS UWO

Plotkin, H.N., BA Michigan; PhD John Hopkins.

Priestly, Diana M., BA, LLB, UBC; MLL Washington.

Richardson, R.A., BA Sir George Williams; MA McGill; PhD Wisconsin.

Stierwalt, R., BA Fresno State; MLS Univ. of California, Berkeley.

Visiting Lecturers

Beacock, S., BA Queens; MLS Toronto.

Black, J.B., BA, SthB, BLS, MLS, Toronto.

Belzer, J., BA, BSEE Cooper Union.

Debenham, W.S., AB, MLS Pittsburgh.

Donnelly, Eleanore C., BA, BLS, MLS Toronto: MA UWO,

Ready, W.B., BA, DipEd Wales; MA Manitoba; MLS UWO.

Swarthout, Charlene, BA, MS, EdD, Wayne State.

Application forms may be obtained from either the Faculty of Graduate Studies or the School of Library and Information Science. Students may enter the MLS course of studies in the fall, winter, or summer term. An orientation period of a week is required of students in advance of the academic term which they enter. Part of the orientation consists of an introduction to computer work for those who lack such preparation: the purpose is to provide a foundation for computer applications and studies in the School.

Required courses are offered every term. Other courses may also be offered every term but in general are offered at least once in every three terms although there may be exceptions, especially in the 560 series. Each course is technically a half-course, i.e., it is completed in one term; but some courses are linked chronologically with others in the same group. For more information, refer to Calendar of School of Library and Information Science.

Courses

Prerequisite Year

500-509. Foundation Studies.*

501. Old World and Cultural Foundations /H. Schulte-Albert, E. Ketchum.

502. New World Intellectual and Cultural Foundations /S. D. Neill, W.B. Ready.

503. Bookcollecting and Librarianship/W.S. Debenham, C.M. Hotimsky, J.H. Fyfe.

504. Bibliography and Librarianship/C.M. Hotimsky.

505. Intellectual and Cultural Foundations of Classification/S.D. Neill.

507. Systems Analysis and Libraries/Staff.

508. Guided Reading/Staff.

509. Education for Librarianship /Staff.

*All MLS students are required to take 501 or 502 from the "foundation studies" group of courses but may not take more than two half courses from that group for credit towards the M.L.S. program.

M.L.S. Program

510-519. Professional Theory and Methodology.

511. Humanities/A.J. Jamieson, J. Fyfe, F. DeHart, N. Stuart. Required in the first term.

512. Social Sciences/F. DeHart, D.J. Janes, J.H. White. Required in the second term.

513. Science and Technology/G.R. Pendrill, J.H. White. Required in the third term.

514. Special Topics in the Humanities/Staff.

515. Special Topics in the Social Sciences/Staff.

516. Special Topics in Science and Technology/Staff.

519. Problems in the Organization of Information/F. DeHart.

520-529. Administrative Theory and Practice.

521. Principles and Practice/Required for the first term.

522. Library Planning/Required in first term.

523. Library Theory and Practice /J.B. Black, R.G. Prodrick. Required in the second term.

524. School Theory and Practice /S.D. Neill.

525. Services to Children and Young People/E. Donnelly.

527. Community Services: Local, Regional, National/E.J. Ketchum.

528. Higher Education/R.G. Prodrick, W.B. Ready, W.S. Debenham.

529. Special Libraries/J. White, G.R. Pendrill.

530-539. Research Principles and Practice

531. Research Principles and Practice in the Social Sciences/R.G. Prodrick, J. Fyfe.

532. Special Research Topics in the Humanities/W.J. Cameron.

534. Research Principles and Practice in the Social Sciences/R.G. Prodrick, J. Fyfe.

537. Research Principles and Practice in Science and Technology /G.R. Pendrill.

539. Guided Research/Staff. One of the 530 courses is the prerequisite.

540-547. Special Topics.

542. Serial Literature/E.J. Ketchum.

543. Historical Development of Children's Literature/E.C. Donnelly, C. Swarthout.

544. Canadiana/G.M. Strathern.

545. Slavic Libraries and Librarianship/C.M. Hotimsky.

548. History of Science/H.N. Plotkin, R.A. Richardson.

550-559. Communication and Information Studies.

551. Linguistic and Communication Studies/C.M. Hotimsky, H. Schulte-Albert, J.H. White. Required in first term.

552. Introduction to Information Science/G. R. Pendrill, D. Bird, J. Tague. Required in the penultimate term of each program.

553. Problems in the Computer Control of Information/J. Belzer. Required in the final term of each program.

557. Mathematical Models/J. Tague.

558. Special Topics in the Computer Control of Information/J. Belzer, J. Tague. 552 is the prerequisite.

559. Audiovisual Theory and Practice/S.D. Neill.

560-569. Special Services.

561. Art Libraries and Information.

562. Business Libraries and Information

566. Law Libraries and Information /D. Priestly.

567. Medical Libraries and Information/G.R. Pendrill.

569. Music Libraries and Information.

570-578. Cognate Studies.

571. Archives Theory and Practice /G.M. Strathern.

580. Masters Seminar/W.J. Cameron, R.E. Lee, R.G. Prodrick, R. Stierwalt.

Mathematics

Professors

Ali, M.M., BSc, MSc Dacca; MS Michigan; PhD Toronto

Borwein, D., BSc Witwatersrand; PhD, DSc London; FRSE. Head of Department

Cole, R.H., BA UWO; MA, PhD Wisconsin. Senior Professor

Moore, J.T., BA UWO; MA Wisconsin; PhD Chicago

Ritcey, L.F.S., BA Mount Allison; MA Harvard; PhD Chicago, A.S.A.

Thierrin, G., Lic. Math, Doc. Math Fribourg; Doc. Math Paris

Associate Professors

Bode, Anne E.M., BA, MA Saskatchewan

Bryan, R.N., BA, MA, PhD Utah

Chan, L.K., BSc Hong Kong Baptist; MA, PhD UWO

Haq, M.S., MA, PhD Toronto

McKay, D.O., BA, MA, PhD Buffalo

Shawyer, B.L.R., BSc, PhD St. Andrews

Wonnacott, T.H., BA UWO; PhD Princeton

Assistant Professors

Biggs, R.G., BSc Stanford; PhD British Columbia

Cass, F.P.A., BSc, MSc Victoria, NZ; PhD UWO

Florence, J.B., MA St. Andrews; MSc Newcastle-Upon-Tyne; PhD Simon Fraser

Heinicke, A.G., BSc, MSc Manitoba; PhD British Columbia

Klass, W., BSc West Indies; MA, PhD Toronto

Miller, C.B., BA Saskatchewan; AM, PhD Illinois

Milnes, P., BA, MSc, PhD Toronto

Rankin, S.A., BA, MA Saskatchewan; PhD Ottawa

Reis, C.M., MA Oxford; PhD Michigan State

Robinson, I.J.W., BA, MA Queen's; PhD UWO

State, E.Y., BSc Toronto; MA Illinois; PhD UWO

Strube, R.F.E., BS MIT; MS, PhD Michigan

Vranch, J.K., BSc, MA, PhD Waterloo

The Department of Mathematics offers programs leading to the degree of MA and PhD. At present particular research interests of the faculty include the following: Combinatorial Analysis, Commutative Algebra, Group Theory, Ring Theory, Ordinary and Partial Differential Equations, Summability Theory, Number Theory, Actuarial Mathematics, Mathematical Statistics, Foundations of Mathematics, Semigroups, Operator Algebras, Algebraic Topology, Topological Groups, Automata.

DEPARTMENTAL REGULATIONS

These are additional to the general regulations listed earlier in this announcement.

M.A. Degree

(1) A candidate with a General Bachelor's Degree will be required to enroll in a Prerequisite Year in which he shall complete satisfactorily a minimum of five undergraduate Honors Mathematics courses in addition to fulfilling the requirements specified below for a candidate with an Honors Degree.

(2) A candidate having an Honors Bachelor's Degree shall complete satisfactorily a minimum of four Mathematics courses numbered 300 or above, at least two of which shall be at the graduate level. At the discretion of the Department a candidate may be permitted to substitute a thesis for not more than two courses.

Ph.D. Degree

(1) At the discretion of the Department, an applicant may be required to complete a one-year program of approved courses before being accepted as a candidate for the PhD Degree.

(2) In addition to fulfilling the thesis requirement, a candidate shall complete satisfactorily a minimum of seven Mathematics courses numbered 300 or above of which at least five must be at the graduate level. A candidate holding an approved Master's degree may be exempted from at most four of these courses unless he has successfully completed more than the minimum number of courses required for this degree. In the latter case the candidate may be exempted from more than four courses.

(3) A candidate will be required to pass a Departmental oral examination; this examination will be primarily concerned with the contents of his thesis, but may include questions of a general nature relating to his field of specialization.

(4) Each candidate will be required to present at least one paper at a graduate seminar, on a subject to be approved by his supervisor.

COURSES

500-559. Pure Mathematics.
501. Measure and Integration Theory.
502. Topics in Summability Theory.
503. Functional Analysis with Applications to Summability theory.
504. Complex Analysis.
505. Ordinary Differential Equations.
506. Number Theory.
507. Foundations of Mathematics.
509. Functional Analysis.
510. Topics in Analysis.

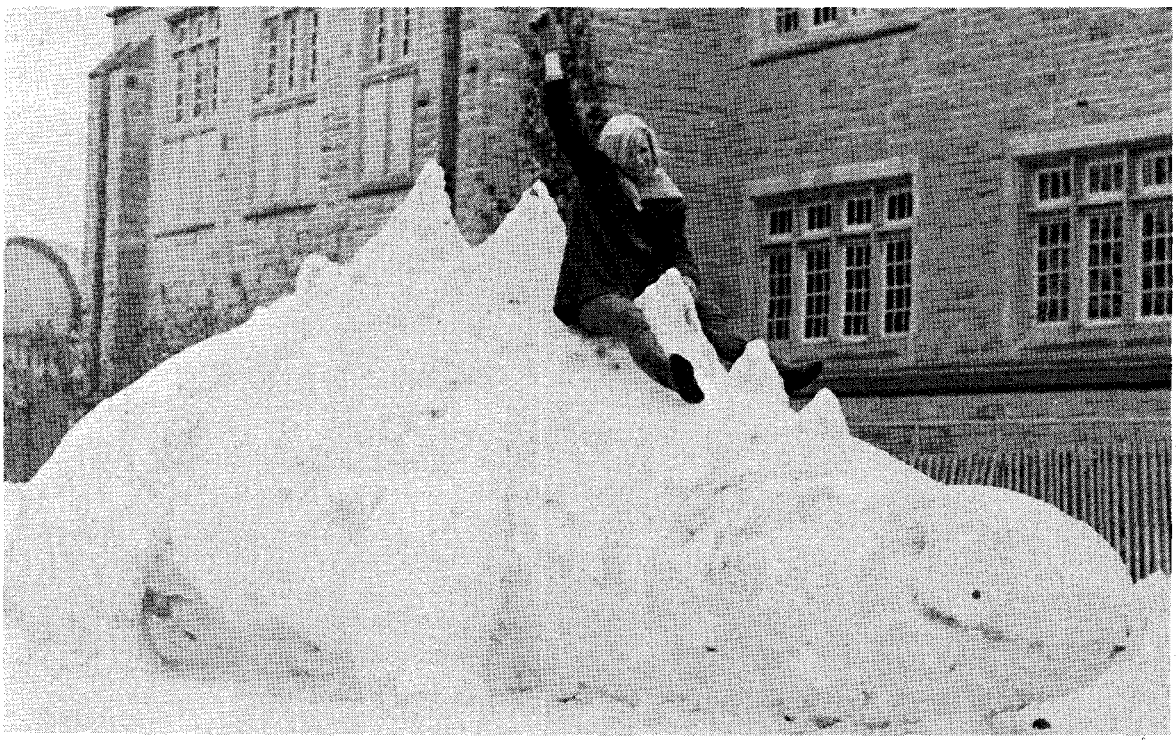
511. Partial Differential Equations.
512. Integral Transforms and Eigenfunction Expansions.
513. Mathematics for Graduate Students in the Social Sciences.
515. Algebra.
516. Theory of Groups.
517. Theory of Semigroups.
518. Theory of Rings.
519. Algebraic Theory of Automata.
520. Algebraic Topology.
560-569. Actuarial Mathematics.

561. Advanced Life Contingencies and Construction of Mortality Tables.

570-588. Mathematical Statistics.
572. Theory of Linear Estimation.
573. Structural Analysis.
574. Topics in Multivariate Analysis.
580. Theory of Statistical Inference.
581. Characteristic Functions and Probability.
582. Theory of Estimation and Testing of Hypothesis.
583. Design of Experiments.
584. Non-parametric Statistics.
585. Stochastic Processes.
586. Multivariate Analysis.
588. Theory of Sampling.

589. Directed Reading and Research. (No part of the minimum course requirements can be fulfilled by this course).
590. MA Thesis.
690. PhD Thesis.

Note: At the discretion of his committee of advisors, a candidate for either the MA or the PhD degree may be permitted to substitute certain graduate courses in other Departments for Mathematics courses.



Medicine

Professors

Brien, F.S., BA, MB Toronto
Gunton, R.W., MD UWO; DPhil Oxon. Head of Department
Hession, B.L, MD, MSc UWO
Lewis, J.A., MD UWO
Manning, G.W., MA, MD, PhD Toronto

Associate Professors

Bocking, D., MD UWO. Dean of Medicine
Bondy, D., MD UWO
Cameron, W.M., MD UWO
Clarke, O., BA, MA, MB, ChB, MD Cantab
Lefcoe, N.M., BSc McGill; MD Vanderbilt
Toogood, J.H., MD Toronto
Watson, W.C., MB, ChB, PhD, MD Glasgow

Assistant Professors

Ahuja, S.P., MB, BS Nagpur, India
Barr, R.M., MD UWO
Borda, I.T., MD Budapest
Chodirker, W.B., BSc, MD Manitoba
Harth, M., MD Toronto
Jones, D.T, BA, MD, UWO; F.R.C.P.(C)
Kimber, R.W., BA McMaster; MD UWO
Linton, A. L., MB, ChB Edinburgh
Loudon, J.L., MD Toronto
McCourtie, D.M., MD UWO
McDonald, J.W.D., MD, PhD UWO. Assistant Professor of Pathological Chemistry
Redinger, R.N., BA., MD, UWO; F.R.C.P.(C)
Roach, Margot R., BSc New Brunswick; MD, CM McGill; PhD UWO. Associate Professor and Chairman of Biophysics
Rodger, N.W., BSc, MD Manitoba
Shaw, D.B., BSc St. Francis Xavier; MD, CM, PhD McGill
Stuart, R.K., MD UWO
Tevaarwerk, G.J.M., B.A., M.D. UWO
Thompson, J.M., BA Amherst; MD UWO, F.R.C.P.(C)
Wolfe, B.M., B.A. Saskatchewan; BM, BCh, MA Oxon; MSc McGill.
Wood, T.E., BA, MD UWO; MSc McGill

Graduates in Medicine may obtain further training in internal medicine at the intern, resident, or fellow level—through a program which integrates the clinical and research facilities of Victoria, St. Joseph's and Westminster Hospitals.

This program is designed to qualify individuals for the fellowship examination of the Royal College of Physicians and Surgeons of Canada, but is also available to those involved in other specialty training areas.

Postgraduate training in clinical research is offered in cardiology, pulmonary disease, endocrinology, gastroenterology, haematology, renal disease, therapeautics, allergy and immunology and others. Varied facilities in these disciplines are available for animal and human research, combined with clinical traineeship.

Music

Professors

Greene, G.K., AMus, BA, BEd, MA Alberta, PhD Indiana. Chairman, Music History

McKellar, D.A., MusBac Toronto; MMus Eastman. Associate Dean of Faculty, Chairman, MMus Prof. Degree Committee

von Kuster, C., MusBac Toronto. Dean of Faculty

Visiting Professor

Tsutsumi, T., To Ho Conservatory, Tokyo; Artist Diploma in Cello, Indiana

Associate Professors

Aldrich, R., MusBac Victoria, Wellington

Downs, P.G., BA Leeds; MusM, PhD Toronto

Giron, A., BMus Oberlin, MA Tulane

Green, J.P., MusBac Toronto, MM Eastman

Haenselman, C.F., BMusEd, MMus Colorado, PhD Indiana. Chairman, Theory and Composition

McIntosh, J.S., MusBac Toronto, MMus Eastman. Chairman, Applied Music

Stark, J.A., BA Minnesota, MusM Toronto

Assistant Professors

Bratuz, Damiana, MDipl Trieste; MM St. Louis; MusDoc Indiana

Fisher, A.J., BM Boston, MM Michigan State

Munn, H.

Pendle, Karin, BA Minnesota, MM, PhD Illinois

Riseling, R., BMEd Illinois Wesleyan, MM Texas

Seiffert, S., BM Eastman, MA Brown, DMA Eastman

VanOstrand, G., BSC New York State; MM Eastman, DMA Eastman

COURSES

* Half Course

504. Survey of Music History II for Graduates (no credit)

***530. Music Bibliography and Research Techniques Bibliography**
***582. Research Tutorial**

Theory and Composition

501. Theory Review I for Graduates (no credit)
502. Theory Review II for Graduates (no credit)
510. History and Pedagogy of Theory
***512. Advanced Orchestration**
514. Analytic Techniques
***516a. 16th Century Stylistic Counterpoint**
***516b. 18th Century Stylistic Counterpoint**
***516c. 20th Century Counterpoint**
518. Composition
591. Mus.M. Thesis
594. Mus.M. Composition Thesis

Musicology and Literature

503. Survey of Music History I for Graduates (no credit)
534. Music Notation
536. Seminar in Medieval and Renaissance Music
538. Seminar in Baroque Music
540. Seminar in Pre-Classic and Classic Music
542. Seminar in Twentieth Century Music
544. Performance Practices in Early Music
***545. Seminar in the Interpretation of Musical Styles**
546. Beethoven
***548. History of Music Criticism**
550. Verdi and Wagner
552. Studies in Gregorian Chant
554. From Symphony to Symphonic Poem
556. Schoenberg and His School
557. Art Song
***558a. Keyboard Literature to 1700**
***558b. Keyboard literature from Bach to Beethoven**
558c. Piano Literature of the 19th Century
***560a. Seminar in Choral Literature**
***560b. Seminar in Choral Literature**
562. Bach and Handel
***564. History of Vocal Art**
590. M.A. Thesis

Music Education

***570. Advanced Conducting**
***572. Advanced Brass Techniques**
***574. Advanced Woodwind Techniques**
***576. Advanced Choral Techniques**
***578. Advanced String Techniques**
580. Music Education Seminar

Performance

509. Applied Music
513. Phonetics for Singers (no credit)
***545. Seminar in the Interpretation of Music Styles**
592. Document for Mus.M. in Performance
593. Mus.M. Recital

Nursing

Professors

Aikin, R. Catherine, BA, BN McGill. Dean of Nursing

Griffin, Amy E., BA Toronto; MSc Wayne State; EdD Columbia. Assistant Dean of Faculty

Hibbert, Dorothy M., BS, MA Columbia. Assistant Dean of Nursing

Associate Professors

Wood, Vivian, BScN UWO; EdM Boston

Assistant Professors

Creeggan, Sheila, BScN, MScN UWO.

Gerhard, Wendy, BSc, MSC UWO

McWhirter, Jeananne, BN McGill, MPH Pittsburgh

Mantle, Jessie H., BN McGill; MS California

Potter, Thelma I., BN McGill; MScN Boston

PURPOSE OF THE MScN PROGRAM

The purpose of graduate education in nursing is to prepare graduates to assume senior responsibilities in nursing and to exert wise leadership within the profession of nursing. It is anticipated that the graduates will have knowledge in depth in their selected field of specialization, i.e. either teaching or administration; an appreciation of the role of research and in the appropriate application of research findings; the ability to discern need for change in nursing and how to effect it; human relation skills which make possible effective functioning in situations as they obtain, or their modification if indicated. The programs take into consideration studies satisfactorily completed in undergraduate programs, and are designed to build upon the individual's background of education and experience and, where possible, to prepare for individually anticipated responsibilities on graduation.

ARRANGEMENT OF COURSES WITHIN PROGRAMS

A. Major in Administration.

Qualifying Year 200, 500, 501, 504, 505, one senior or graduate course in General Education or a graduate course in Nursing.

Final Year 600, 601 or 602 or 603, 590 or 591, one senior or graduate course in General Education or a graduate course in Nursing. (This program is currently under review by a sub-committee of the Professional Degree Committee. Some changes may be announced before commencement of the 1972-73 academic year.)

B. Major in Teaching

Qualifying Year 200, 470, 500, 505, 3 electives in General Education, one of which must be a Natural, Biological or Medical Science. (Combining Nursing 200 and Nursing 470 is under review and changes in this regard may be made prior to the 1972-73 academic year.)

Final Year 600, 604, 605, 606, 607, 608

Note: In addition to above courses, a student with a major in administration or in teaching may elect to take 509, a course offered in the Faculty of Nursing, if sufficient students enroll. The student chooses all other electives noted above in consultation with the Dean, Faculty of Nursing, or with the Coordinator of the Graduate Programs.

COURSES

200. Introduction to Statistics. Basic concepts: sampling, measures of central tendency, variability, tests of probability, correlation, significance. 1 hour each week.

470. Research in Nursing. Brief introduction to research methodology, skills, evaluation and utilization. 1 hour each week, Fall Term.

500. Health Services and Their Development. An historical approach to the study of current issues in health services, especially nursing; the significance of the past in relation to problems of the present; society's concern for health; social, economic, political, legal and philosophical influences on health services. 2 hours each week, Fall Term.

501. Administration. Nature of organized human enterprise; the administrative process, theories and skills of administration; the administrative role and implications of its assumption. 2 hours each week, with additional hours for special experiences.

504. Research in Nursing. Introduction to the nature and methodology of research; construction of a research design and tools for collection and analysis of data; critical analysis of research reports; study of means of promoting and utilizing research in nursing. 2 hours each week, plus tutorials as scheduled.

505. Theory and Practice in Nursing. An examination of the nature of nursing and the theoretical justification for its practice. Implicit in the course is the student's responsibility to define her learning and practice goals, and to evaluate the effectiveness of her planned nursing intervention. Included in the spring term is a nursing practicum. 2 hours per week

509. Human Relations and the Change Process. This Seminar employs the laboratory method of learning in identifying attitudes, motives and values. Opportunity is provided for testing leadership roles in the process of decision-making and interpersonal relations which effect change. 2 hours each week, First Term. (Open to all students registered in Masters Program).

GRADUATE

590. Thesis OR 591. Alternative Requirements. The student may elect to undertake a research project and write a thesis reporting it. As an alternative, the student may elect to complete: (1) One senior or graduate course in General Education or a graduate course in Nursing. (2) A major paper associated with the student's work in one graduate course in Nursing, either a course the student has completed or is currently studying. Instructions regarding the thesis and the major paper are on file in the office of the Coordinator of the Graduate Programs who will review these instructions with the students concerned during their first term as a full-time graduate student.

600. Current Issues in Nursing. Factors bearing on these issues, alternate courses of action; role of the professional in society; the professionalization of nursing. 2 hours each week, Winter term.

601. Nursing Service Administration in Hospitals. Study of the objectives and methods of initiating, developing and evaluating the roles and functions related to the senior administrative responsibilities; analysis of trends and developments which have implication for nursing service administration. 2 hours each week with additional hours for field visits.

602. Nursing Education Administration. Role of the dean or director as it relates to: the development, implementation and evaluation of the school program; the selection, development and retention of faculty; specific issues in education with implications for nursing education. Prerequisite 501 or permission of the professor. 2 hours each week with additional hours for special experiences.

603. Public Health Administration. Application of the administrative process in public health nursing; current and predicted future programs of community health organizations. Practicum included concurrently or in Spring Term. 2-4 hours each week.

604. Research in Nursing. Continued examination of the nature and methodology of research in nursing. Construction of a research design and tools for the collection of data, plans for data analysis. Critical analysis of research reports; means of promoting and utilizing research in nursing. Related field work to exemplify the use of the research process in education for the practice of nursing. 2 hours each week.

605. Education and the Teacher's Role.

Part I. Education and Society, their reciprocal influence and trends, nursing education viewed within this context, assumptions basic to currently conceived purposes and programs in nursing education.

Part II. The teacher's role as an individual and as a member of an educational staff with emphasis on her role in curriculum development and implementation. 2 hours each week plus additional hours for special experiences.

606. Measurement and Evaluation in Nursing Education.

Part I. This course aims to familiarize the student with the nature of measurement and its purpose and value in teaching and learning. The course emphasizes the problems and methodology of teacher-made tests in nursing. Basic concepts for the use and interpretation of test results are explored. Next, the course examines fundamentals of performance evaluation. Laboratories are held currently. 2 hours per week, First term.

Part II. The examination and analysis of standardized tests in nursing education. Administration and analysis of individual or group testing and case writing of individual testing projects will be a requirement of the course. 2 hours per week, Second Term.

607. Human Learning and Planning for Teaching.

Part I. An introduction to the nature, conditions, and outcomes of learning. The major focus will be placed on cognitive models as explanations for phenomena of inhibition and modification of responses defined as learning. Topics discussed will be models of learning behavior, memory, concept learning, problem solving, skill learning, and K. R. and learning. 2 hours per week, First Term.

Part II. Basic concepts of teaching, course planning and lesson planning with emphasis on planning for learning experiences relevant to stated course and lesson objectives. Included in the course is provision for teaching practice and examination of a multi-media approach to planning learning experiences for students. 2 hours per week, Second Term.

608. Student Personnel Services in Nursing Education.

Part I. This part of the course emphasizes development of skills in exploration, analysis and solution of student nurse problems, academic, personal and social. The principal mode of developing these skills is through the case method. Case writing may be part of this program. 2 hours per week, First Term.

Part II. This part of the course examines the most recent models used in student personnel services. Course topics include educational and vocational planning, placement and follow-up of graduate nurses. As a part of the course each student will undertake a project to examine in depth any of the above areas. Laboratory sessions are also included. 2 hours per week, Second Term.

RELEVANT EXPERIENCE

Relevant experience is planned on an individual basis. Experience may be necessary to augment the student's knowledge of the area in which she wishes to specialize and/or collect data for her thesis. Because of this requirement, students should not make commitments for employment between the first and second academic years, until they have consulted with the Dean or the Coordinator of Graduate Programs, Faculty of Nursing.

Obstetrics and Gynaecology

Professors

Armstrong, D.T., BSA Toronto; MS, PhD Cornell

Plunkett, E.R., MD PhD UWO. Chairman of Department

Walters, J.H., BA, MD UWO

Associate Professor

Harding, P.G.R., MD, MSc UWO

Assistant Professors

Collins, J.A., MD UWO

Possmayer, F., BSc Toronto; PhD, UWO

Raud, H.R., BSc, MSc, PhD McGill

Yuzpe, A.A., MD, MSc UWO

Within the Department there is an active basic research program in the field of Reproductive Endocrine Physiology. In addition, programs in the study of fetal and uterine physiology are well established. The special facilities for monitoring the forces of labour and fetal condition are available in an active Intensive Care Unit.

Clinical investigations are carried out in collaboration with the Departments of Physiology, Paediatrics, as well as other departments on occasion.

Opportunities for a year of clinical investigation approved by the Royal College of Surgeons of Canada are available for suitable applicants.

Graduates in Medicine may apply for training in Obstetrics and Gynaecology at the intern, resident or fellow level — through a programme which integrates the clinical and research facilities of *Victoria, St. Joseph's and the University Hospitals.*

Such further training is designed for those who wish to qualify for Fellowship in the Royal College of Surgeons of Canada, or for the degree of Master of Clinical Science (MCLSc).

Ophthalmology

Clinical Professor

Dyson, C., MD UWO Chairman of Department

Clinical Associate Professors

Ballantyne, J.F., MD Toronto

Nicholls, J.V.V., BA, MD CM, MSc, McGill

Thompson, C.A., BA, MD, CM McGill

Clinical Assistant Professor

McFarlane, D.C., MD UWO

Clinical Lecturers

Burt, W.L., MD UWO

Collyer, R.T., BA, MD UWO

Mills, D.W., BA, BSc Carleton, MD, MSc (Med) Queen's

Oliver, G.L., MD, MSc UWO

The Department of Ophthalmology is approved by the Royal College of Physicians and Surgeons of Canada for the training of six residents in this specialty. The course is three years in length and utilizes the facilities at Victoria, St. Joseph's, and Westminster Hospitals, and when completed, the University Hospital.

Otolaryngology

Professor

Greenway, R.E., MD UWO

Rounthwaite, F.J., BSc, MD, CM McGill. Head of Department

Clinical Associate Professors

Babb, J.W., BA, MD UWO

Burnett, W.H., MD Toronto

Assistant Professor

Ruby, R.R., MD UWO

Clinical Assistant Professor

Leboldus, G.M., MD UWO

The Department of Otolaryngology offers a four year postgraduate course of training approved by the Royal College of Physicians and Surgeons of Canada, leading to the FRCS(C) examinations. One year of general internship is a prerequisite for entering this course. The four years consist of three years of training in the specialty of otolaryngology, and one year of general surgery in the various Teaching Hospitals in London.

Paediatrics

Professors

Rathbun, J.C., MD Toronto, Head of Department
Valentine, G.H., MB, ChB Bristol

Associate Professors

de Veber, L.L, MD Toronto
Hinton, G.G., Bsc, MD, CM McGill
Jaco, N.T., BA, BSc, MA, BM, BCh Oxon

Assistant Professors

Ecclestone, E.R., MD UWO
Li, M.D., MB Taiwan
Sutton, Marilyn D., MD UWO
Young, J.A., MB, ChB Glasgow

Graduates in Medicine may apply for further training in Paediatrics at Victoria and War Memorial Children's Hospital. Such further training is designed for those who wish to qualify for Fellowship in the Royal College of Physicians of Canada in Paediatrics, or for the degree of Master of Clinical Science, or for further general training before proceeding into practice. A one year resident training program in Paediatric Cardiology is available.

The main research interests of the Department lay in carbohydrate metabolism, metabolic studies, mental retardation, the study of mongolism, chromosome anomalies, immunohaematology, neonatology, disorders of mucopolysaccharides and aminoacidopathies. Research in perinatal mortality and morbidity is carried on in conjunction with the Department of Obstetrics and Gynaecology and the Departments to Physiology and Biochemistry. An active neonatal intensive care unit exists at St. Joseph's Hospital where detailed studies are performed on this important aspect of paediatric care. Various research opportunities exist at the Children's Psychiatric Research Institute in the fields of mucopolysaccharides and aminoacidopathies. An opportunity to participate in this investigational work is available to suitable applicants.

A formal course of training extending over four year period after graduation, is being developed which will qualify graduates for the degree of Master of Clinical Science, or to sit for the examinations for fellowship in the Royal College of Physicians of Canada.

Pathology

Professors

Haust, M. Daria, MD Heidelberg; MSc Queen's
Paterson, J.C., BSc, MD Toronto
Wallace, A.C., BA, MD UWO. Head of Department

Clinical Professors

Mills, D.M., BA, MD UWO
Smout, M.S., MD UWO

Associate Professors

Frei, J.W., MD, CM Queen's; MSc, PhD McGill
Gardner, D.G., DDS Toronto; MSD Indiana
Warren, B.A., BSc, MB, BS Sydney; DPhil Oxford

Assistant Professors

Jones, D.S., BA Albion; MSc Lansing; PhD UWO
Lewis, F.N., BA, MD UWO
Sapp, J.P., DDS Dalhousie; MS Michigan

Clinical Assistant Professors

Abdelnour, G.M., MB, ChB Alexandria
Ball, M.J., MD Toronto
Davies, Eleanor M., MD Toronto
Enriquez, A.A., AA San Carlos; MD Santo Thomas
Saeed, I.R., MB, BCh, DMSc, MD Cairo
Slinger, R.P., BA, MD Toronto
Turnbull, D.I., BSc, MD Montreal

Graduate training is available leading either to an advanced degree in Pathology (MSc or PhD) or to qualification for Fellowship or Certification in the Royal College of Physicians and Surgeons of Canada. Training may be arranged in the Health Sciences Centre of the University or in the Pathology Departments of the Teaching Hospitals.

Dental graduates may study toward Fellowship in the American Academy of Oral Pathology or Certification by the American Board of Oral Pathology.

Graduates in Science as well as Medical, Dental and Veterinary graduates are eligible for MSc and PhD studies.

COURSES

500. General Pathology. A survey or core course in general pathology intended for individuals who desire some acquaintance with fundamental processes of disease. Some knowledge of gross and microscopic anatomy is desirable.

510. Current Topics in Pathology. A seminar course held throughout the year.

511. Oral Pathology Seminar.

512. Methods in Pathology. A course of lectures and demonstrations dealing with modern methods of investigating disease processes. Topics covered may vary from year to year, but include electron microscopy, transplantation techniques, immunofluorescent methods, study of disease in living tissues. Prerequisite: some previous survey course in general pathology.

530. General Medical Pathology. A course of lectures, demonstrations and laboratory periods dealing with fundamental aspects of disease processes. Subjects include inflammation and repair, regressive changes, vascular diseases, disorders of growth and neoplasia, specific examples of inflammation.

589. Comprehensive. Course of individual instruction for MSc candidates involving reading assignments and attendance at specified lectures aimed at providing a general background of knowledge for the specialized thesis topic of the candidate. An assessment of the experimental investigation carried out by the candidate will be made.

590. MSc Thesis.

610. Comprehensive (PhD)

630. Special Human Pathology. A comprehensive course in human pathology, taught on a regional and systemic basis. Prerequisite: Pathology 530. 248 hours.

631. Special Pathology. A course in human pathology taught on a regional and systemic basis. It is designed for students who require a less detailed course than 630. Primarily arranged for dental students. Prerequisite: Pathology 512 or 530.

640. Oral Pathology. A course, designed primarily for dental students, in pathology of the teeth, oral cavity and related structures. The oral manifestations of many systemic diseases, as well as the systemic manifestations of oral disease, are also discussed. 72 hours.

641. Graduate Oral Pathology. The pathology of the teeth, oral cavity and related structures are considered in detail. Selected topics such as neoplasms of the oral cavity, oral cytology, and histologic technique are also studied. 160 hours.

689. Comprehensive. Course of individual instruction for PhD. candidates involving reading assighments and attendance at specified lectures aimed at providing a general background of knowledge for the specialized thesis topic of the canadidate. An assessment of the experimental investigation carried out by the candidate will be made.

690. PhD Thesis.

Pathological Chemistry

Professors

Barton, W.B., MD UWO

Brownstone, Y.S., BScA, MSc Manitoba; PhD McGill

Hobkirk, R., BSc., PhD Edinburgh

Neufeld, A.H., BSc, MSc, PhD Manitoba; MD, CM McGill. Head of Department

Associate Professors

de Veber, L.L., MD Toronto

Tustanoff, E.R., BA UWO; MS Detroit; PhD UWO

Zaharia, W., BSc Manitoba; PhD McGill

Clinical Associate Professors

Binns Smith, M., MB, ChB, PhD Edinburgh

Haust, H.L., MD Heidelberg; MSc, PhD Queen's

Meltzer, D.B., BSc Manitoba; MD UWO

Assistant Professors

Kimber, R.W., BA McMaster; MD UWO

Barr, R., MD UWO

Linton, A., MB, ChB Edinburgh

McDonald, J.W.D., MD, PhD UWO. Assistant Professor of Medicine

Present research activities in the department lie in the following general areas: the enzyme systems concerned in intermediary metabolism in health and disease including malignancy; enzymology and metabolism of the erythrocyte; ovarian hormones; environmental aspects of carcinoma; investigations of steroid and other hormones; fluorescent antibody studies in red cells and amniotic cells; lymphocyte culturing and Rh sensitization; renal immunofluorescene; chronic dialysis and kidney transplants; tissue histocompatability; muscle fluids and electrolytes in renal failure; drug toxicity; catecholamines in plasma; metabolism of lymphocytes and platelets; studies of the biogenesis of mitochondria and their underlying control mechanisms.

The research and clinical laboratories situated in the Victoria Health Services Building and the Meek Memorial Laboratory, Victoria Hospital, include special facilities for chromatographic and electrophoretic studies; spectral analysis in the ultraviolet, visible and infrared; tracer techniques utilizing beta and gamma emitting isotopes; as well as apparatus for amino acid analysis, atomic absorption, gas liquid chromatography, fluorometry and ultracentrifugation.

A BSc or MD degree is required for acceptance to studies leading to the degree of MSc or PhD. Course programs planned for students may be complemented with other courses provided through cooperation with other departments of the Faculty. Candidates are also accepted for further training to qualify for Fellowship, including specialized training in Clinical Pathology, Medical Biochemistry and Haematological Pathology, preparatory for Certification or for Fellowship in the Royal College of Physicians and Surgeons of Canada. Enquiries and applications should be addressed to the Head of the Department.

COURSES

510. Steroid Biochemistry
511. Inborn Errors of Metabolism
512. Biochemical Haematology
513. Toxicology
514. Advanced Methodology in Laboratory Medicine. A course designed to familiarize individual students with biochemical and haematological techniques currently employed in clinical medicine. Analytical procedures will be scrutinized both in theory and practice incorporating physical-chemical principles as well as the required instrumentation. Due emphasis will be placed upon modern trends in automation, quality control and development.(4 hours per week)

530. Pathological Chemistry (Medical)
590. MSc Thesis
690. PhD Thesis

Both courses 510 and 511 will be given on alternate years with courses 512 and 513, the former to be presented in 1971-72.

Pharmacology

Professors

Gowdey, C.W., BA, MSc, DPhil Oxon. Head of Department

Parker, J.M., MD Manitoba; PhD Toronto

Associate Professors

Colhoun, E.H., BSA Toronto; PhD Cantab

Hamilton, J.T., BSc, PhD Edinburgh

Philp, R.B., DVM Toronto; PhD UWO

Assistant Professors

Hersey, M.L.W., BSc McGill; MD, PhD UWO

Hirst, M., BSc, PhD Liverpool; PhD UWO

Students with an MD, DDS, DVM, or an Honors degree in the Biological or Medical Sciences, Chemistry, or Pharmacy, are accepted as candidates for the degree of MSc and PhD in Pharmacology. Applications for admission should, in the first instance, be made to the Head of the Department.

The present research interests of the Department are in the pharmacology of the cardiovascular system, decompression sickness, thrombus formation, and neuromuscular transmission; in relations between chemical structure, enzymes and pharmacological activity, and in neuropharmacology. Facilities are available for research in these and other fields in Pharmacology.

COURSES

501. General Physiology and Pharmacology. In collaboration with the Department of Physiology.

511. Pharmacology of the Autonomic Nervous System.

531. Neuropharmacology (Medical).

532. Neurological Sciences (Medical). In collaboration with Departments of Anatomy, Biochemistry and Physiology.

541. Seminar.

560. Advanced General Physiology and Pharmacology. In collaboration with Department of Physiology.

561. Chemical Pharmacology.

580. Laboratory and Tutorial.

590. MSc Thesis

610. Advanced Pharmacology. (Prerequisite course 530 or equivalent).

690. PhD Thesis.

Although the emphasis is on research in the graduate programs, students are required to take formal courses. The number and selection of these courses will depend in part upon the student's previous training.

Philosophy

Professors

Binkley, R.W., BA Colorado; PhD Minnesota

Butts, R.E., BA, MA Syracuse; PhD Pennsylvania. Chairman of Department

Davis, J.W., BA, MA, PhD Boston

Johnson, A.H., BA Mt. Allison; MA, PhD Toronto; FRSC. Senior Professor

Johnson, H.J., B.A. Alfred; Ph.D. Chicago

Leach, J.J., BA Heidelberg; MA Trinity; PhD Michigan State

Associate Professors

Block, I., BA Vanderbilt; MA, PhD Harvard

Bronaugh, R.N., BA Oregon; MS, PhD Wisconsin

Bub, J., BSc Cape Town; PhD London

Freed, B., BA Kenyon; PhD Berkeley

Hockney, D.J., BA McMaster; PhD Cornell

Hooker, C.A., BSc, PhD Sydney

Marras, A., BA Colgate; PhD Duke

Maynard, P., AB Chicago; PhD Cornell

Assistant Professors

Harper, W., BS Rensselaer Polytechnic Institute; MA Rochester

Muehlmann, R.G., BA Indiana, PhD Iowa

Nicholas, J.M., BSc Sussex; MSc Sussex

Pearce, G., BA William & Mary

Visting Professors

McClennen, E., AB Michigan, PhD Johns Hopkin's

Rescher, N., BS Queen's; MA, PhD Princeton

Students will be admitted either to the M.A. program or to the Ph.D. program in accordance with their academic backgrounds. There are two programs leading to the Ph.D. in philosophy: the regular program in philosophy, and a special program in the history and philosophy of science. Details may be obtained by writing to the Director of Graduate Studies, Department of Philosophy, University of Western Ontario, London 72, Canada.

COURSES

The Department of Philosophy offers approximately 18-20 one-term courses each year. Topics will be chosen from among the below listed areas of Philosophy. A list of topics to be offered will be circulated to all students in the spring of each year.

500—515. Topics in History of Philosophy
516—525. Topics in Logic and Philosophy of Logic
526—530. Topics in Ethics
531—540. Topics in Epistemology
541—550. Topics in Metaphysics
551—560. Topics in History and Philosophy of Science
561—570. Topics in Contemporary Philosophy
571—580. Selected Topics in Philosophy

590. M.A. Thesis
595. M.A. Comprehensive Examination
596. Ph.D. Qualifying Examination
690. Ph.D. Thesis

Physical Education

Professors

Fairs, J.R., BSc. UWO; MA Columbia
L'Heureux, W.J., BA UWO; MA Michigan; LLD New Brunswick

Yuhasz, MS, BA UWO; MS, PhD Illinois
Zeigler, E.F., AB Bates; AM, PhD Yale, Dean of Faculty of Physical Education

Associate Professors

Eynon, R.B., BA UWO; MS Illinois
Wearring, G.A., BA UWO; MS Southern California; PhD Michigan

Assistant Professors

Cunningham, D.A., BA, MSc Alberta; PhD Michigan
Leyshan, G.A., BA UWO; MS Illinois; PhD Oregon
Milne, D.C., BA, BPE McMaster; MA, PhD Michigan State

Paton, G.A., BA UWO; MA Michigan; PhD Illinois
Petrie, B.M., DipPE Sydney; BPE, MA Alberta; MA, PhD Michigan State

Richardson, J.R., BPHE Toronto; MSc Alberta
Semotiuk, D.M., BPE, MA Alberta; PhD Ohio State University

ADMISSION REQUIREMENT

The Department of Physical and Health Education offers a program leading to the MA degree:

Candidates are admitted at the discretion of the Department. The minimum requirements are as follows:

1. Graduation in Honors Physical and Health Education from The University of Western Ontario with first or second class standing, or from an accredited university with an equivalent degree and standing.
2. Graduation in any other course with first or second class standing and completion of such additional make-up work as may be determined by the Department.

PERIOD OF STUDY

Applicants who meet the first requirement will normally be accepted for regular admittance to a one year program of study. Those who meet the second requirement will be accepted into a Prerequisite Year of study. The make-up work will be determined by the Department.

Admittance to regular admission will be dependent upon the satisfactory completion of the course work in the prerequisite year.

REQUIREMENTS FOR THE DEGREE

The program of study will consist of a thesis and three and one-half courses, one of which must be PHE 501 (one term). In consultation with the Chairman of the Graduate Committee, a minimum of two courses are to be selected from the list below. The third course shall normally be a senior or graduate course related to the candidate's field of study, offered by another department in the Faculties or Schools of the University, with the concurrence of the Department concerned.

Students may petition the Graduate Committee to substitute two (2) courses in lieu of the thesis. Upon acceptance of his request the student may enroll in a maximum of four and one-half courses in the combined fall and winter term. He will normally enroll in his fifth course in the summer term. A final oral examination will be conducted by the Departmental Examining Board upon satisfactory completion of the course work.

GRADUATE

COURSES:

501. Research Methods in Physical and Health Education. Review and appraisal of research methods and techniques applicable to scholarly endeavor in the fields of physical education, sport, health education, and recreation. Areas to be covered in relation to physical education and sport for example, include (1) meaning and significance of physical education (including philosophical, historical, and international considerations); (2) social, cultural, and aesthetic aspects; (3) behavioral aspects; (4) sensorimotor learning and development; (5) biomechanics; (6) exercise physiology and physical fitness; (7) administrative theory and practice; (8) curricular aspects including supervision, instruction, and curriculum development; and (9) evaluative aspects of physical education. Students will be asked to select research problems and to initiate planning for thesis research employing each of the four "leading" methods. The interpretation of statistics will be discussed, but students with an inadequate knowledge of basic descriptive and comparative statistics are urged to gain this experience elsewhere./ E. Zeigler.

503A. Science and Principles of Modern Sports Training. A course designed to investigate the scientific basis of cardio-respiratory and strength training programmes./ R. Eynon.

503B. Advanced Science and Principles of Modern Sports Training. A course designed to investigate preparation for performance in selected environments and nutrition and performance./ R. Eynon.

510. A Cultural-Historical Study of Physical and Health Education. The purpose of the course is to trace historically, beginning with primitive societies up to the present, significant events and developments in physical education with emphasis to be placed on demonstrating the hypothesis that the system of sport and physical education in any given period of time is a product of the cultural elements and societal forces that act upon it./ D. Semotiuk.

P.H.E. 502A. The Analysis of Human Performance. A multi-dimensional approach to the understanding of human motor performance. Basic human movement activities will be analyzed by motor fitness variables; through the respiratory and cardiopulmonary function; by the use of biotelemetry, electromyography and cinematography. A descriptive analysis of man's physique, physical growth, and body composition will be made by anthorpometric measurement somatotyping and body density techniques./M.S. Yuhasz

P.H.E. 502B. Analysis of the Superior Athlete. The performance of superior athletes in their specific sports will be analyzed. Field measurements of athletes will be undertaken metabolically, tetemetrically and cinematographically. Performance at altitude and in high temperature conditions will be studied. The various analytic approaches to the study of the superior athlete will be integrated and applied by the student to specific sports in project work./M.S. Yuhasz.

511A. The Administration of Physical and Health Education. The course experiences will be designed to examine selected theoretical administrative concepts and theories in the classroom and in the field. The class hours will be devoted to discussion of theory in administration and the research implications of these theories. The field experience is intended to serve as a laboratory for the examination of theory in a practical situation and will require the student to spend a reasonable amount of time "living in" and analyzing organizational behavior./ G. Paton

511B. Program Development in Physical and Health Education. The course focuses upon program development as it relates to the diverse sport, athletic, recreational, and educational organizations in our field. The approach taken is intended to permit course members the possibility of critically examining their own area of interest./ G. Paton.

512A. Health Problems and the Individual. The purpose is to examine and study man and his health. Emphasis will be placed upon individual health problems including the role of physical activity in health./ G. Wearring, D. Cunningham.

512B. Health Problems in Society. An examination and study of the health problems related to psychological and cultural factors. Included will be a development of current public health problems./ G. Wearring.

540A. Growth and Motor Development. The study of the parameters of physical growth; principles of motor development; sequential development in fundamental motor skills; assessment of motor performance in children; learning disabilities and perceptual-motor handicaps in children./ D.C. Milne. Prerequisite: Undergraduate Growth & Development course.

540B. Growth and Motor Development. A learning experience through in-service training in a variety of remedial perceptual-motor development programmes being carried out by various agencies and institutions in the London area./ D.C. Milne. Prerequisite: 540A.

553A. Theory of Motor Performance. Approaches to the analysis of perceptual-motor skill; components of skill; proprioception and skill development; nature of movement; time co-ordination in skill; models of mechanisms underlying skill development; the acquisition of skill./ J. Richardson.

553B. Advanced Topics in Motor Learning. Single Channel Operation; the effects of sensory loading; stress and performance; fatique and performance; analog computer simulation./ J. Richardson.

555. Individual Study or Research./ Faculty.

556A. Philosophy of Physical Education and Sport. Introduction to the philosophical analysis of physical education and sport (with some reference to school health and recreation education) in the light of the leading philosophical tendencies; possible implications for educational agencies; analysis of completed research; and the delineation of one's personal philosophy based on the persistent historical problems facing the profession./ E. Zeigler.

556B. Advanced Philosophy of Physical Education and Sport. Students with a more specialized interest in this area of investigation will be encouraged to familiarize themselves with the body of knowledge in the area. Examples of the various philosophical approaches will be analyzed and critiqued. Students will be encouraged to carry out an investigation based on the particular approach to investigation which seems to fit their background and interests./ E. Zeigler. Prerequisite — 556A.

Note: Students wishing to pursue either of these courses would find it helpful to have certain preliminary courses at the undergraduate level; examples would be introductory courses to philosophy, philosophy of religion, and philosophy of education.

558A. Sociology of Sport. A systematic analysis of the social influences upon the practice of sport in North American society. Special attention is devoted to the interrelationships between sport and various social institutions./ B. Petrie.

558B. Social Psychology of Sport. A systematic analysis of the social psychological phenomena influencing the participants in the sporting situation. The interrelationships between athletes, coaches and spectators and the sources of strain in such relationships are evaluated.

590. MA Thesis./Faculty.

SEMINAR

Students will be required to attend the Department Seminar which meets regularly to hear and to discuss papers and reports on current issues and recent research given by faculty, visitors and students.

Physics

Professors

Brannen, E., BA, MA Toronto; PhD McGill; Senior Professor

Ferguson, H.I.S., BSc, MSc, PhD UWO. Administrative Assistant

Forsyth, P.A., BA, MA Saskatchewan; PhD McGill; FRSC. Director, Centre for Radio Science

Hay, D.R., BSc, MSc UWO; PhD McGill; Senior Professor

Lyon, G.F., BA, MA, PhD Saskatchewan

McGowan, J.W., BSc St. Francis Xavier; MSc Carnegie Mellon; DSc Laval. Chairman of Department

Vogan, E.L., BSc, MSc UWO; PhD McGill

Associate Professors

Bow, Y.F., BS National Chakiang; MS, PhD Michigan State

Froelich, H.R., BSc Berlin; MSc, PhD UWO

Fulford, J.A., BSc, PhD UWO

Jarmain, W.R., BA UWO; MA Wisconsin

Jones, J., BSc, PhD Sheffield

Lowe, R.P., BSc, PhD UWO

Moorcroft, D.R., BASc, MSc Toronto; PhD Saskatchewan

Murty, R.C., BSc Andhra; MSc, Dip Lib. Bombay; PhD UWO

Rose, G.S., BSc, PhD Birmingham

Stewart, T.W.W., BSc, MSc UWO; PhD London

Tong, B.Y., BSc Hong Kong; MLS, MA California, Berkeley; PhD California, San Diego

Assistant Professors

Gaily, T.D., AB Oregon State; MS, PhD Washington

Gallaher, D.F., BASc, MSc British Columbia; MA Toronto; PhD Washington

John, P.K., BSc Kerala; MSc Madras; PhD Ohio State

Lane-Smith, D.R., BSc, MSc Manchester; PhD Durham

Rosner, S.D., BSc Toronto; MSc, PhD Harvard

Tunaley, J.K.E., BSc, PhD Sheffield

Whippey, P.W., BSc, PhD Reading

Honorary Lecturers

Dawson, D.J., BASc, MA, PhD Toronto

MacDonald, J.C.F., BA, MA British Columbia; PhD Toronto

Marton, J.P., BSc Budapest; PhD UWO

Visiting Professors

Bessis, J.D., MS, PhD Paris (Sorbonne); Centre d'Etudes Nucleaires de Saclay; (Joint appointment with Department of Applied Mathematics)

Wong, T.C., MS Chicago; DPhil Oxford; Chinese University of Hong Kong

The research interests of the Department are listed below. For greater detail please consult our graduate brochure which is available in many Departments or may be obtained by writing to this Department.

Atomic and Molecular Physics. Theoretical atomic and molecular structure; theoretical and experimental collision studies involving electrons, ions, positrons, atoms, and molecules; non-linear interations; vacuum ultraviolet radiation interaction with gases.

Lasers and Plasma Physics. Fundamental studies in atomic and molecular lasers, applications in laser spectroscopy, air pollution. Plasma heating, diagnostics, using high power lasers.

Physics of the Lower Atmosphere (Troposphere). Studies of thermal convection and atmospheric electricity; vapor, heat and charge transfer in clear air and storm systems.

Physics of the Upper Atmosphere (Ionosphere). Theoretical and experimental studies of the normal and disturbed high atmosphere; ionic inhomogeneities; optical and radar observations of meteor trails; ionic and electronic concentrations and diffusion studies using signals from ground-based, and satellite-borne transmitters, and ground-based detectors; radio aurorae; airglow; radio emissions from the sun at metre wavelengths.

Solid State Physics. Theoretical studies of amorphous materials, metals, and superconductivity; theoretical and experimental studies of band structure of solids, work functions; surface physics; experimental studies of properties of ionic compounds; diffusion of positrons in solids; interaction of sub-millimetre radiation with solids.

Design and Applications of Accelerators. Racetrack microtrons as sources of electrons and millimetre and sub-millimetre waves, X-rays, and vacuum ultraviolet radiation.

Other Programs are being actively followed in Acoustics — resonances in the violin family; theoretical Nuclear Physics — nuclear models; Radiological Physics — medical applications of high energy electron and X-ray beams, and of ultrasound.

Much of the research within the Department is relevant to Astrophysics; Communications, including satellites; Meteorology; Pollution; Radiological Physics; Switching devices; Thermionic emission.

GRADUATE

Many of the above projects are inter-disciplinary, carried out in conjunction with the Departments of Applied Mathematics, Astronomy, Biophysics, Chemistry, the London clinic of the Ontario Cancer Treatment and Research Foundation, and the Faculty of Engineering Science. Much of the above research is carried out under the auspices of the Centre for Radio Science, which maintains laboratories both on and off campus.

MSc REQUIREMENTS

The minimum requirements for the MSc degree in Physics may be met in any one of the three following ways:

(i) One course selected from courses numbered 501-520
Plus. One course selected from courses numbered 501-549
Plus. A research thesis (590)

OR

(ii) Physics 501
Plus. Two courses selected from courses numbered 502-520
Plus. One course selected from courses numbered 502-549
Plus. A report or review paper (591)

Note: With permission of the candidate's advisory committee some graduate courses in other Departments may be substituted for those listed above.
With similar permission, one of the graduate courses may be replaced by

a) two undergraduate courses normally in the Undergraduate Physics Program.

b) One undergraduate course at the senior undergraduate level from outside the department.

PhD REQUIREMENTS

The minimum requirements for the PhD degree in Physics are: Physics 501, Physics 601, Physics 658. Two courses selected from courses 502-549.

Competence in digital computer programming. A research thesis (690).

Note: Credit for a maximum number of two graduate courses may be granted to candidates who hold an MSc degree.

Honors graduates of exceptional ability may be permitted to register directly into a preliminary year of a PhD program. During this year the minimum requirements are: Physics 501, one course selected from courses numbered 502-549, a review paper (591) related to the area of the proposed doctoral thesis.

COURSES

501. Quantum Mechanics. A first graduate course in quantum mechanics designed to follow undergraduate work in modern physics with introductory quantum mechanics.

502. Nuclear Physics. An introductory course in both experimental and theoretical aspects of modern physics, including nuclear models, nuclear reactions and particle physics.

503. Statistical Mechanics. Fundamental principles of statistical mechanics and statistical thermodynamics. Fluctuations, noise and irreversible thermodynamics. Applications will be drawn from physical chemistry, solid state physics, nuclear physics, etc.

504. Solid State. A course outlining the basic experimental and theoretical concepts of modern solid state physics. Some graduate work in quantum mechanics is a pre- or corequisite.

505. Classical Electrodynamics. Advanced topics in electromagnetic theory, including radiating systems, radiation by moving charges, multipole fields, etc.

521. Ionized Media in the Terrestrial and Solar Atmospheres. (A) (One Term) An introduction to the phenomena of ionized media in the terrestrial and solar atmospheres. (B) (One Term). The use of radio waves as a diagnostic tool in the investigation of ionized media in the terrestrial and solar atmospheres.

522. Physics of the Lower Atmosphere. An introductory survey of the physical processes in the terrestrial atmosphere from the surface to the lower stratosphere. (A) (One Term) Micrometeorology — transfer of heat, moisture, momentum and pollutants, near the earth's surface. (B) (One Term) Atmospheric Dynamics, Precipitation and Electricity — Larger scale air motions, phase transitions and precipitation, and electrical phenomena associated with both fair weather and thunderstorms.

523. Electromagnetic Radiation in the Submillimetre Region. The generation of electromagnetic radiation by lasers and relativistic electron beams; quasi-optical detection techniques; intensity and wavelength measurements; interactions with media in the gaseous and solid state.

525. Theoretical and Applied Spectroscopy. A study of the spectra of atoms and diatomic molecules, leading to a detailed insight into their structure; a selection of topics in modern spectroscopic applications.

526. Radiaton Dosimetry. (A) (One Term) Introduction, therapy, and implications. (B) (One Term). Instrumentation, apparatus and methods.

590. M.Sc. Thesis.

591. A report or review paper for MSc candidates in option (ii) or candidates in the preliminary year to a PhD.

601. Comprehensive Examinations. A required examination for PhD candidates, normally taken in the autumn of the year in which the PhD program is started. For students arriving in the autumn, it may be postponed until the following spring. Its primary purpose is to detect weaknesses in the candidate's general knowledge of physics in order that corrective study may be arranged. For that reason, those who do not receive a passing mark at the first attempt are permitted to take the examination a second time, about six months later. No more than two attempts are allowed.

621. Collision Theory. A discussion of topics in the quantum theory of collission processes with emphasis on applications to atomic physics.

658. The Graduate Seminar.

690. PhD Thesis

Note: Courses bearing the letters A or B are half courses for the purposes of credit. A candidate may register in A or B or both where applicable.

Physiology

Professors

Armstrong, D.T., BSA Toronto; MS, Ph.D. Cornell. Professor of Obstetrics and Gynaecology.

Brooks, V.B., BA Toronto; MS Chicago; Ph.D. Toronto. Professor and Chairman.

Mogenson, G.J., BA, MA Saskatchewan; Ph.D. McGill, Professor of Psychology.

Associate Professors

Bondy, D.C., MD UWO.

Calaresu, F.R., BA Pavia; MD Milan; Ph.D. Alberta.

Critz, J.B., BS (Ed), MA, Ph.D. Missouri.

Dellow, P.G., BDS, MBBS Adelaide

Harding, P.G.R., MD, M.Sc. UWO; Associate Professor of Obstetrics and Gynaecology.

Mercer, P.F., DVM Toronto; Ph.D. Cornell.

Seguin, J.J., BSc., M.Sc., Ph.D. UWO.

Squires, B.P., BA., MD., Ph.D. UWO.

Vanderwolf, C.H., BSc. Alberta; MSc., Ph.D. McGill. Associate Professor Psychology.

Assistant Professor

Girvin, J.P., MD, UWO: Ph.D. McGill, Assistant Professor of Clinical Neurological Sciences.

The Department of Physiology accepts qualified candidates for the degrees of MSc and PhD. The usual requirement for admission is an MD, DDS, or Honors Degree in Science. In special cases, students with other qualifications may be accepted for a prerequisite year to achieve adequate standing. Applications for admission, in the first instance, should be made to the Chairman of the Department.

The research interests of the Department are currently in the following general fields: regulatory physiology including the role of the visceral brain and endocrine system in the control of energy, water and salt exchange, and in reproduction; behavioral physiology; physiological responses of the organism to environmental temperature, activity and dietary factors; nutrition and metabolism; physiology of the central nervous system; nerve muscle and receptor physiology; gastrointestinal physiology; perinatal physiology; oral physiology; cardiovascular physiology; and renal physiology.

Facilities for research and graduate training in these fields include controlled environmental rooms, a radioisotope laboratory, radioimmunoassay equipment, a shielded laboratory, an electronics workshop, recording, stereo-taxic, histological, photomicrographic and other equipment as well as special apparatus for chemical physiology including chromatography, electrophoresis, ultra-violet — visible spectrophotometry, fluorometry, etc. Both general and on-line (PDP12) computing facilities will be available.

Students who wish to read for the MSc in Physiology will take, or provide satisfactory evidence of having successfully completed the following courses, or their equivalent: Physiology 500, 501 and 514, a course in Biochemistry and such other courses as the Department may require.

Students who wish to read for the PhD in Physiology will take or provide satisfactory evidence of having successfully completed the following courses, or their equivalent: Physiology 500, 501, 511, 512 and 614, a course in Biochemistry, a course in Statistics, and such other courses as the Department may require.

In arrangement with the Department of Biochemistry, students may take Biochemistry and Physiology as a major subject.

In addition to course and research work, graduate students and fellows in the Department must, as part of their training, demonstrate and tutor in various courses. Specific Departmental Regulations for the direction of candidates may be obtained from the Department.

In addition to the general systematic course, tutorials, directed reading and research, graduate seminar courses are provided in co-operation with other Departments of the Faculty.

COURSES

500 Mammalian Physiology
501 General Physiology and Pharmacology
511 Current Topics in Physiology A.
512 Current Topics in Physiology B.
514 Tutorial and Comprehensive in Physiology (MSc)
541 Seminar
542 Physiology of Exercise
560 Advanced General Physiology and Pharmacology
561 Systematic Mammalian Physiology
562 Metabolic Physiology
564 Systems Analysis in Physiology
565 Physiological Regulations and Behavior
566 Body Water and Renal Physiology
580 Laboratory and Tutorial
581 Instrumentation in Physiology
590 MSc Thesis
614 Tutorial and Comprehensive in Physiology (Ph.D.)
690 Ph.D. Thesis.

Plant Sciences (Botany)

Professors

Cook, F.S., BA, PhD Toronto
Hickman, C.J., BSc, PhD, DSc Birmingham
McKeen, W.E., BSc, MSc; PhD Toronto
McLarty, D.A., BA UWO; PhD Columbia
Walden, D.B., BA Wesleyan; MSc, PhD Cornell Acting Chairman
Wilson, D.G., BA Toronto; BA, MA, Queen's; PhD Wisconsin

Associate Professors

Cavers, P.B., BSA Toronto; PhD Wales (on sabbatical leave).
Greyson, R.I., BA British Columbia; MSc, PhD Oregon
Hopkins, W.G., BA Wesleyan; PhD Indiana
Orloci, L., BSF Sopron; MSc, PhD British Columbia
Phipps, J.B., BSc Birmingham; PhD UWO
van Huystee, R.B., BA, MA Saskatchewan; PhD Minnesota
Wellman, Angela M., BSc, PhD Bristol

Assistant Professors

Day, A.W., BSc, PhD Reading
Fahselt, M.D., BA Saskatchewan; PhD Washington
Jancey, R.C., BSc, MSc Southampton; PhD Sydney

Honorary Lecturers

Minshall, W.H., BSA Toronto; MSc, PhD McGill
Richardson, L.T., BA McMaster; MA, PhD Toronto
Ward, E.W.B., BSc Wales; MSc, PhD Alberta

Graduate students are accepted for programs of research, together with course work, leading to the degree of MSc and PhD in Botany. The research interests of the Department are as follows:

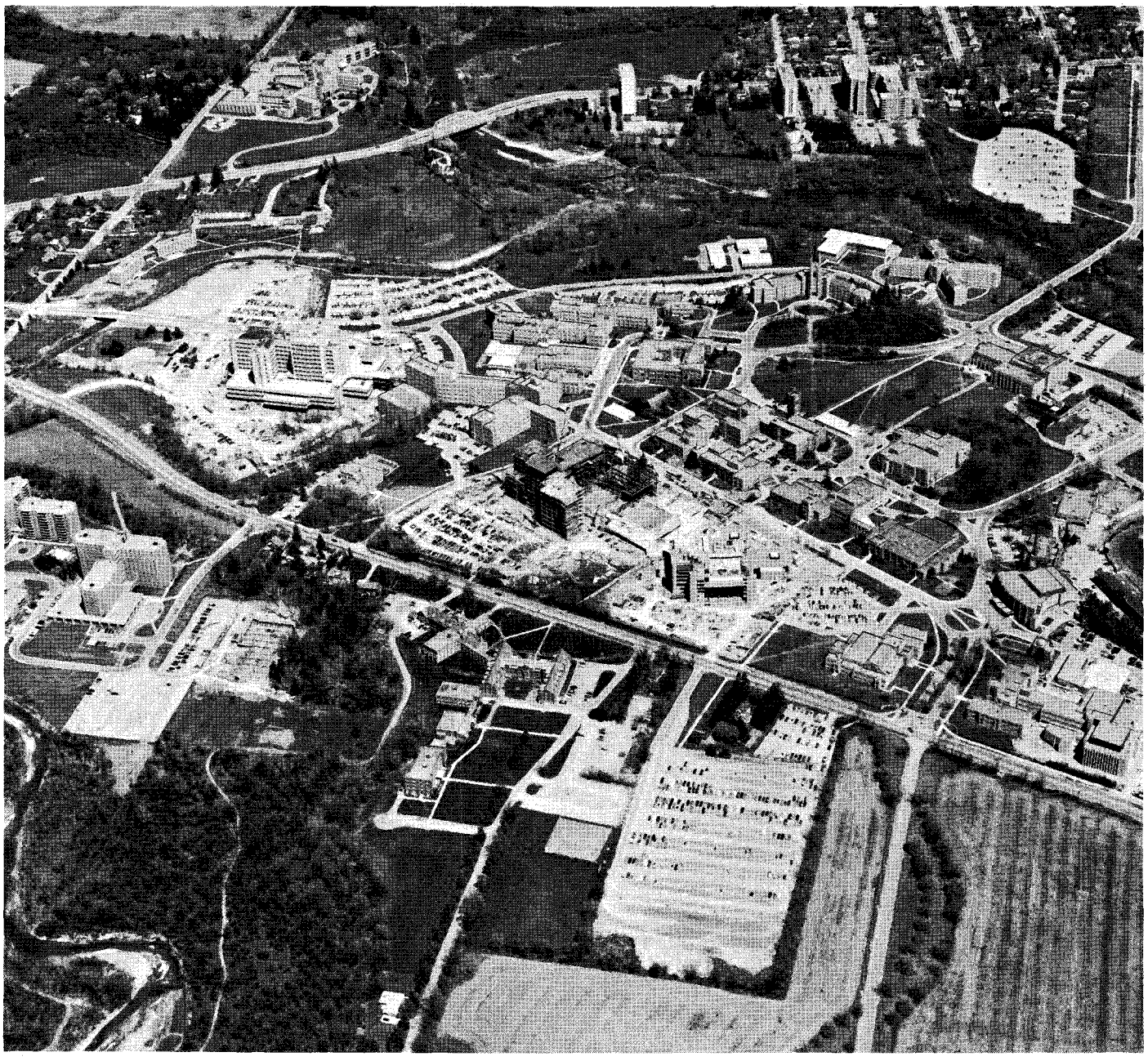
Ecology. Dynamics of plant populations. Seed dormancy and seedling establishment. The comparative ecology of closely related species living in the same area. Analysis of vegetation and environment including ordination, classification and species pattern. Acclimatization of plants to cold. Influences of photoperiod and growth regulators on increased resistance to cold injury.

Genetics. Mitotic segregation, diploid formation and somatic nuclear division in fungi. Inheritance of parental flavonoid compounds, biochemical pathways of hybrids. The description of genetically determined organ variability in plants. *(Lycopersicum, Nigella and Zea.)* Physiologic and spectrophotometric analysis of phytochrome behavior in mutants of *Zea*. Numerical analysis of chromosome structure and breakage point data. Somatic cell cytogenetics (Zea), with particular reference to analysis of variation in chromosomes, a study of somatic association, and chromosome replication. Autoradiographic studies of nuclear cycle, including the action of some chemicals on chromosome breakage. Aspects of germination and growth of *adenine-requiring mutants of Neurospora*. Mutation rates during cryogenic storage of fungi.

Growth and Development. Development and characteristics of isoenzymes of malic dehydrogenase in maize tissue. Germination, growth and development of pollen and spores. Occurrence and distribution of Bryophytes in Southwestern Ontario. Analysis of initiation and growth of flowers and other organs and an analysis of hormonal control of organogenesis. Physiologic and spectrophotometric analysis of phytochrome behavior. Growth regulatory aspects of phenylpropanoid metabolism. The relationships between metabolic patterns and growth and differentiation of cells. Isozyme patterns of various cell populations in tissue cultures of *Arachis hypogaea* Ionizing radiation — effects on cell growth and development. Analysis of aberrant phyllotaxy in maize. Physiological genetics of corn pollen. Investigations of course and rate of breakdown of "native" lignin by micro-organisms particularly *Aspergillus sp.* Metabolism of aromatic acids which are derivable from lignin. Studies on the occurrence and metabolism of organic acids. Physiology of herbicidal action. Metabolic root pressure and solute uptake.

Microbiology. Genetical and developmental studies of *Ustilago violacea*. Biology of plant pathogenic fungi, especially phycomycetes. Root/fungus relationships. Biology of Zoospores. Chytrid parasitism of algae. Field studies on and nutritional requirements of fresh-water algae. Powdery mildews and their host parasite relations. Cryogenic storage of biological materials; mechanisms of resistance to freeze thaw injury. Cytology of somatic nuclei in fungi. Regulation of germination. Ethane, methane and natural gas oxidation by fungi. Systematics of some Fungi Imperfecti. Effects of pesticides on soil micro-flora in relation to plant disease control. Selective toxicity and mode of action of systemic fungicides. Physiology of psychrophilic fungi, especially plant pathogens. Chemical factors in disease resistance.

Systematics and Statistical Plant Sciences. Biochemical systematics with emphasis on flavonoids, alkaloids and free amino acids. Evaluation of their usefulness as taxonomic characters. Quantitative taxonomic studies in the tribe Podalyrieae (Leguminosae). Statistical ecology and systematics of plant populations. Studies in the theory and methodology of Systematics, particularly empirical studies on the non-specificity hypothesis and patterns of variation at the generic level.



COURSES

550. Topics in Morphogenesis and differentiation./ R.I. Greyson

552. Advanced Plant Physiology and Biochemistry I./ F.S. Cook, W.G. Hopkins, D.G. Wilson

553. Advanced Ecology I./ P.B. Cavers and L. Orloci

554. Advanced Genetics I/ A.W. Day, M.D. Fahselt, D.B. Walden, A.M. Wellman

556. Biochemical Systematics./ M.D. Fahselt

558. Numerical Techniques in Taxonomy./ R.C. Jancey and J.B. Phipps

559. Philosophy of Systematics./ R.C. Jancey and J.B. Phipps

560. Freshwater Algae./ D.A. McLarty

561. Virus Diseases./ W.E. McKeen

570. Mycology and Plant Pathology / C.J. Hickman and A.M. Wellman

571. Host-parasite Relations/W.E. McKeen

590. MSc Research and Thesis/Staff

652. Advanced Plant Physiology and Biochemistry II/F.S. Cook, W.G. Hopkins, D.G. Wilson

653. Advanced Ecology II/P.B. Cavers and L. Orloci

654. Advanced Genetics II/A.W. Day, M.D. Fahselt, D.B. Walden, A.M. Wellman.

659. Advanced Radiobiology/ R.B. van Huystee

690. PhD Research and Thesis/Staff

Political Science

Professors

Barnard, F.M., BA, MA Oxon.; PhD Leicester

Beecroft, E.A., BA, MA Toronto; PhD Yale. Professor of Engineering Science

Dawson, W.F., BA Toronto; MA Queen's; DPhil Oxon.

Hosse, H.A., BA, MA Manitoba; PhD Ottawa. Professor of Geography

Associate Professors

Cartwright, J.R., BA Queen's; MA, PhD Toronto

Dobell, W.M., BA McGill; MA, BLitt Oxon.

Dunlop, C.C., BA, MA Queen's

Kymlicka, B.B., BA British Columbia; MA, PhD Columbia

Noel, S.J.R., BA Memorial; MA, DPhil Oxon. Chairman of Department

Melvin, R.A., BA Manitoba; PhD Alberta

Sansom, T.R., BA New Brunswick; PhD London

Assistant Professors

Harvey, T.G., BA Florida; MA, PhD Hawaii

McDougall, A.K., BA McGill; MA Carleton; PhD Toronto

Miller, A.J., BA London; MA McMaster; PhD McGill

Vernon, R.A., BA Cantab; PhD London

PhD DEGREE

Admission Requirements and Periods of Study

Candidates must normally hold an MA degree in Political Science or its equivalent, and they will be required to spend at least two years in residence.

Requirements

(a) Courses. Candidates will normally be required to take three courses in their first year of residence, one of which will be Political Science 500 (if not already taken as part of the MA program) and the remaining two related to his PhD thesis field. A graduate course offered by another department may be substituted for one of the two non-compulsory courses; in that case, however, permission of both Departments concerned must be obtained first. Candidates must obtain at least a B grade in all courses and may be asked to withdraw at any time if in the Department's judgment their work is unsatisfactory.

(b) Candidacy Examination. At the end of his first year in residence, the candidate will be required to undergo an oral comprehensive examination which will cover mainly, though not exclusively, three fields of specialization chosen by the candidate.

(c) Languages. The Department will require the candidate to have a satisfactory knowledge of any language or languages, classical or modern, which may be necessary to his field of research.

(d) Statistics. The Department will require the candidate to have skill in statistics whenever necessary to his field of research.

(e) Thesis. A thesis showing evidence of scholarly research and originality is the major requirement. The candidate will select a topic in consultation with his advisor. An outline of the proposed thesis must be submitted to the Department for approval, normally at the end of his first year in residence. The thesis must be defended at a faculty oral examination.

MA DEGREE

Admission Requirements

Candidates are admitted at the discretion of the Department. The minimum requirements for admission are as follows:

1. Graduation in Honors Political Science from The University of Western Ontario with first or second class standing or graduation from another accredited university with an equivalent degree and standing.
2. Graduation in Honors or four-year programs other than Honors Political Science from The University of Western Ontario or another accredited university, provided that the applicant achieved a first or second class standing in his program and has successfully completed six undergraduate political science courses distributed among the major fields of political science, with an average standing in these courses of at least second class honors. At the discretion of the Department, one or two closely related courses in subjects other than Political Science may be substituted for one or two of the six political science courses.
3. Graduation in ordinary General degree programs of The University of Western Ontario or other accredited universities with first or second class standing.

Period of Study

1. Applicants who meet requirement (1) or (2) above will need a minimum of one year in attendance.
2. Applicants who meet requirement (3) above will need a minimum of two years in attendance. During the first year, the candidate will be required to complete, with at least a B average, a Prerequisite Year consisting mainly of senior undergraduate honors courses.

Requirements

Three graduate courses and a thesis are required for the degree. One of the courses will be in the area of the candidate's thesis, and the students are encouraged, not required, to take Political Science 500, as one of the remaining two: The candidate must obtain at least a B grade in each of these courses to obtain credit.

The thesis, in which the candidate must exhibit his ability for research and critical judgment, must be defended orally. The Department also reserves the right to require an oral or written comprehensive examination which would cover the three courses chosen by the candidate and/or to require the student to withdraw at any time if his work is unsatisfactory.

COURSES

500. The Scope and Method of Political Science.
501. Contemporary Political Thought.
502. Research Techniques and Social Statistics.
503. History of Political Thought.
504. Selected Problems in Political Philosophy.
505. Political Psychology.
510. Theories of International Politics.
511. International Organization.
512. Studies in Foreign Policy.
520. Provincial and Local Government in Canada.
521. Politics of Urban and Regional Planning.
522. Development Aspects in Industrializing Nations. (Offered jointly with Geography and Sociology).
530. Canadian Governmental Institutions.
531. Canadian Political Processes.
532. Comparative Federalism.
540. Canadian Public Administration.
541. The Policy-Making Process.
542. The Control of Administration.
545. The Politics and Administration of Pollution Control.
550. United States Government and Politics.
560. Comparative West European Politics.
561. Comparative Communist Systems.
562. The Politics of Developing Countries.
564. The Commonwealth.
565. Electoral Studies.
570. Selected Topics.
590. MA Thesis.
690. PhD Thesis.

All courses listed are not necessarily offered every year. For further information write to the Chairman, Graduate Committee, Department of Political Science.

Psychiatry

Professor

Hobbs, G.E., BA, MD Toronto. Head of Department

Associate Professors

Keil, W.E., MD UWO

Tillmann, W.A., MD, MSc UWO

Assistant Professors

Boyce, R.M., MD UWO; DPsych Toronto

Johnson, F.G., MB, BS London

Jurgans, B., MD Tuebingen

McLeish, J.C., MD UWO

Max, P., PA, MD UWO

Clinical Associate Professors

Metcalfe, E.V., MD, DPsych Toronto

Wickware, D.M., MD, CM Queen's

Clinical Assistant Professors

Goldberg, B., BSc New Brunswick; MD, CM Dalhousie

McGregor, K.M., BA, MD UWO; DPsych Toronto

Graduate training in Clinical Psychiatry is provided for suitable applicants wishing to qualify for Certification or Fellowship examinations of the Royal College of Physicians and Surgeons of Canada.

This training utilizes the extensive psychiatry facilities available in the area. Application is made directly to the Head of the Department. Suitable stipend is provided during the period of training by the Ontario Department of Health.

Psychology

Professors

Bartoshuk, A.K., BSc Sir George Williams; MSc, PhD McGill

Gardner, R.C., BSc Alberta; MSc, PhD McGill

Jackson, D.N., BSc Cornell; MS, PhD Purdue

McClelland, W.J., BA, MA Toronto; PhD London, Chairman of Department

Mogenson, G.J., BA, MA Saskatchewan; PhD McGill

Neal, Leola E., BA, MA, PhD Toronto. Dean of Women

Paivio, A.U., BSc, MSc, PhD McGill

Turner, G.H., BA, MA, PhD Toronto

Williams, D.C., BA Manitoba; MA, PhD Toronto. President and Vice-Chancellor

Wright, Mary J., BA; MA, PhD Toronto

Visiting Professor

Rokeach, M., BA, MA Brooklyn; PhD California

Associate Professors

Bucher, B.D., AB Knox; PhD Princeton; PhD Pennsylvania

Chambers, D.A., BA British Columbia; MSc, PhD McGill. Assistant Dean of Social Science

Denny, J.P., BA Toronto; PhD Duke

Kendall, S.B., AB Indiana; PhD Emory

Kimura, Doreen, BA, MA, PhD McGill

Lobb, H.O., BA, BEd, MEd Saskatchewan; PhD Toronto

Murray, H.G., BA, MA UWO; PhD Illinois

Pylyshyn, Z.W. BEng McGill; MSc, PhD Saskatchewan. Associate Professor of Computer Science

Reitz, W.E., BS Pennsylvania State; MA Illinois; PhD Pennsylvania State

Schore, M.M., BA, MA UWO; PhD McGill

Siess, T.F., BA Valparaiso; PhD Minnesota

Stennett, R.G., BA, MA UWO; PhD McGill (part-time)

Taylor, F.W.R., BA, MA, PhD Toronto

Vanderwolf, C.H., BSc Alberta; MSc, PhD McGill. Associate Professor of Physiology

Vidmar, N.J., AB MacMurray; AM, PhD Illinois

Wilkinson, F.R., BA Utah; MA Hawaii; PhD Michigan State

Assistant Professors

Baran, D., BA McGill; MA Columbia; PhD Michigan

Boles, J.I., BA Cornell College; PhD Indiana

Carlson, P.M., BS Wisconsin; PhD Washington

Chamberlain, L.W., BSc UWO; PhD Keele

Evans, D.R., BA Toronto, MA Ottawa, PhD Toronto

Fay, T.L., BA Michigan; MS, PhD Northwestern

Goodstadt, M.S., BA Manchester; PhD Stanford

Murphy, K.C., BA, PhD Minnesota

Pederson, D.R., BA Minnesota; MA PhD Iowa

Prytulak, D.S., BA Toronto, PhD Stanford

Prytulak, L.S., BA Toronto; PhD Stanford

Roberts, W.A., BS Maryland; MA, PhD Bryn Mawr

Rollman, G.B., BA Rochester; MA, PhD Pennsylvania

Siegel, J.A., BS Purdue, PhD Michigan

Siegel, W., BA Toronto, PhD Michigan

Simner, M.L., BA Syracuse; MSc North Carolina State, PhD Cincinnati

Smeriglio, V.L., BA Brown; MA, PhD Iowa

Spence, I., MA Glasgow, MA Guelph, PhD Toronto

Van Fleet, F.M., BA, MA McMaster; PhD Colorado

The graduate program provides advanced training in general psychology with specialization in clinical and experimental psychopathology, cognition and verbal processes, comparative and physiological, developmental, experimental social, learning and motivation, measurement, occupational psychology and counselling, personality theory and research, sensation and perception. The nature of the clinical program is such that students require more than the minimum number of courses set by the Department. In addition, clinical students serve three summers in an agency such as a hospital or clinic.

FACILITIES OF THE DEPARTMENT

Facilities for experimental research include animal laboratories and rooms specially designed for research with human subjects in perception, psychophysiology, learning, personality and experimental social psychology. Standard equipment is available, and additional special equipment necessary for a student's research may be purchased. Facilities to aid in running experiments include a PDP-8s and PDP-12 computers complete with analog converter, oscilloscope, etc. An engineering shop, a work shop and electronic consultants are available. Data processing equipment includes programmable and standard calculators. The University has a large DEC PDP-10 computer installation for time sharing purposes and will soon replace its current batch processing facilities with a large computer system.

The Department has a remote terminal, card reader and printer for use with the PDP-10. In addition to a library of computer programs, full time programmers are available for special programs or consultation.

Potential field settings (and sources of subjects) for research include, in addition to industry and schools, three mental hospitals, psychiatric wards in two general hospitals, an Alcoholism and Drug Addiction Research Foundation, a Child Guidance Clinic, a Children's Psychiatric Research Institute, a Crippled Children's Treatment Center and a nursery school. Four mobile laboratories are available for off-campus research with children.

Graduate Record Examination results (Aptitude and Advanced Tests) are required and should be made available at the time of application. (This requirement does not apply to those seeking admission to a Prerequisite Year.) MAT scores may be accepted in certain cases.

M.A. DEGREE

The purpose of the master's program is to increase the student's general knowledge of psychology beyond that obtained in undergraduate courses and to train him for research and scholarly work. The program also provides a foundation for advanced training in applied psychology. Candidates are required to take three graduate courses, and to submit a thesis based on an empirical investigation of a problem within some area of psychology. The thesis research is supervised by a faculty member to whom the student is apprenticed.

The minimum residence requirement is one academic year of full-time study by a candidate entering with a Canadian Honors degree or its equivalent, but students do not normally complete requirements for the degree in the Spring and are expected to remain in residence during the summer.

Ph.D. DEGREE

The primary purpose of the doctoral program is to train scientists and university teachers and in some cases, psychological practitioners. The program typically includes graduate seminars and tutorials, a comprehensive examination in one area of specialization, and a dissertation based on a research project. Individual programs of study are encouraged, and include teaching and research apprenticeship training with members of staff. The minimum residence requirement is three academic years of full-time study after an Honors level Bachelor's or two after a Master's degree but minimum residence is usually insufficient. All students are expected to be in residence during the summer.

ADMISSION REQUIREMENTS

M.A. Degree: A student must have obtained an average of at least second class honors (B standing) in the final two years of his undergraduate work combined, to be admitted to the Faculty of Graduate Studies.

PhD Degree: An MA degree in psychology is normally required for admission as a PhD candidate in the Department.

COURSES

500-509. Learning and Motivation. Introduction to S-R and S-S theories of learning; Classical conditioning; operant conditioning; discrimination learning; punishment; stimulus generalization; problem solving; partial reinforcement; frustration theory; sequential theory; memory processes; and motivational models.

510-519. Sensation and Perception. Psychophysical theory and methods; physiological basis of sensory and perceptual processes and their stimulus correlates; spatial and temporal factors; color vision; adaptational processes; theories and models of perception; and, developmental and motivational aspects of perception.

520-529. Physiological and Comparative. Neural mechanisms of learning; memory; language; sensory and perceptual processes; attention; sleep and wakefulness; and, neural and endocrine integrations underlying drives and emotional behavior.

530-539. Developmental Psychology. Human and child psychophysiology; learning, socialization, cognition, and perception in the infant and young child; comparative fetal and infant behavior development.

540-549. Research Design and Measurement. The Design and Analysis of Experiments; statistical theory; multivariate statistical methods; numerical analysis; statistical computing; measurement and scaling.

550-559. Cognitive Processes. Topics such as concept formation; reasoning; problem solving; computer simulation of cognitive processes; creative thinking; crosscultural variation in thinking processes; decision making and game theory.

560-569. Experimental Social. An overview of problems in social psychology; theory and method; social learning and motivation; person perception; attitudes; social influence; group structure and process.

570-579. Verbal Learning, Memory, and Psycholinguistics. Stimulus and response parameters; coding or mediating processes; theoretical interpretations of verbal learning; processes in short-term and long-term memory; structural aspects of language; psycholinguistic phenomena including developmental aspects; situational determinants, pathology, and individual differences in language and verbal behavior.

580-589. Personality Theory and Research. Critical evaluation of theories concerning the nature and function of the person as a psychological entity; empirical foundations and support for personality theory; personality research methodology; the theoretical and quantitative foundations of assessment; test theory, construction, and validation.

600-609. Educational Psychology. Introduction to educational psychology; the analysis of the general principles of psychology as applied to education; education of exceptional children including children with emotional, neurological and perceptual disorders as well as the gifted, retarded, and culturally deprived; educational research; educational measurement; and the psychology of teaching and application of learning theory to classroom learning.

620-629. Experimental Psychopathology. Theoretical foundations of psychopathology; etiology; assessment and treatment of behavior disorders and organic impairments.

630-639. Occupational Psychology and Counselling. A critical survey of alternative counselling strategies and approaches; research on counselling practice and counselling outcomes; assessment in counselling; research on occupational choice and career development.

640-649. Current Topics. Proseminars in various areas of specialization conducted in cooperation with many faculty members. Psychology 640 is a general proseminar required of all MA students.

680-689. Tutorial in Experimental and Theoretical Psychology.

590. MA Thesis.

690. PhD Thesis.

Note: At least one seminar in each of the above areas is normally offered each academic year. Seminars are frequently inter-disciplinary with contributors from other Departments, such as: Computer Science, Neurology, Physiology, Sociology, Psychiatry, Physics, and Paediatrics.

Sociology

Chairman and Professor

Kunkel, J.H., BA Pomona; MA PhD Michigan

Acting Chairman and Associate Professor

Pryor, E.T., BA St. Thomas Aquinas; MA Michigan; PhD Brown

Professors

Balakrishnan, T.R., BA Madras; MA, PhD Michigan

Skipper, J.K., BS Northern Illinois; MA, PhD Northwestern (Visiting)

Associate Professors

Basavarajappa, K.G., BSc Mysore; MSc Karnatak; PhD Australian National

Ebanks, G.E., BA London; MA PhD Cornell

George, P.M., BA Earlham; MA Boston; PhD North Carolina

McCormack, Thelma H., BA Wisconsin (Visiting)

Rinehart, J.W., BA, MA Michigan State, PhD Ohio State

Singer, B.D., BA Wayne State; MA PhD Pennsylvania

Assistant Professors

Ball-Rokeach, Sandra J., BA, MA, PhD Washington (Visiting)

Boydell, C.L., BA Rutgers; MA PhD Massachusetts

Grindstaff, C.F., BA Wayne State; MA PhD Massachusetts

Henshel, R.L., BA Texas; PhD Cornell

Jackson, J.E.W., BA, MA Manitoba; PhD Washington

Jarvis, G.K., BA Brigham Young; MA Michigan

Marin, I.C., BS CUNY; MA, MS, PhD Michigan

Nobbe, C.E., BA, MA, PhD Washington

Okraku, I.O., BA Ghana; MA, PhD Cornell

Osborn, R.W., AB Michigan; PhD Brown

Silverman, R.A., BA Toronto; MA, PhD Pennsylvania

Skidmore, W.L., BsEd, MA Kent State; PhD Alberta

Stelling, Joan G., BA Michigan; PhD Chicago

Teevan, J.J., BA SUNY; MA, PhD Indiana

Whitehead, P.C., AB Providence College; MA PhD Massachusetts

Wien, F.C., BA Queen's; MA, PhD Cornell

Williams, J.I., BA Nebraska Wesleyan; MA New Hampshire; PhD Florida State

Lecturers

Hayes, A.C., BSc, MA Leicester

Rawkins, P.M., BA Leeds; MA UWO

Veevers, Jean E., BA, MA Alberta

Instructor (part-time)

Cohen, A.M., BA, MA UWO

PROGRAM OF STUDIES

The Department offers work leading to the MA degree. Population Studies, Social Organization and Social Psychology constitute the three main areas of concentration. Within these areas, special attention is given to demography and urbanization, medical sociology, collective behaviour and communications and deviant behaviour.

To be awarded the MA degree, a candidate must satisfy the Department of his/her competence in Sociological Theory, Research Methods and Statistics. Students without adequate training in these areas prior to entering the program must expect to spend a longer time than those specified below since these deficiencies must be made up. The minimal requirement for the MA degree is a program of six graduate half courses (or their equivalents) plus the MA Research Paper. These six half courses are exclusive of courses in Theory, Methods and Statistics which a student may have to take in order to satisfy the Department of his/her competence in these areas.

ADMISSION REQUIREMENTS

1. Graduation in Honours Sociology from the University of Western Ontario with first or second class standing or graduation from another accredited university with an equivalent degree and standing.

2. Graduation from other honours programs or General BA programs from an accredited university with at least a B average (second class standing). Although admission to the program is possible from undergraduate fields other than Sociology, deficiencies may have to be remedied as prescribed by the Department. Graduates with high standings in any field are encouraged to apply.

Students are requested to submit results from the Graduate Record Examination. Students for whom English is not their native tongue should submit evidence of proficiency in spoken and written English.

Financial assistance for those admitted into the MA Program is available from the Department. Early applications will be given priority. Completed applications should be in by June 30 preceding the September of intended registration. For further information and application blanks, please write to the following:

Admissions Officer
Department of Sociology
University of Western Ontario
London 72, Ontario, Canada

PERIOD OF STUDY

1. Graduates from Honours Programs in Sociology are admitted directly into the MA Program and are normally expected to complete the Master's Program after 3 terms in residence (September to August).

2. Graduates from Honours Programs other than Sociology are admitted into the MA Program but must take the full Qualifying Year Program and are expected to complete the Master's Program after 5 terms in residence.

3. Graduates from other programs are normally expected to complete the Master's Program after 5 terms in residence (2 academic years, September to May and the intervening summer). These graduates are admitted into the Qualifying Year and must apply for admission into the MA Program upon completion. Entry into the MA Program depends upon satisfactory performance in the Qualifying Year. Acceptance into the Qualifying Year is no guarantee of acceptance into the MA Program.

QUALIFYING YEAR (10 half courses or equivalent)

Sociology 400, 402, 404
One of Sociology 406 or 434
One of Sociology 452, 453, 454, 455, 456, 457, 461
One of Sociology 441, 436 or Psychology 560
One other full course or two half courses in Sociology
One option (1 full or 2 half courses)

MA PROGRAM (6 half courses or equivalent, plus MA Research Paper)

*Population Studies (P), Social Organization (O), and Social Psychology (SP) consitute the three areas of concentration.

One full or two half courses chosen from the candidate's major area of concentration*

Electives (4 half courses or equivalent)

Research Paper (1 credit, full year program of research) in the candidate's major area of concentration*

COURSES

Note: All 400 level courses are half courses. They are Qualifying Year courses and are also listed in the Undergraduate Catalogue as Fourth Year Honours courses.

400. Advanced Statistics. Parametric and non-parametric social statistics. Test of significance and measures of association, analysis of variance, correlation, regression and probability will be studied extensively. Prerequisite: Sociology 231 or equivalent.

402. Research Methodology in Empirical Sociology. A comprehensive study of the problems of methodology and research design. The methodology of major studies in sociology will be critically examined. Prerequisite: Sociology 231 or equivalent.

404. Sociological Theory. An introduction to theory construction and contemporary sociological theories. Prerequisite: Sociology 230 or equivalent.

406. Population and Social Structure. The relevance of demographic processes to social organization and the interrelation of fertility, mortality and migration with social psychological and structural variables.

434. Human Ecology. The consideration of the concepts of human ecology as applicable to the interrelationships of population, environment, technology and organization in society.

436. Selected Topics in Social Psychology. Topics of current interest to social psychologists will be the focus of discussion and individual research.

437. Selected Topics in Deviant Behaviour. A focussed examination of specific topics in deviant behaviour. Canadian research will be examined in areas such as mental illness, delinquency, crime and sexual behaviour.

438. Canadian Society. The structure and functioning of Canadian society. An examination of the political, economic, cultural and value structures and processes.

441. Small Groups. Empirical study of social psychological phenomena with an introduction to empirical laboratory and field methods used in social psychology.

444. Sociology of Addictions. Theoretical, methodological, and epidemiological issues and perspectives in the study of the sociological aspects of addictions are examined relative to the implications of sociological research for understanding, treating, and preventing problems of addiction.

450. Sociology of Law. An analysis of the legal institutions and processes in contemporary society.

451. French Canadian Society. An analysis of the structure and functioning of French Canadian society with emphasis on politics, religion, social structure and values.

452. Political Sociology. An analysis of research and theory as related to the role of power and politics in contemporary society.

453. Sociology of Occupations and Professions. An analysis of the development and structure of occupations and professions.

454. Industrial Sociology. An inquiry into the development and structure of major industrial organizations, labour unions and management-labour relations.

455. Sociology of Corrections. A review of the theory and research concerning correctional institutions, penology, treatment of crime, and the correctional process.

456. Sociology of Religion. An analysis of the interactions between religious belief systems and institutions and the major institutional areas of society.

457. Sociology of Education. A comprehensive study of educational institutions in modern society.

461. Communications. The study of patterns of mass culture, mass media and their relationship to social factors.

Note: All 500 level courses except 522, 599 are half courses (1/2 credit).

501. Sampling and Multivariate Analysis. Sampling methods and theory will be discussed and biases calculated. Modern developments in multivariate analysis in statistics will be studied and applied to data. Prerequisite: Sociology 400 or equivalent.

503. Methodology in Empirical Sociology. Selected problems in Research Methodology, Measurement and Scaling problems, Game Theory, Stochastic Processes and Cybernetics.

505. Sociological Theory. Selected problems in theory and theory construction.

522. Development Aspects in Industrializing Nations. (O) The social, economic, political and spatial structure and inter-related development problems in selected countries or regions. (Offered jointly with the Departments of Geography and Political Science) Two-term full-credit course.

524. Social Epidemiology. (O) An examination of social epidemiological methods, patterns of acute and chronic morbidity, and the effects of social and psychological factors on health behaviour. (Offered jointly with Community Medicine)

532. Techniques of Demographic Analysis. (P) Procedures in the measurement of fertility, mortality, natural increase and migration. Evaluation of sources of demographic data including census and vital registration systems.

535. Community. (O) A systematic analysis of the ecological and social dimensions of communal life in both folk and urban-metropolitan settings.

536. Social Organization. (O) A study of contemporary theories of social organization and their applications to analyses of existing organizations.

537. Deviant Behaviour. (O) A study of basic theories of deviant behaviour with emphasis on methods for determining the occurrence and distribution of norm violating behaviour and on social and psychological correlates of deviant behaviour.

538. Sociology of Crime and Delinquency. (0) An examination of some basic approaches to the study of crime and delinquency in Canada and an analysis and critique of contemporary research in this area.

539. Social Movements and Revolutions. (SP) An examination of conditions which produce social movements and revolutions, processes of development, leadership, and processes of affiliation and disaffiliation. Relevant sociological and social psychological theories will be examined.

540. Social Psychology. (SP) An analysis of the contributions of culture and social interaction to the development of personality. Socialization, attitude change, and motivation will be emphasized.

541. Mathematical Social Psychology. (SP) Mathematical models of small groups behaviour. Mathematical models will be applied to group structures as well as processes.

542. Communication. (SP) An analysis of the nature, diffusion, and control of information within social systems and subsystems.

543. Collective Behaviour. (SP) An analysis of theories dealing with fads, riots, propaganda and public opinion.

544. Theories of Social Psychology. (SP) Critical analysis of the major current theories in social psychology.

545. Community Aspects of Mental Health. (O) A study of the incidence and prevalence of mental disorders, their interrelationship with sociocultural factors and emotional disorders, and an evaluation of selected mental health programs and services. (Offered jointly with Community Medicine)

546. Health Care Organization. (O) An analysis of the distribution of health resources, with special consideration given to the effectiveness of health care delivery, public health policy, the health professions, and medical economics. (Offered jointly with Community Medicine)

547. Social Stratification. (O) An examination of the forms and functions of inequality and ranking systems in society. Consideration will be given to contemporary problems of social class and mobility.

548. Social Change. (O) Examination of theories of sociocultural, economic, demographic and ecological change and their relevance to planning in developing nations.

550. Race and Minorities Relations. (O) An evaluation of relations among ethnic, racial and religious groups focussing on intergroup hostility and conflict and the role of these groups in the larger community. Prejudice and discrimination will be analyzed for their social psychological, political and economic causes and effects. Social and political movements to resolve intergroup conflicts will be examined.

551-560. Selected Social Institutions. (O) The examination of selected social institutions in terms of the problems of stability and change in society. Specific institutional areas include law, military, education, religion, family, science, industry, and polity.

570. Special Topics in Demography. (P) Intensive study of specific issues in demographic analysis.

580. Population and Economic Development. (P) The interdependence between population characteristics, natural resources, and economic organization under varying conditions of natural development.

583. International Urbanization. (P) Demographic, social and economic analysis of urban communities in developing nations. Comparisons are made with similar phenomena in the western world.

588. Computer Applications in Social Research. (P) Electronic data processing and computer programming as relevant to social and demographic data and research.

591-595. Selected Topics in Sociology. (O, P, SP) Individual reading courses arranged between professor and student.

599. MA Research Paper. Two-term, full-credit course.

Spanish and Italian

Professors

Flint, W., BA Harvard; MA, PhD North Carolina. Chairman of Department

Shervill, R.N., BA UWO; MA PhD North Carolina. Executive Assistant to the President

Smieja, F.L., BA National, Ireland; MA PhD London. Acting Chairman of Department, 1971-1972.

Associate Professors

Asensio, J., PhB, STB Ordo de Mercede; Lic., Dr en Fil. y Letras, Madrid

Burghardt, W., BA, MA Toronto

Marti, A., ECI. Madrid; BSc Jochi, Tokyo; Lic., Dr en Fil. y Letras Barcelona

Assistant Professors

Lopez Pacheco, J., Lic en Fil y Letras Madrid

The Department of Spanish and Italian offers courses leading to the MA degree in Spanish.

Applicants who are not graduates of an Honors Program in modern languages will be required to do a Prerequisite Year in anticipation of admission to graduate courses.

There are two avenues which lead to the MA degree. The candidate may complete four courses, or if he prefers, three courses and a thesis.

Details of the program may be obtained by writing to the Chairman of the Graduate Committee, Department of Spanish and Italian, The University of Western Ontario, London 72, Ontario, Canada.

COURSES

543. Old Spanish. A critical examination of major literary works of the medieval period and a detailed study of medieval Spanish phonology and morphology.

550. Spanish Mystic Writers. An analysis of the literary works of representative Spanish mystic and ascetic writers in relation with the thought of other mystic authors.

552. Lope de Vega. A critical seminar dealing with the drama, poetry, prose and dramatic theory of Lope de Vega.

553. Calderon de la Barca and his Contemporaries. A critical analysis of selected plays of Calderon and his dramatic school.

554. Cervantes. An analysis of Cervantes's works, with special emphasis on Don Quixote.

555. Tirso de Molina. A critical analysis of his principal plays and selected prose.

556. Golden Age Poetry. A study of selected poets of the 16th and 17th centuries.

557. The Picaresque Novel. A survey of the major works of the genre.

560. Galdos and the Nineteenth-Century Novel. A study of literary and social trends of the last half of the nineteenth century.

570. The Generation of 1898. A study of the "Spirit of 1898" with special emphasis on the novel and essay. Unamuno, Baroja, Azorin and Valle Inclan will be studied.

572. Spanish Drama of the Nineteenth and Twentieth Centuries. A study of dramatic trends in one or both centuries.

575. Aspects of Modern Spanish American Prose. Study of a selected trend in twentieth century Spanish American fiction. Analysis of significant works.

576. Aspects of Modern Spanish American Poetry. Study of a selected trend in modern Spanish American poetry.

580. Modern Spanish Poetry. Study of a selected trend in twentieth century Spanish poetry.

582. Modern Spanish Novel. A study of tradition and innovation in the Spanish novel from Baroja to the present time.

590. M.A. Thesis Direction.

591. Bibliography. Six class meetings devoted to a practical introduction to Hispanic bibliography. A non-credit course required of all first year graduate students registered in the Department.

The Department does not offer all the courses listed above in any one academic year. Each spring a list is issued indicating which of the courses will be offered for the following year.

Surgery

Professors

Carroll, S.E., BA MD UWO

McLachlin, MD, MSc UWO; MS Toronto; DPhil Oxon. Head of Department

Associate Professor

McCredie, J.A., MB MCh Belfast

Clinical Professors

Coles, J.C.G., BA, MD, MSc UWO

Johnston, D.W.B., BA MD UWO

Kennedy, J.C., MD UWO

McAninch, L.N., MD UWO

McFarlane, R.M., MD, MSc UWO

Graduates in Medicine who have served a year of rotating internship in an approved hospital may apply for further training in Surgery in a plan utilizing the facilities of Victoria, St. Joseph's and Westminster Hospital and of the Health Sciences Centre of the University.

This training meets the requirement for Fellowship in the Royal College of Surgeons of Canada and candidates beginning the course are expected to proceed to this degree.

Research may be carried out during the period in training in general surgery or one of the surgical specialties and may lead to qualification for the degree of Master of Clinical Science (MClSc).

Therapeutic Radiology

Clinical Professor

Watson, T.A., MB, ChB New Zealand; MD Saskatchewan. Head of Department

Associate Professors

Haegy, F.C., MD, MSc, PhD UWO

Inch, W.R., BSc Queen's; PhD UWO

MacDonald, J.C.F., BA, MA British Columbia; PhD Toronto

Clinical Associate Professor

Thomson, D.H., MB, ChB Glasgow

Clinical Assistant Professors

Bannerjee, P., MB Calcutta

Fetterly, J.C.M., MD, CM Queen's

Honorary Lecturer

McCredie, J.A., MB, MCh Belfast

The Department of Therapeutic Radiology is located in the London Clinic of the Ontario Cancer Treatment and Research Foundation, Victoria Hospital. Facilities are available for radiation therapy, nuclear medicine, radiation physics, radiobiology and chemotherapy of malignant disease. A close association with other clinical departments is maintained by joint consultative clinics. The department offers graduates in medicine who have served one year of rotating internship a full course of training leading to Fellowship or Certification by the Royal College of Physicians and Surgeons of Canada. Clinical or basic research may be carried out and submitted as partial fulfilment for the degree Master of Clinical Science (see page 17); with the approval of the College this may be used to satisfy the requirement for training in basic science.

Graduates in medicine or the basic sciences may carry on research in the Division of Nuclear Medicine, Radiation Physics or Radiobiology which may be used in partial fulfilment for the degrees, Master of Science or Doctor of Philosophy. These degrees are granted in the basic department in which the supervisor of the student holds a joint appointment, at present Biochemistry, Biophysics or Physics. Research interests in the Department currently include, factors influencing the sensitivity of solid tumours to ionizing radiation, the role of the cancer cell membrane in the development of distant metastases, dosimetry of high energy radiation sources and the application of new isotopes to clinical diagnosis.

A suitable stipend during the period of residency or graduate training may be obtained through the Ontario Cancer Treatment and Research Foundation.

COURSES

510a. Principles of Radiobiology

511b. Selected Topics in Nuclear Medicine. (Prerequisite: residency training in Therapeutic or Diagnostic Radiology, admission to such a training program or equivalent.)

512. Applied Radiotherapy. (Prerequisite — M.D. degree).

514. Tutorial — Current Topics in Radiotherapy. (Prerequisite: residency training in Therapeutic or Diagnostic Radiology, admission to such a training program or equivalent.)

590. Master of Clinical Science Thesis

610. Physics of Radiology. (Prerequisite Physics 20 or equivalent).

Courses are full term unless followed by (a) denoting first term or (b) denoting second term.

All courses will not necessarily be offered in any one year.

Further information on residency, graduate training and courses may be obtained from the Head of the Department.

Zoology

Professors

Battle, Helen I., BA, MA UWO; PhD Toronto (part-time)
Bourns, T.K.R., BA, MA British Columbia; PhD Rutgers
Judd, W.W., BA McMaster; MA UWO; PhD Toronto
Locke, M., BA, MA, PhD Cantab. Chairman of Department
Scott, D.M., BSc, MSc, PhD McGill
Stinson, R.H., BA McMaster; PhD Toronto. Honorary Professor

Associate Professors

Dunbar, R.W., BA MA, PhD Toronto
George, J.A., BSA Saskatchewan; MSA Toronto; PhD UWO
Keenleyside, M.H.A., BA, MA British Columbia; PhD Groningen
MacInnes, C.D., BSc Bishop's; MS, PhD Cornell
McMillan, D.B., BSc, MSc, PhD Toronto
Misra, R.K., MSc, PhD Nagpur; PhD Edinburgh
Ogilvie, D.M., BSc, MSc New Brunswick; PhD UWO
Purko, J., BA, MSc, PhD UWO
Steele, J.E., BSc Dalhousie; MSc UWO; PhD Saskatchewan

Assistant Professors

Holsworth, W.N., BSc, MSc, PhD Western Australia
Owen, M.D., BSc Wales; PhD Monash
Planck, R.J., BS, PhD California
Roth, R.R., MSc Cluj; PhD Alberta
Shivers, R.R., AB, MA, PhD Kansas

Visiting Assistant Professors

Cook, C.B., BA Rutgers; PhD Duke
Tam, W.H., BSc, PhD Hull

Visiting Lecturers

Bignell, D.E., BSc, PhD Nottingham
Caveney, S., BSc Witwatersrand; DPhil Oxon
Millar, J.S., BSc, MSc British Columbia; PhD Alberta
Mullins, D.E., BA, MSc Colorado State; PhD Virginia Polytech

Honorary Lecturers (part-time)

Bond, E.J., BSA Toronto; MSc UWO; PhD London
Brown, B.E., BSc, MSc UWO; PhD Illinois
Chefurka, W., BSc Manitoba; MA Montana State; PhD Harvard
Colhoun, E.H., BSA Toronto; PhD Cantab. Associate Professor of Pharmacology
Harris, C.R., BA, MA British Columbia; PhD Wisconsin
McLeod, D.G.R., BSc Manitoba; MSc, PhD Wisconsin
Nagai, T., MEng, MSc, DSc Tokyo
Vardanis, A., BSc Leeds; MSc, PhD McGill

Research Interests of the Department

The department is equipped to carry out research in ultrastructure, polytene cytotaxonomy, developmental biology, comparative histology, environmental physiology, insect physiology, invertebrate biochemistry, parasitology, reproductive biology, ethology, new methods of insect control, population genetics, population dynamics, and ecology. Laboratories are equipped for electron microscopy (including freeze-etching), tissue culture, cell fractionation and ultracentrifugation, gas chromatography, atomic absorption spectrophotometry, respiratory gas analysis, gamma-irradiation with a cobalt-60 source, radioactive tracer studies (there is a scintillation counter), and photoperiodism. A summer field station equipped for ecological field studies is maintained near Eskimo Point in the Northwest Territories. The facilities of the Huntsman Marine Laboratory in St. Andrews, New Brunswick, are available to researchers in the department.

Requirements for Admission

The Department offers programs leading to the degree of MSc or PhD. For admission as MSc candidates, students should have or expect to receive an Honors degree. However, students with other qualifications may be granted admission to a prerequisite year to achieve adequate standing.

Admission as PhD candidates will be given to students having an MSc degree or high standing in an Honors BSc degree. Applicants without a Master's degree may be required to register initially as MSc candidates, with the possibility of transferring to a PhD program after one year of satisfactory work.

Details may be obtained on application to the Chairman of the Department.

GRADUATE

COURSES

526. Advanced Insect Physiology. The principles of insect physiology. Aspects of metabolism, biochemistry, pharmacology. Fall term. /E. J. Bond, B. E. Brown, W. Chefurka, E. H. Colhoun, J. A. George, M. Locke, M. D. Owen, J. E. Steele.

527. Neurophysiology. Aspects of vertebrate and invertebrate neurobiology and sensory physiology. Spring term. /M. D. Owen.

528. Endocrinology. Comparative aspects of hormonal integration. Mechanism of hormone action. Fall term. /J. E. Steele.

531. Advanced Histology. Comparative aspects of the structure and development of vertebrate organ systems at the microscopic level. Spring term. /D. B. McMillan.

533. Immunity to Parasites. Natural and acquired resistance to animal parasites, medical and veterinary implications, serological and immunological methods, in vitro culture. Spring term. /T. K. R. Bourns.

535. Physiological Ecology. Mechanisms of adaptation to different environments. Environmental control of physiological processes. Rhythmic phenomena. Spring term. /R. J. Planck.

536. Advanced Population Biology. Diversity and stability, developed from the dynamics of single and multiple species systems. Life history strategies. Colonization. r and K selection. Fall term. /C. D. MacInnes.

537. Advanced Behaviour. Animal social systems. Communication. Bioperiodism. Cybernetic systems. Spring term. /M. H. A. Keenleyside, R. J. Planck.

538. Developmental Genetics. Molecular biology of development. Regulation of genomic function. Replication and translation of information during development. Stability of clones. Somatic cell genetics. Fall term./ J. Purko.

539. Advanced Development Biology. Mechanisms and role of cell communication and interaction during development. Spring term./ J. Purko.

540. Evolution. Concepts of species. Polymorphism, selection and gene flow. Theories of speciation. Fitness-set analysis. Fall term./ D.M. Scott, C.D. MacInnes.

542. Cell Biology. Molecules to biological structures. Ultrastructure and life history of cells and organelles. Fall term./ M. Locke, R.R. Shivers.

543. Advanced Cell Biology. Cell function. Metabolic function of subcellular organelles. Cell and tissue specialization. Transport. Transporting epithelia. Contractility and motility. Spring term./ M. Locke, R.R. Shivers, W. Chefurka.

545. Advanced Biometry. Advanced statistical methods. Spring term./ R.K. Misra.

546, 547. Population Genetics. A lecture course dealing with large and small random and non-random populations, linkage, path analysis, inbreeding, generation matrix, mutation selection, subdivision and migration, inheritance of quantitative characters, and the implication of these considerations upon the process of evolution. Fall and Spring terms./ R.K. Misra.

548. Comparative Biochemistry. A systematic comparison of the phenomena of life throughout the phylogenetic scale. Emphasis on: sources of biologically useful energy, classes of metabolities, comparative enzymology and comparative biochemistry of organized reaction systems. Fall term./ W. Chefurka.

553. Political Biology. Selected aspects of biology as they relate to human survival. Predictions and solutions to current problems. Education and the presentation of facts. Spring term./ Staff.

554. Advanced Techniques. A practical course in advanced techniques including sectioning, staining, photomicrography and the preparation of illustractions. Fall term./ D.B. McMillan, M. Locke, R.R. Shivers.

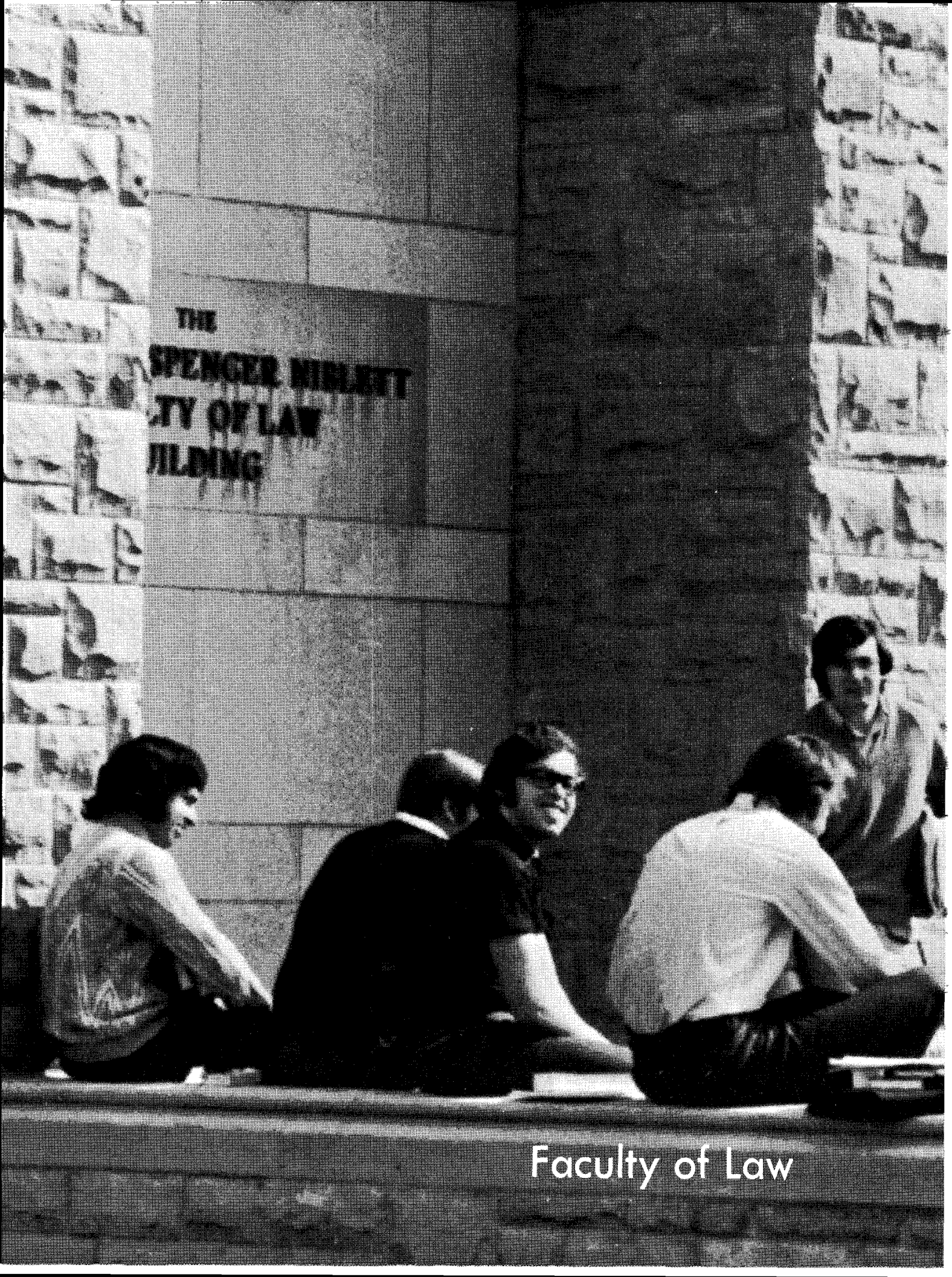
555. Advanced Microscopy. Phase, ultraviolet, interference, polarizing, fluorescence and Nomarski microscopy. Electron microscopy, interpretation and presentation of data. Spring term./ D.B. McMillan, M. Locke, R.R. Shivers.

560, 561. Current Topics in Experimental Biology. Seminar course. Fall and spring terms./ Staff.

562, 563. Insect Physiology. Seminar course on current topics in insect physiology. Fall and spring terms./ Staff.

564, 565. Cell Biology. Seminar course on current topics in cell biology. Fall and spring terms./ Staff.

566, 567. Ecology. Seminar course on current topics in ecology. Fall and spring terms./ Staff.



Faculty of Law

Faculty of Law

Administrative Staff

Dean

R.S. Mackay, QC; LLM Columbia; of Osgoode Hall (Barrister-at-Law)

Assistant Dean

S. I. Bushnell, BSA Toronto; LLB Dalhousie; LLM Osgoode Hall

Administrative Officer and Assistant to the Dean

Margaret McNulty

Administrative Officer

Patricia Black

Librarian

Margaret Banks, MA, PhD

MEMBERS OF THE FACULTY OF LAW

Professors

Hickling, M.A., LLB, PhD London

Krever, H., QC; BA, LLB Toronto; of Osgoode Hall (Barrister-at-Law)

Mackay, R. S., QC; LLM Columbia; of Osgoode Hall (Barrister-at-Law) (Dean)

Palmer, E. E., BA William and Mary; MA Yale; LLB, LLM Toronto; of Osgoode Hall (Barrister-at-Law)

Associate Professors

Arnold, B. J., BA UWO; JD Harvard

Brandt, G. J., BA, LLB Saskatchewan; MA Oxon; of Osgoode Hall (Barrister-at-Law)

Janisch, H., BA Rhodes; BA, MA, LLB Cantab; MCL, LLM, JSD Chicago; of Osgoode Hall (Barrister-at-Law)

McRae, D. M., LLB, LLM Otago; Dip. Int. Law Cantab (Barrister and Solicitor of the Supreme Court of New Zealand)

Priestly, Diana M., BA, LLB British Columbia; MLL Washington; of the Bar of British Columbia

Rayner, W. B., BA, LLB UWO; LLM Yale, of Osgoode Hall (Barrister-at-Law)

Rendall, J. A., BA Toronto; LLB Osgoode Hall; LLM Michigan; of Osgoode Hall (Barrister-at-Law)

Sinha, S. P., BCom Poona; CWA Calcutta; MS (Bus. Admn.) Arizona; LLB Bombay; LLM, JSD, Illinois

Assistant Professors

Balogh, L. V., BA, LLB Saskatchewan; LLM Toronto

Bushnell, S. I., BSA Toronto; LLB Dalhousie; LLM Osgoode Hall

Elder, P. S., BA Queen's; LLB British Columbia; LLM London; of the Bar of British Columbia

McLeod, J, LLB UWO; LLM London

Samuels, J. W., BA, LLB Queen's; LLM London; of Osgoode Hall (Barrister-at-Law)

Usprich, S. J., LLB Toronto

Sessional Professors

Carson, His Honor Judge E. H. A., MA Toronto; of Osgoode Hall (Barrister-at-Law)

Cherniak, E. A., BA: of Osgoode Hall (Barrister-at-Law)

Hinnegan, K. A., BBA Michigan; LLB, LLM Chicago; of Osgoode Hall (Barrister-at-Law)

McKenzie, A. L., QC, BA: of Osgoode Hall (Barrister-at-Law)

Sessional Lecturers

Brown, T. N. (Mrs.) BA, MSW Ottawa

Genest, His Honor Judge M. H., BA, LLB UWO; of Osgoode Hall (Barrister-at-Law)

Gordon, D., BA, LLB Queen's; of Osgoode Hall (Barrister-at-Law)

Pollock, E. M. BA, LLB Saskatchewan, of Osgoode Hall (Barrister-at-Law)

ACADEMIC CALENDAR

1972

September 5, Tuesday	9:30 a.m. General assembly of first year students Lectures begin for second and third year students
September 5-15, incl.	Orientation program for first year students
September 18, Monday	Lectures begin for first year students
October 9, Monday	Thanksgiving Day, Holiday
October 27, Friday	Autumn Convocation
December 8, Friday	First term classes end
December 11, Monday	Second and third year examinations begin First year tests begin
December 23, Saturday	First term ends

1973

January 8, Monday	Second term begins
April 19, Thursday	Second term classes end
April 20, Friday	Good Friday, Holiday
April 23, Monday	Examinations begin
May 5, Saturday	Second term ends
June 4-8	Spring Convocation

* The above dates are subject to modification

FOUNDATION OF THE LAW SCHOOL

In 1885, the year in which the Faculty of Arts was forced to close, the idea of founding a law school was first publicly mooted. At this time there were in the London district a number of young men studying for admission to the Bar who obviously had much to gain in attending a local course of lectures designed for future practitioners. In November, 1885, the Middlesex Law Association took the initiative and approached the Senate of the University with a proposal for affiliation. This was quickly approved and in the following months the Senate passed a statute establishing the Faculty of Law of Western University. In an amended form this instrument won legislative approval on August 3rd, 1886.

The first curriculum was framed to embrace all subjects in which examinations were required by the Law Society of Upper Canada for admission to the Bar. It was expected that the examinations of the London Law School would be accepted in lieu of those of the Law Society as soon as the school had become formally established. The course of instruction included also the subjects required by other universities in Ontario for the degree of Bachelor of Laws so that students of the school could proceed on an equal footing to the degree of LLB in Western University.

A number of prominent London lawyers offered their services as lecturers, enabling the school to begin operation immediately. The faculty included: William Elliott, Senior Judge of the County of Middlesex, Dean; W.H. Bartram, Registrar; W.W. Fitzgerald, Bursar; and the following lecturers: J.F. Flock; N.D. Fraser; George C. Gibbons; I.F. Hellmuth, LLB; James Magee; W.R. Meredity, QC, LLB, MPP; The Honourable David Mills, LLB, MP; and W.P.R. Street, QC, LLB.

Thirty-eight students were registered in the first year. The inaugural lecture was delivered in the Court House on the evening of December 4th, 1885, by Judge Frederick Davis. The regular lectures which were held on Monday, Wednesday and Friday afternoons at 5 o'clock went on through the winter of 1885-86. The Law Society of Upper Canada, however, refused to accept the examination of the London Law School as equivalent to its own. Consequently, the enthusiasm of the students began to wane and one by one they dropped out of the course until only three were left to write the first examinations in June.

In September, 1886, the school opened for a second season, this time with a registration of only seventeen. Lectures continued as before but the interest of the students was again flagging. The number in attendance continued to drop until February 12th when all further lectures were cancelled and the Law School, like the Arts Department, ceased to function. Some members of the Middlesex Law Association still hoped to revive it but this possibility was precluded when in 1889 the Law Society of Upper Canada required all students of law in Ontario to attend Osgoode Hall for three years.

However, between 1915 and 1954, under various departments in the Faculty of Arts, courses of instruction were given in legal subjects leading to a degree of Bachelor of Laws (LLB). In 1920 a Department of Law was created under F. E. Perrin, BA, who continued to lecture in that Department until his appointment to the Bench in 1934.

In 1930 he was joined by C.C. Carrothers, BA, LLB, and the latter lectured until the termination of the Department in 1954.

As a matter of interest, the requirements for the LLB during this period are typified by the general catalogue for the University for 1930-31, which provided as follows: "The Degree of Bachelor of Laws will be conferred on candidates who present the following academic standing, and pay the fees pertaining to the course:

(a) An Honor Degree in the Department of Economic and Political Science from the University of Western Ontario or some other acceptable university or college.

(b) A certificate of graduation from Osgoode Hall and of admission to the practice of law in the Province of Ontario or equivalent certificates.

(c) Examinations taken on a course of reading in the following: Domestic Relations, Medical Jurisprudence, Theory of Obligations, Contracts.

(d) An approved thesis, on an assigned subject."

Nevertheless, between 1889 and 1949 the Law Society continued to maintain a monopoly over legal education through the medium of its own school at Osgoode Hall. On February 15th, 1957, after years of protracted controversy, the Law Society of Upper Canada provided for the equal participation of approved university law schools in the academic preparation for admission to the Ontario Bar. It also recognized the need for graduation upon completion of a full-time academic course of not less than three years, as a prerequisite to the final stages of professional training.

In 1958, following this important change of policy in legal education, the Senate of The University of Western Ontario decided to re-establish the Faculty of Law and on May 1st, 1959, the Honorable Ivan C. Rand, formerly a Puisne Judge of the Supreme Court of Canada, was appointed its Dean. On Thursday, September 17th, 1959, after an interval of seventy-two years, regular classes resumed in the law school of The University of Western Ontario, with a first-year enrolment of thirty-five students selected from a large number of applicants.

By the retirement of Dean Rand in June of 1964, first-year enrolment had doubled. Both the Faculty of Law itself and its course of instruction are officially approved by the Law Society of Upper Canada.

During the first two years instruction in the Faculty of Law was carried on in a wing of the new Engineering Science Building. In May, 1961 construction of the Josephine Spencer Niblett Building was completed and in the summer months following the Faculty moved into its permanent home. Built in the modified collegiate Gothic tradition, this handsome building takes a place of honor on one of the most beautiful campuses in Canada. It was designed to accommodate about two hundred students, composed of three years of medium-size undergraduate classes and later of graduate groups. The Faculty of Law contained three lecture rooms and four seminar rooms, a well-equipped library with space for 100,000 volumes, a courtroom, a student lounge, and other facilities. In 1968 an addition to the physical plant approximately doubled the existing size of the school.

RIGHTS RESERVED

The Faculty reserves the right to change any of its rules, courses, regulations and charges, and to make such changes applicable to students already registered as well as to new students.

FEES

Fees for the Faculty of Law

Faculty of Law $552.50

NOTE: The above fee includes a $54.00 non-academic charge for the University Community Centre, University Students' Council, Athletics and Health Services. This sum may not, by law, be included in the student income tax certificate. The certificate will be available by the last day of February each year. A $50.00 tuition deposit is required of all first year students in the Faculty of Law.

Payment of Fees

Fees are due and payable at the time of registration. A student may pay a minimum of $300.00 at the time of registration and the balance on or before the first day of the second term. There is a charge of $5.00 for payment of fees in two parts: this amount is added to the second installment. If a $50.00 tuition deposit has been paid prior to registration, this amount is considered as part of the first term's tuition installment.

REGULATIONS OF THE FACULTY OF LAW

Admission to the Faculty of Law

PRELIMINARY EDUCATION

The Faculty of Law does not prescribe a course of pre-legal studies, nor does the Faculty recommend specific undergraduate courses for those intending to enter law school. For those students planning university courses with a view to satisfying admission requirements of the Faculty of Law, it is recommended that a broad background is advantageous and that a student should select a program of studies which will challenge him and assist him in developing good study habits.

ADMISSIONS REQUIREMENTS

According to the requirements of the Law Society of Upper Canada, a person desiring admission to the first year of the LLB program must have successfully completed not less than two full years of academic work at a recognized university following Grade Thirteen in Ontario, or its equivalent.

MATURE APPLICANT

A limited number of applicants who, though unable to fulfill the foregoing entrance requirements, can present proper evidence of good character, maturity, and experience, may in exceptional cases and by special action of the Faculty be admitted. A mature applicant must supplement his application with detailed information of his education and business experience, and general fitness to undertake the study of law as well as a statement explaining why he is unable to qualify as a regular applicant. Mature applicants are invited to discuss their application with the Admissions Officer of the Faculty of Law, The University of Western Ontario early in the year preceding the year for which they are applying. Mature applicants are also advised that the Law Society of Upper Canada requires every candidate for enrolment in the Bar Admission Course (the successful completion of which is a prerequisite to practise as a barrister and solicitor in Ontario), to have successfully completed two years in full-time attendance in an approved course in an approved Canadian university after senior matriculation; or to have successfully completed three years in full-time attendance in an approved course in an approved Canadian university after junior matriculation; or to have obtained a degree in an approved course in an approved university; and to have obtained the LLB degree at an approved law school.

APPLICATION PROCEDURE

Application for admission must be on the prescribed form which may be obtained from the Admissions Office, Faculty of Law, The University of Western Ontario, London 72, Ontario. The form should be returned to the Registrar, Stevenson Hall, The University of Western Ontario. Because of the limited number of spaces available, applications should be made well in advance of the date of intended

enrolment and, so far as may be possible, before May 1st. Applications are considered in order of receipt. Upon the complete record of the applicant becoming available to the Admissions Committee each applicant will be advised in writing of the decision taken by the Admissions Committee. When the Admissions Committee is able to offer an applicant a seat, the applicant will be required to submit a timely reply indicating whether it remains his intention to register in this Faculty of Law.

ADMISSIONS PROCEDURE

Admission to the Faculty of Law in every case is by decision of the Admissions Committee of the Faculty of Law. The Admissions Committee of the Faculty of Law is composed of four members of the faculty (one of whom is the chairman) two representatives from the student body and one representative from the University Admissions Committee. The Admissions Officer of the Faculty of Law acts as a voting ex-officio member of the Committee. Selection is based upon the applicant's prior academic record, including grades obtained in undergraduate courses, Law School Admission Test scores, letters of reference and student participation in extra curricular activities and the Committee's assessment of the applicant's promise for professional distinction.

LAW SCHOOL ADMISSION TEST

Every applicant is required to take the Law School Admission Test. Test scores are used to supplement academic grades and other admissions criteria. For the convenience of applicants, test centers have been established in major cities in Canada and the United States. For Canadians, the test is given four times a year. The Faculty of Law urges that applicants arrange to take the test early in the academic year preceding admission. An application for the test and further details can be obtained from the Admissions Office, Faculty of Law, The University of Western Ontario or by writing to the Educational Testing Service, Box 944, Princeton, New Jersey 08540.

ADVANCE STANDING

Applications from students successfully completing a part or all of their legal education in another law school may be considered for admission with advance standing, but all students taking the LLB shall take not less than a full two-year program which shall be individually tailored according to their particular needs.

Candidates for the LLB degree are admitted only at the opening of the first semester of a regular session, and for the whole session and the full course of work.

THE ACADEMIC SESSION

(1) The Academic Session at the Faculty of Law comprises a period of approximately thirty weeks; the session is divided into two terms.

(2) The first term starts on September 5th and ends on December 23rd. The second term starts on January 8th and ends on May 5th.

(3) The time-table for the first term is available at the general office on the first day of classes. The Faculty may, on notice, schedule compulsory classes and seminars additional to those indicated on the time-table.

(4) All courses in the first year are obligatory. All courses in the second and third years are elective.

(5) Students in the second and third years may take a range of fourteen to sixteen hours in either term to a minimum of twenty-nine hours in both terms and a maximum of thirty-one hours in both terms, except that a student may exceed thirty-one hours but only with the permission of the Assistant Dean.

ATTENDANCE

(1) Success in law studies requires that students devote their full time to the work of the school. The Faculty advises a student to avoid outside employment unless absolutely necessary. A student who contemplates taking outside employment in order to remain in school is required to consult the Dean of the Faculty either before or at the time of registration.

(2) A student who has successfully completed his first year of studies in the Faculty of Law may, over the following two years, be permitted to take up to the equivalent of six term hours outside of the Faculty of Law; credit for more than four hours outside the Faculty of Law may not be received in any one term. The approval of the outside course instructor and the Dean of the Faculty of Law must be obtained.

(3) No credit is allowed for work done in absentia. Leave of absence is not permitted except in unusual circumstances. A student in good standing who is permitted to withdraw can only rejoin the Faculty of Law subject to the regulations in force at the time he applies to re-enter. Failure to attend classes, seminars, appointments, or examinations without good cause shown constitutes a ground for exclusion from the Faculty of Law.

EXAMINATIONS

(1) The final grade in each formal course is usually based upon written examinations or such work as is assigned. Examinations are held at the end of the first term in December and at the end of the second term in May. They are graded anonymously.

The Faculty may prescribe other tests or examinations during the Academic Session and may also require submission of essays or participation in other projects. The weight to be assigned to such interim tests, examinations and assignments in computing the final grade of the student shall be determined by the Faculty.

(2) Non-attendance at an examination constitutes an absolute failure in the course concerned unless the candidate is excused by the Faculty for good cause shown.

(3) The right to sit for examinations is conditional upon regular attendance at classes and group work. Final examination papers will not be returned to students, nor will they be regraded after the grades have been published, unless in exceptional circumstances the Faculty directs otherwise.

(4) Where a student fails to obtain the weighted average of 60%, all of his examination papers are re-read.

(5) Upon such conditions as the University may specify, a student may have an examination paper re-read by his examiner.

(6) Where a student wishes to seek special consideration respecting an examination or examinations on medical, compassionate or other grounds, he must provide the relevant facts in writing as may be prescribed by the Dean before the student sits for the examination or examinations. In the absence of compelling and unusual circumstances, such as where the student is unable to communicate with the Dean because of incapacity, submissions after the event will not be considered.

(7) First-year students will be examined in full year courses at Christmas. These examinations are designed to give the student experience in assimilation of facts, identification of legal issues, and the solution of problems through analysis and critical application of legal principles. Since these examinations form an integral part of the first-year training program, the same considerations apply as noted in (1), (2) and (3) above, except that: (a) examination papers may be returned to the student for the purpose of critical review and (b) any mark assigned will not figure in the computation of a student's final mark in that course.

LAW

(8) A first-year student whose Christmas results, over the broad spectrum of subjects examined, fails to indicate a minimum aptitude for legal studies or an ability to grasp the fundamental concepts of substantive law will be referred to the Dean, who may determine the advisability of his continuing as a student in the Faculty of Law, and, where indicated, may advise or request that he withdraw.

GRADES

(1) The following scale is used in grading: A: 75-100, representing excellent; B: 67-74, above average; C: 60-66, average; D: 50-59, below average; F: below 50.

(2) The grade in each course is usually weighted in proportion to the credit assigned to the course. The unit credit is the term hour, which represents one class-hour per week for a term. Failing marks are included in computing the weighted average.

(3) A student who obtains a weighted average of 60% will not be required to write supplemental examinations but will be passed on his average. A student who obtains a weighted average of less than 60% will be failed on his year. Supplemental examinations will not be permitted except in exceptional circumstances. The Faculty reserves the right to require a student to write a deferred or special or supplemental examination where the Faculty considers such action desirable.

(4) Individual grades assigned by instructors are subject to the approval of the Faculty.

(5) A student who fails to meet the required standards in any one year may be excluded from the Faculty of Law unless the Faculty allows him to repeat the whole of the work of that year during the following academic session. A student who fails any two years in the Faculty of Law shall be excluded except in extraordinary circumstances.

COURSES OF INSTRUCTION

Obligatory Courses

FIRST YEAR

446. Civil Procedure. An introduction to the role of "adjective" law in the adversary system of justice and its relationship with and influence on substantive law, including historical background, organization of the courts in Canada, the relationship of courts of civil jurisdiction with courts of criminal jurisdiction, pleadings and discovery, forms of trial, method of proof, parties, judgments, res judicata, costs and appeals. While the basis of the course is the Ontario Judicature Act and the Rules of Practice, emphasis is placed on the role of the lawyer in our system with its concomitant ethical dilemmas and on illustrations from practice.
Two hours per week, both terms.

407. Constitutional Law. An introduction to fundamental public law concepts: the structure and interpretation of Canadian federalism; the constitutional powers of the Crown, the executives, parliament, legislatures and their respective agencies; individual rights, public order and limitations on governmental powers; the process of Canadian constitutional reform; federal-provincial financial arrangements.
Two hours per week, both terms.

410. Contracts. An introduction to the law concerning binding obligations voluntarily entered into, commonly called contracts: how they are created, problems in the contractual relationship and remedies.
Three hours per week, first term; two hours per week, second term.

412. Criminal Law. Courts and jurisdiction; procedure from original process through arraignment and trial to appeal including problems such as bail, legal aid, rights of accused persons, etc.; indictable and summary conviction offences; standards and proof of liability; factors of justification and mitigation; analysis of selected offences against persons, property and morality; inchoate crimes; problems of legal responsibility involving insanity, drunkenness, etc., and youthful offenders.
Two hours per week, both terms.

422. Legal Method and Analysis. An introduction to the basic skills and techniques of legal research, analysis and communication. Concentration on the identification, discovery and use of elementary legal source materials. Students will be required to complete a number of assignments to the satisfaction of their tutor and to write a test which shall be computed in their first year average.
One hour per week, both terms, plus eight days at the beginning of the first term.

425. Property. The possession and ownership of land and the incidents thereto are the primary concern of this course: the origin of interests in land, the concept of estates, future interests, fees, tenancies, rights in the land of another, land ownership and family obligations. Select problems relating to the law of personal property.
Three hours per week, first term; two hours per week, second term.

430. Torts. An examination of the rules of law governing the basis for, and defenses to, civil liability arising from torts of intent, negligence, and strict liability, and from other wrongful acts combining these characteristics.
Three hours per week, first term; two hours per week, second term.

ELECTIVE COURSES: SECOND AND THIRD YEARS

401. A. Administrative Law. A study of the administrative process in Canada. This will include an examination of the part to be played by various administrative agencies in controlling modern economic life as well as the role of the courts in supervising this activity.
Three hours per week, one term.

401B. Administrative Law. A study, on a broad scale, of the processes of law making and law application by the executive departments of government with particular reference to the law of judicial control of public authorities. The central theme will be the tension between law and discretion. First, the course will deal with the allocation of law and policy-making power among executive, legislature and court, and with the concept of administrative discretion. Second, it deals more specifically with administrative procedure, and the constitutional, statutory and common-law doctrines which control it, focusing on notions of due process and natural justice.
Three hours per week, one term.

451. Advanced Administrative Law. This seminar is designed to give students an opportunity to explore areas of particular interest in greater depth than is possible in an introductory survey course.
Prerequisite: Administrative Law.
Two hours per week, second term.

440. Canadian Legal History. An investigation into the development of some of the Canadian legal institutions with particular reference to those areas which have developed as a result of federal legislative change.
Two hours per week, first term.



408. Civil Liberties. Matters to be considered will include: Individual or private rights—the invasion of privacy and personality; Group Rights—fundamental freedoms, human rights, The Bill of Rights; Legislated Morality—crimes without victims, liquor, gambling and narcotics, censorship and obscenity, hate literature; Group Action in the State—civil disobedience, the politics of dissent, the War Measures Act. The class will take the form of a two hour weekly seminar. Assigned readings and specific problems will form the basis of the discussion. In addition to an active participation in the seminars, a paper of article length and of significant depth on a selected civil liberties topic is a course requirement.
Two hours per week, first term.

443. Close Corporations. This course will be a study of the use of the corporate vehicle and the organization of private business activity, examined in the context of corporate planning and counselling. The course shall deal with specific problems of incorporating, controlling, setting up capital structures and financing the close corporation at various stages of its development. Concurrent considerations such as shareholder agreements and purchases by the corporation will be studied. The specific problem of advising the small corporation in franchising negotiations will be discussed. If time permits consideration will also be given to winding up and business discontinuance problems. Insofar as practical, the various problems will be considered in seminar sessions following which the participants will be expected to prepare a written proposal of resolution together with a short defense thereof.
Two hours per week, first term.

402. Commercial Law. A study of the law of commercial transactions as it relates to the distribution and sale of merchandise, and the financing thereof. The rights and obligations of buyers and sellers of goods, including the law of sale of goods, consumer protection, secured transactions, and the financing of such transactions, both consumer and commercial.
Four hours per week, one term.

403A. Company Law. Legal aspects of both incorporated and unincorporated group activity of a commercial nature. The following topics are presented: an historical introduction; the formation of business groups; legal recognition of group entity in the common law and modern statutes; relationships between business entities and outsiders (ultra vires transactions, authority to contract, membership liability); company promotions and protection of the investing public; company control and management.
Four hours per week, one term.

403B. Company Law. The course shall be concerned with the legal implications of carrying on commercial activity in what has become known as the corporate form. A short introduction shall compare this form of business activity to other methods used by the business community. There shall be an attempt to provide a jurisprudential basis for the existence of the incorporated company. The discussion of the corporate problems shall, where possible, be dealt with in the order in which they are likely to arise in the actual commercial arena. Emphasis shall be placed on such topics as promoter's duties, ultra-vires director's duties, share structure, dividends, repurchase of shares, winding up and the protection of minority shareholders. The relationship between the various methods of incorporation will be constantly under consideration. Problems under the new Ontario Business Corporations Act will be emphasized and potential methods of solution will be discussed.
Four hours per week, one term.

404. Advanced Company Law. This course focuses on the operation and transactions of the company as a going concern and includes the financial structure of an incorporated enterprise, the distribution of corporate earnings, control of the company, certain problems in the taxation of corporate earnings, corporate reorganization, acquisitions and merger, dissolution.
Two hours per week, second term.

406. Conflict of Laws. The resolution of legal problems arising from transactions involving more than one jurisdiction, including characterization and the proper law in marriage, divorce, annulment, legitimation, adoption, wills, administration, succession, contracts, torts and property.
Four hours per week, one term.

462. Copyright and Unfair Competition. Statutory and common law protection of literary, musical and artistic works, including the principles of unfair competition and trademark.
Two hours per week, second term.

472. Consumer Protection. It is anticipated that this course will be taught by the use of a class discussion or seminar method. If the number of participants is reasonable, various areas will be undertaken by members of the class who will act as assistant group leaders for the area. Consideration will be given to the following topics in the course: Consumer and Credit; Consumer Merchandising and Sales; Landlord-Tenant Relations; Consumer and his Remedies. It is anticipated that other topics which reasonably fall within the area of Consumer Protection may be examined. There will be some inevitable repetition of problems discussed in Commercial Law, however, the course in Commercial Law will not be a prerequisite.
Two hours per week, second term.

471. Criminal Procedure. An advanced seminar based on the criminal Law course. Many, if not most, of the problems which are at the fore in the criminal law field are procedural in nature, and some of these problems will be studied, e.g., illegal searches, search warrants in general, "eavesdropping", police questioning, arrest, bail, and the problem of "discovery". Although there is no prerequisite course it is suggested that students take the course in Evidence before enrolling in this course.
Two hours per week, first term

434. Criminology. Nature, function and limits of the criminal sanction: criminal law in relation to consensual behaviour, interaction of law and morals, minimum requirements to attract the sanction, conditions affecting response to law, factors producing change in the substantive law; police powers; role of Crown; aspects of pre-trial and trial procedures; problems concerning civil liberties. Substantial paper required.
Two hours per week, first term

411. Debtor-Creditor Rights. Including remedies of unsecured creditors, execution of judgments, fraudulent conveyances and preferences, general assignments and bankruptcy.
Two hours per week, second term

454. Dispute Settlement. This course will be one which basically deals with the question of labour arbitration. In doing this, a series of seminars will be held at which topics of general importance in the field will be dealt with. Students will be required to complete papers upon which they will lead discussion in these seminars. Additionally, students will be required to go to actual arbitration hearings and, on the basis of evidence there given, draft an award. Finally, all students will be required to participate in mock arbitrations.
Two hours per week, first term

444. Environmental Law. After an introduction to the nature of the environmental problem, consideration will be given to the Canadian constitutional position, the availability of private remedies under existing law, policy alternatives available to government, government's response to the problem and the international position.
Two hours per week for those choosing to write a final examination and three hours for those undertaking an essay or project, second term.

413. Estate Planning. This course attempts to instruct students in estate planning and draftsmanship. A number of particular aspects of planning is selected for special attention including the use of insurance and pension plans, the use of trusts, transfer of interests in businesses and professional practices, valuation of estate assets, planning for handicapped and spendthrift heirs. This is not a course in the law of wills, trusts or taxation, although these matters are given proper attention. This is intended to be a course in planning. Students are asked to respond to hypothetical fact problems.
Prerequisites: Wills, Trusts and Taxation of Wealth Transfers.
Two hours per week, second term

414. Evidence. The course in Evidence deals with the principles and rules which regulate the input of facts forming the basis upon which a decision is made by a judge or jury or other judicial tribunal. The course is divided into four parts, first, a survey is made of the function of the trial, and its adversary nature, and also the function of the judge and jury within the trial. The Law of Evidence depends entirely on the trial process and consequently to understand the proper use of principles and rules of evidence one must look at the purpose of the trial; second, the exclusionary rules are studied, i.e. hearsay, opinion, character; emphasis is placed on relevancy as the main principle behind the admission of evidence; third, the law relating to the proof of facts, which are admissible, is studied, e.g. the oath, credibility of witnesses, cross-examination of witnesses, judicial notice; and fourth, the rules which aid the court in reaching a reasonable conclusion on the facts, e.g. burdens of proof and presumptions.
Four hours per week, one term

415. Family Law. A study of the legal problems relating to the organization and disorganization of the family, including the law of husband and wife, parent and child, etc.
Four hours per week, first term

416. Advanced Family Law. A study of the law and procedure relating to actions before the Provincial Court — Family Division. This will include consideration of child protection cases, affiliation proceedings, Deserted Wives' applications for support and proceedings under the Juvenile Delinquents Act. In addition, students will undertake specific projects which will involve work with some of the specialized agencies in the locality which deal with the family, and also extensive work at the London Provincial Court—Family Division. Enrolment restricted.
Two hours per week, second term

464. Family Practice. A study of the dynamics of family interaction and the theories of family breakdown; a review of treatment theories with special emphasis on the role of the lawyer in preventive intervention; an examination of the theories of human behaviour with emphasis on diagnostic skill; the development of interviewing techniques by a series of field assignments in actual treatment settings in the city; an understanding of the process of referral and the practical techniques that make it work.
Two hours per week, second term

438. Income Taxation. A basic course in income taxation concentrating on the treatment of individuals under the Income Tax Act. The course will emphasize statutory construction in dealing with problems in the following areas: residence, the meaning of income, deduction credits and exemptions, income splitting, tax accounting, the filing of returns and collection of tax. The Tax Reform Bill will be considered in some detail along with the present statute. The policies involved in a taxing statute will be dealt with throughout the course.

Four hours per week, one term

439. Advanced Taxation — the Taxation of Business Activities. This course deals with the federal income tax treatment of corporations and their shareholders. As a result, it relies heavily on the provisions of the Income Tax Act and on statutory construction. Topics examined in detail include: (a) tax policy with respect to corporations and shareholders, (b) the corporation as a separate taxable entity, (c) associated corporations and the concept of control, (d) personal corporations, (e) the taxation of corporation distributions, ordinary dividends, disguised dividends, deemed dividends and intercorporate dividends, (f) tax consequences of mergers and amalgamations, (g) some problems of surplus stripping. Some limited emphasis will be placed on tax planning with respect to the areas outlined above. The Tax Reform Bill will be considered in some detail. Generally, the classes will be conducted on the basis of a problem method. An assignment representing part of the final grade may be required.
Two hours per week, second term

417. Insurance Law. A study of the insurance contract, its scope, purpose and social effects; its formation and construction; and its statutory regulation. Special attention will be given to the principles of insurable interest, subrogation, contribution, disclosure and illegality.
Two hours per week, second term

433. International Business Transactions. This course will deal with legal problems which arise in transactions or relations among individuals, business enterprises, governments or governmental instrumentalities of two or more nations. The subjects to be dealt with cut across traditional course categories and include national law, foreign law and international law in their public and private law spheres. The course will deal with problems in the following areas: the response of national law to aliens, the relationship between national and international law with respect to aliens, the role of national courts in resolving transnational problems, the extraterritorial reach of national economic law, and the role of international organizations such as G.A.T.T., the I.M.F. and the E.E.C. Some of the substantive problems to be dealt with include international aspects of Canadian income taxation, joint ventures and licensing agreements, foreign direct investment, foreign portfolio investment, foreign ownership and control of the Canadian economy, the balance of payments and trade regulation or antitrust.
Three hours per week, second term

473. International Law of the Sea. A study in depth of the current peacetime problems in the Law of the Sea: the continental shelf, the seabed, the high seas, environmental problems, disarmament, jurisdiction. Prerequisite: Public International Law.
Two hours per week, second term

463. International Organization. An introduction to the nature, functions and organs of the United Nations and the European Economic Communities with a detailed examination of some of the legal problems relating to international organization.
Two hours per week, second term

418. Jurisprudence. The objective of the seminar is to develop and test the student's own ideation of the nature of law. Various perceptions of law are examined in the seminar, which include: 1. the naturalist perception: (a) the classical natural law, (b) the modern natural law; 2. the idealist perception; 3. the positivist perception: (a) the utilitarian tradition, (b) recent versions; 4. the historical perception; 5. the sociological perception; and 6. the functionalist-realist perception.
Four hours per week, second term

419A. Labour Law. The course is intended to cover broadly, the right to organize and bargain collectively, including the enforcement of collective agreements, strike law and the regulation of the relations between trade unions and their members.

419B. Labour Law. This course will deal with four aspects of labour relations: the creation of collective bargaining rights; the strike situation; arbitration; and the rights of individual members. In covering these topics, chief emphasis will be placed upon the Ontario Labour Relations Act which is the most important piece of legislation in this field in Canada and is also representative of problems occurring generally.
Generally, material dealt with in class will be of the normal case type. Emphasis will be placed, however, on board decisions rather than those of the courts. Additionally, if the size of the class is sufficiently small, mock arbitrations and negotiations will be held, credit being given for participation in these programs. Additionally, subject to the question of numbers, students will be taken to actual arbitrations.
Four hours per week, second term.

448. Advanced Labour Law — Strikes. The legal regulation of industrial warfare. The right of freedom to strike and resort to other hostile action in labour relations. Common law and legislative techniques and controls: the forms and consequences of illegality. Particular emphasis on perspectives for reform.
Two hours per week, second term

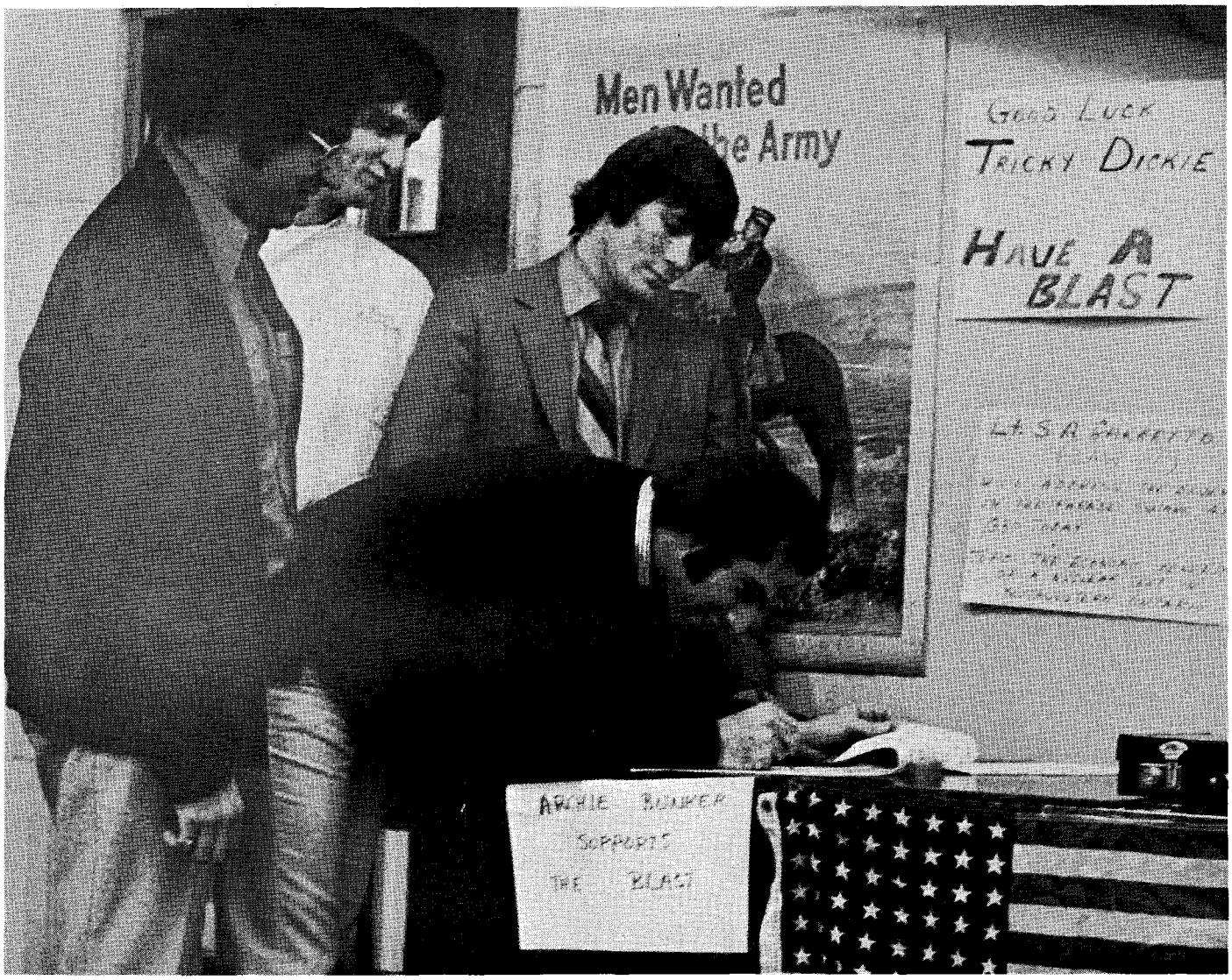
426. Land Development Law. The primary concern of this course is the introduction of some of the more sophisticated and practical problems resulting from land acquisition, its ownership and the financing thereof. The course is divided into three main areas: The recording acts and conveyancing problems, public regulation of private development and land financing. The law of mortgages is studied in some detail. In addition, the student will be exposed to condominium development, sale-leaseback transactions and related problems in municipal law.
Four hours per week, first term

453. The Law and Freedom of Expression. This seminar undertakes a look at human (natural) rights, and in particular Freedom of Expression (speech). Areas of the law which concern Freedom of Expression will also be studied, e.g. Defamation, Sedition, Obscenity and Censorship; and the relationship between these areas and Freedom of Expression in the United States and Canada will be surveyed.
The seminar will be conducted solely as a discussion group and a significant proportion of the final grade will be assigned from student participation in the seminar.
Two hours per week, first term

468. The Law and Organized Sports. A seminar dealing with the diverse and currently developing legal issues in the broad field of professional and amateur sports including the legal and economic aspects of monopoly power in the professional leagues; the negotiation, performances and enforcement of the individual player contract; the player association as an aspect of organized labour; professional league control of infants' services; the relationship between amateur and professional organizations; the applicability of the criminal law and the law of torts to the playing field.
Two hours per week, first term

437. Law and Poverty. The empirical study of legal problems of disadvantaged groups in Canadian society. After a few introductory meetings to gain perspective, explore the various problems and discuss methodology, the seminar will select three or four major research projects, and each student will work as part of a project team. Course requirements will be met through the joint preparation of a research paper based on empirical research in the London area in relation to some of the social, economic,

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psychological and legal problems involved in being poor.
Two hours per week, first term

435. Law Reform. Methodology of law reform; the seminar will involve an examination of a specific area of the law (yet to be designated) which may be in need of reform, and an evaluation of the usefulness of the available devices of law reform in relation to the particular topic to be studied.
Two hours per week, first term

456. The Legal Process. A study of private ordering and of the relationships and interaction between private and institutional law makers. Examination and evaluation of the alternative techniques by which "law" is made and applied.
Two hours per week, first term

423. Municipal Law. The nature, structure and powers of local authorities; validity of by-laws; actions by and against municipal corporations through officers and servants; expropriation and compensation; highways, assessment and taxation.
Two hours per week, first term

452. Partnerships. This course is basically a study of unincorporated associations and the law that pertains to them. The emphasis, therefore, will be upon partnerships, but additional work into unincorporated companies, and trade unions and clubs will also occur. The course will be divided into fifteen two-hour sections, for which reading in a casebook prepared for the course will be required.
Two hours per week, first term

427. Public International Law. An introduction to the underlying principles of international law and the developing framework in several areas. To be discussed: the nature and sources of international law; the doctrines of sovereignty and recognition; means of peaceful settlement of disputes; the law of the sea; air and outer space; state responsibility and environmental problems; international human rights law; the law of treaties and the law of international institutions.
Four hours per week, first term

445. Regulated Industries. This seminar is designed to give students an introduction to some of the issues involved in governmental regulation and control of certain key segments of the economy. Special emphasis will be placed on the activities of the Canadian Radio Television Commission and Bell Canada's recent rate increase application to the Canadian Transport Commission. After a period of general introduction, it is expected that students will undertake individual research in areas of particular interest.
Prerequisite: Administrative Law.
Two hours per week, second term

447. Response to Law. A study of the response of judges to rules made either by the legislature or by the courts. The course will explore, both through examination of judicial decisions and through the observation of judges presiding in the courts, the relative importance of "facts" and "law" to the decision-making process.
Two hours per week, second term.

436. Securities Regulation. A study of the securities markets with regard to problems of regulating transactions in securities for the protection of investors. Emphasis will be placed on regulatory techniques in Canada, particularly Ontario, and on the effect of securities regulation in the United States on the development of Canadian jurisprudence in this area. Problems to be covered will include: initial distribution of securities, subsequent transactions in securities and supervision of traders, with emphasis on the function of disclosure to investors (e.g., prospectus requirements, insider trading, proxy solicitation, take-over bids, periodic reports, etc.), the role of governmental agencies, self-regulation in the over-the-counter market and by the exchanges, and legal consequences of present developments in the securities markets such as automation, institutional investors and international transactions. A course in company law is a prerequisite for students enrolling in this course and some knowledge of accounting principles would be beneficial.
Two hours per week, second term.

429.Taxation of Wealth Transfers. A study of gift and inheritance taxes; this course involves careful and detailed analysis of the Ontario Succession Duty Act. Reference will also be made to the Estate Tax Act and to the gift tax provisions of the Income Tax Act for the purpose of better illuminating the problems surrounding the taxation of wealth transfers. Gift taxes and death duties will be compared with alternative revenue sources. The course is designed to recognize student unfamiliarity with statutes, particularly taxing statutes, and, through the use of problems, to introduce students to the techniques of analysis and application of taxing statutes in general. Your skills in reading case law will not be severely tested; the emphasis is on development of the ability to solve problems arising from the operation of taxing provisions on hypothetical fact situations. The virtual disregard of tax jurisprudence necessarily results in a distortion which is nicely corrected by the course in Income Taxation.
Three hours per week, first term

475. Real Estate Drafting and Negotiations. The primary concern of this course is the development of drafting and negotiating skills in the students. The students are presented with a particular fact situation and are asked to negotiate and prepare all documentation necessary for the development of a shopping plaza. The students are divided into four groups and are assigned roles to play. These roles are: Landowners, Developers, Lenders and Real Estate Agents. There are a number of students in each category and each student is responsible for negotiating a transaction with the other relevant parties and the preparing of documents necessary for the implementation of the transaction they have negotiated. The students' grades are determined by the skills relating to both the negotiating and the drafting with rather more emphasis placed on the latter.
Prerequisite: Land Development Law.
Two hours per week, second term.

460. Tax Policy. This course will survey matters of tax philosopy, fiscal policy, tax reform and tax administration. For the current year, it is proposed to emphasize tax reforms. This will involve a study of selected aspects of the tax system from three distinct perspectives — that of the lawyer, the economist and the businessman. Our survey will not be confined to income tax, but will range widely across the tax systems both federal and provincial.
Prerequisites for law students: Taxation of Wealth Transfers and Income Taxation.
Two hours per week, second term

470. Advanced Torts Law. This seminar will be concerned to start where an introductory torts course ends. It will focus in on the introduction of no fault automobile insurance schemes through North America and elsewhere both from the point of view of immediate impact as well as their implications for the future of tort law as a whole.

While no fault automobile insurance plans present traditional tort analysis with its most immediate challenge they also lead inevitably to an analysis of the relevance and viability of tort law in a time of growing social welfare schemes. Should we continue trying to force tort law into a more purely compensatory mold or should we frankly acknowledge that we are starting from the wrong end of things and concentrate in on the coverage and adequacy of existing and proposed social welfare schemes?
Two hours per week, first term

431. Trade Regulation. This course deals with one important aspect of government regulation of business, the regulation of competition. It is not a course in regulated industries or consumer protection although these topics are considered briefly. Rather, the course is aimed at an examination of the problems of preserving business competition. As a result the central focus is on the Combines Act. The topics which are considered in detail are: the scope of the Combines Act; horizontal restraints; monopoly; mergers; and vertical restraints. Classes are generally conducted by a problem method.

Three hours per week, first term

467. Trial Process. An experimental course designed to emphasize the law of evidence as a process rather than as a collection of rules with their associated conceptual rationales. The purpose of the course will be to attempt to provide some insights into the means by which facts are found, and therefore proved, in the Anglo-Canadian system of litigation. A combination of instructional methods will be employed including the use of audio-visual techniques, particularly movies, trial transcripts and trial practice assignments requiring student participation as counsel. A course in Evidence is a prerequisite.

Two hours per week, second term

476. Trusts. An introduction to the law of trusts, including the creation of trusts, the rights and duties of trustees, the rights of beneficiaries and the special rules relating to charitable trusts. Attention will also be given to the development of equitable principles and remedies.
Three hours per week, one term

409. Urban Legal Studies. Public and private regulation of urban and regional land use with emphasis on the process of planning and the structure of urban and regional government. Particular topics include urban renewal and redevelopment, housing, facilities, urban fiscal problems, urban transport, and the physical urban environment.
Two hours per week, second term

469. Use of Legal Materials. Some guidance in the use of legislation and judicial decisions.
Two hours per week, one term

450. Wills. An examination of the law concerning disposition of property after death, with primary emphasis on the use of the will as a device for this disposition. It will essentially be a course on Wills and will not be on Succession. It is not a planning course. It will be desirable if the registrants in this course had taken Trusts, or were taking Trusts in the same term.
Two hours per week, one term

428. Individual Research. A student wishing to undertake a major piece of research and writing may apply to the Faculty Committee on Individual Research. The approval of a member of the Faculty who will supervise the research project must be obtained and a written outline of the proposed project must be submitted to the Committee. Where it approves a research project the Committee decides on the weight to be granted for it. The maximum weight permissible is one half of the unit hours taken in the semester in which the research is done. A student may select this option only once in his law school career. Open to students during their second and third years.

LAW

Cross Registration in Business Administration Courses

The Faculty of Law and the School of Business Administration have a joint arrangement whereby advanced-standing students (second and third year law students and second year business students) are able to cross register in courses offered by the other institution. Such cross registration requires approval in advance of the Dean of the school where the student is registered and the Professor in the course he wishes to attend. Such students would be expected to meet all requirements of the course for which they cross register and they would be evaluated on the same basis as others in the course. Grades will be translated to pre-determined equivalents in the school where the student is registered.

MOOT COURTS AND MOCK TRIALS

Students are required to participate in a moot court program administered by the Faculty in conjunction with the first year course in Legal Method & Analysis. Students in the second and third years are encouraged to participate in the program of moot courts which is organized and conducted by the students themselves through The University of Western Ontario Legal Society. Through such participation, the student gains invaluable experience in legal research, the preparation of argument on behalf of a client, and the oral submission of such argument. Members of the Bench and of the practising Bar, giving generously of their time and talents, sit as judges and offer to the participants their advice and constructive criticism, based upon years of experience in advocacy. In addition students in the second and third years are offered the opportunity to prepare and conduct mock trials, based upon actual cases. Here, the student obtains experience in gathering evidence, interviewing witnesses, and examining witnesses at trial. The Faculty and students are particularly fortunate, in connection with this program, to have the cooperation of the Bench, Court officials, the police, and various citizens of London who contribute their time to act as witnesses.

GUEST LECTURE SERIES

The Faculty of Law sponsors a guest lecture series each year. Leading personalities in legal education, the profession of law, and related disciplines are invited to address the students on matters related to the study and practice of law.

COMMUNITY LEGAL SERVICE PROJECTS

From its beginning in September 1969 the Student Legal Service Project expanded into a sophisticated operation involving several different projects. Students attend on a regular basis in the offices of Community Action Centre in the "core" area of London, accept referrals from Legal Aid, provide Duty Counsel Services in Family Court, operate a Consumer Complaint Bureau, and also assist people who seek advice directly from the students.

Students who become involved in these projects should expect to spend two or three hours per week on their files.

HONORS

Students who obtain a weighted average of 70% or more and are in the top 10% of the class in any year are eligible for the Dean's List of Honor Students.

Students who obtain a weighted average of more than 70% and less than 75% over all three years may in addition be recommended for graduation with distinction.

Students who obtain a weighted average of 75% or more over all three years may be recommended for graduation with great distinction.

The Dean Ivan C. Rand Honor Society

This Society was formed by the undergraduate students in the term of 1963-64, to commemorate the Honorable Ivan C. Rand, Dean of the Faculty of Law from 1959 to 1964. A committee composed of representatives of the undergraduate student body and of the Faculty may nominate not more than three students from the graduating year for membership of the Society, selection being based upon meritorious academic standing throughout the undergraduate years in law, and outstanding contributions in the service of the undergraduate students of the Faculty of Law.

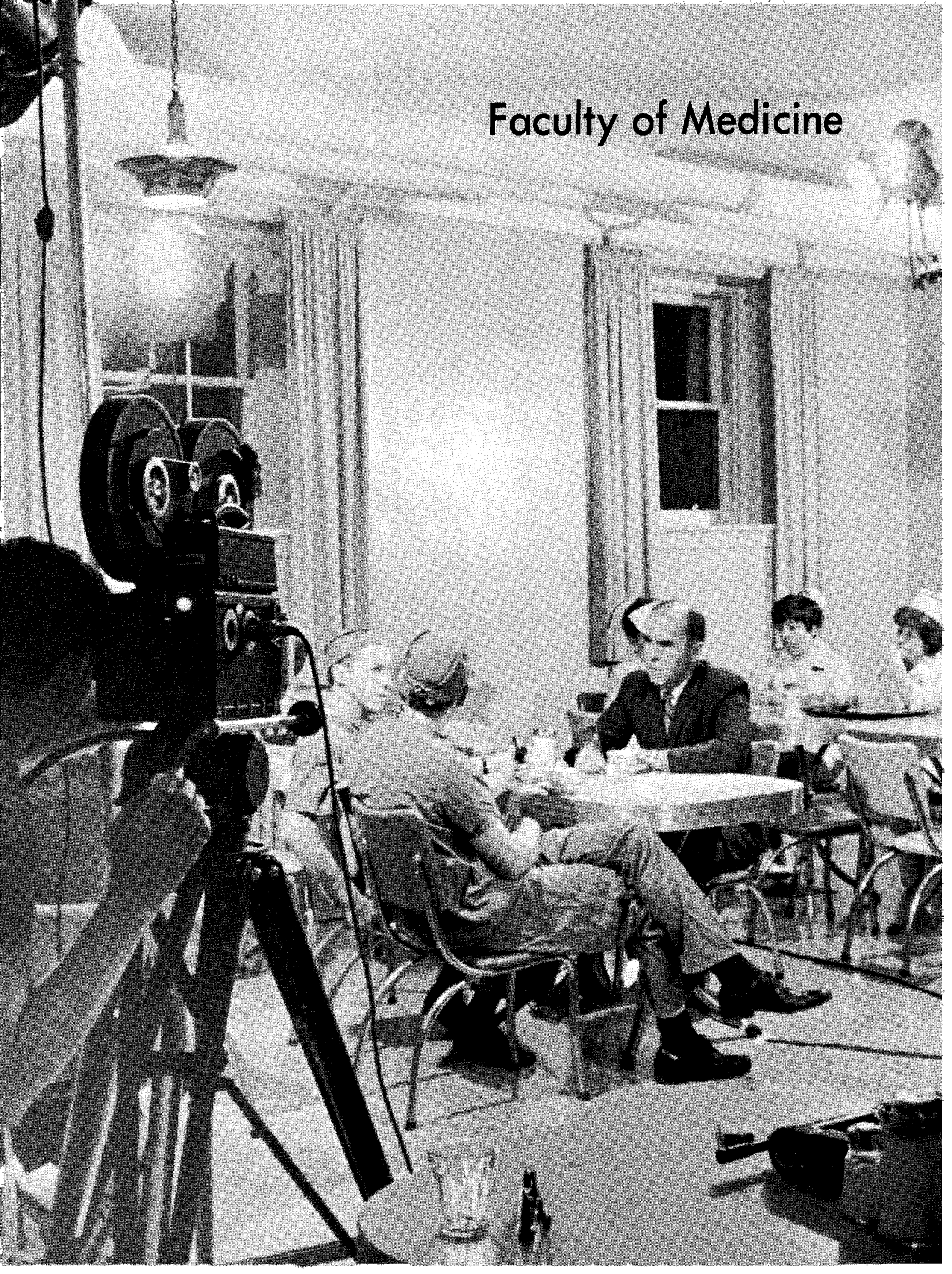
GENERAL INFORMATION

Admission to the Practice of Law

In view of the fact that requirements for admission to the practice of law vary from province to province, a student wishing to practise law in any province other than Ontario is advised to communicate with the Secretary of the Law Society concerned before seeking admission to the Faculty of Law in The University of Western Ontario.

Requirements for admission to practise as a barrister and solicitor in Ontario are set by the Law Society of Upper Canada, and can be ascertained in detail by writing to the Society's Secretary, Osgoode Hall, Queen Street West, Toronto 1. In brief, students must graduate in an approved law course offered by an approved university — The University of Western Ontario and its law course have been approved for this purpose — and complete the Bar Admission Course. The latter comprises a period of 12 months' service under articles to a solicitor in Ontario followed by a 6-month course of full-time practical training at Osgoode Hall in Toronto. Attention is drawn to the fact that, by statute, being called to the Bar and admission to practise as a solicitor are not open to non-British subjects.

Faculty of Medicine



Faculty of Medicine

HEALTH SCIENCES COMMITTEE OF THE BOARD OF GOVERNORS

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Ex officio members: The Chairman of the Board of Governors, The Vice Chairman of the Board of Governors, The President of the University, The Vice President, Administration and Finance, and The Secretary of the Board of Governors.

PROFESSORS EMERITI

Macallum, A.B., BA, MD, PhD Toronto; FRSC

Stavraky, G.W., MD Odessa; MSc, MDCM McGill; FRSC

Tew, W.P., MB Toronto; FRCS(Edin), FRCS(C), MRCOG, FRCOG, LLD UWO

Watson, E.M., MD, MSc UWO; MRCP(Edin), FRCP(Edin), FRCP(C), FACP

Waud, R.A., MD, MSc UWO; PhD Chicago; FACC

OFFICERS OF ADMINISTRATION

Dean: Douglas Bocking, MD

Assistant to the Dean—Continuing Education: A.T. Hunter, BA, MD

Assistant to the Dean—Postgraduate Education: J.M. Thompson, BA, MD

Assistant to the Dean: J.H. Watson, MD, CM

Health Sciences Librarian: M. Anne Seheult, BA, BLS

Administrative Officer: W.S. McBean

Administrative Assistants: Lorraine Evans, BA, Helen McCrady, BA

ACADEMIC CALENDAR FOR UNDERGRADUATE MEDICINE

1972

June 26, Monday	First term begins for Fourth Year.
August 25, Friday	Examinations for removal of conditions begin at 9:00 a.m. in the Medical Sciences Building.
August 28, Monday	Second Term begins for Fourth Year.
September 11, Monday	Orientation—Complete details concerning registration will be sent to all students by the Registrar's Office.
September 12, Tuesday	Lectures begin for First, Second and Third Years.
October 9, Monday	Thanksgiving Day—Holiday with classes cancelled.
October 30, Monday	Third Term begins for Fourth Year.
November 3, Friday	First Quarter ends for First, Second and Third Years.
November 6, Monday	Second Quarter begins for First, Second and Third Years.
December 19, Tuesday	Christmas Vacation for First, Second and Third Years begins at 5:30 p.m. (Fourth Year students will each receive one week off during the Christmas vacation period, to be arranged by the Head of the Department concerned.)

1973

January 3, Wednesday	Lectures resume for First, Second and Third Years.
January 8, Monday	Fourth Term begins for Fourth Year.
January 12, Friday	Second Quarter ends for First, Second and Third Years.
January 15, Monday	Third Quarter begins for First, Second and Third Years.
January 15, Monday	Payment of final instalment of fees is required on or before this date.
March 9, Friday	Third Quarter ends for First, Second and Third Years.
March 12, Monday	Fourth Quarter begins for First, Second and Third Years.
March 12, Monday	Fifth Term begins for Fourth Year.
April 20, Friday	Good Friday—Holiday with classes cancelled.
May 4, Friday	Classes end for First, Second and Third Years.
May 7, Monday	Study Week begins for First, Second and Third Years.
May 13, Sunday	Fifth Term end for Fourth Year.
May 14, Monday	Examinations begin for First, Second and Third Years.
May 21, Monday	Victoria Day—Holiday
May 23, Wednesday	Medical Council of Canada Examinations begin for Fourth Year.
June 1, Friday	Spring Convocation (Medicine).
	Regular meetings of the Council of the Faculty of Medicine or its Executive Committee are held on the third Monday of every month, September to June inclusive.

EXAMINATION TIMETABLE

FIRST, SECOND AND THIRD YEARS

1972-1973

The following examinations are written at the termination of the courses: Biochemistry, Clinical Science, Genetics in the Second Year; Eye, E.N.T. and Physical Medicine in the Third Year.

Final examinations in remaining subjects in First, Second and Third Years will be written May 15th to 25th, approximately.

Medical Council of Canada Examinations

Spring of 1973

The examinations of the Medical Council of Canada will be written May 23rd, 24th and 25th, 1973.

FINAL YEAR EXAMINATION TIMETABLE

University Examinations — 1972-1973

There will be no separate set of University examinations, and the examinations of the Medical Council of Canada will no longer be used for our assessment of our students for graduation purposes.

Instead, students will be evaluated by their attendance and performance on each Service and by whatever method the Department involved selects at the termination of each rotation. Students with inadequate performance may be required, where the timetable permits, to take part of the Elective period to bring their performance up to the required level.

MEDICINE

ORGANIZATION OF THE FACULTY

The Senate of the University is responsible for the academic policy of the Faculty. The Senate vests in the Council of the Faculty of Medicine executive powers in respect of details of admission of students, curricula and examinations. The administration of the affairs of the Faculty is the responsibility of the Board of Governors of the University, through its Health Sciences Committee and the Vice President (Health Sciences).

The Council of the Faculty is composed of all full-time members of staff of the rank of Lecturer to Professor, part-time members of staff of professorial rank, the Vice President (Academic), the Vice President (Health Sciences), the Dean of Medicine, Assistants to the Dean, the Deans of the other Health Sciences Faculties, the administrators of the major teaching hospitals, representatives of the Faculties of Arts, Social Sciences and Science, the President of the Hippocratic Society, and the President and one other student representative from each of the four years. The Vice Chancellor of the University is a member of the Council of the Faculty and its Committees. The Council of the Faculty meets quarterly. All business during the intervening months is conducted by the Executive Committee of the Council of the Faculty, consisting of Chairmen and Heads of Departments, the Vice President (Health Sciences), the Dean, and the President of the Hippocratic Council.

The Council of the Faculty divides its detail work related to undergraduate instruction among standing Committees which, being non-executive, are responsible to the Council of the Faculty.

Joint Relations Committees have been established with representatives from the University and the following affiliated teaching institutions and organizations: London Psychiatric, St. Joseph's, Victoria and Westminster Hospitals, The Children's Psychiatric Research Institute and the London Health Association.

HISTORY OF THE FACULTY OF MEDICINE

"The Western University of London, Ontario" received its charter from the Legislature of the Province of Ontario in 1878. The first classes graduated in Arts and Medicine in 1883. Although the Faculty of Arts was closed from 1885 to 1895, the Faculty of Medicine has maintained an unbroken existence since its founding. In 1912 control of the Medical School by a joint stock company ended and it came under the direct control of the Board of Governors of the University. At that time the Medical School was situated at the north-east corner of York and Waterloo Streets. In 1921, the Faculty of Medicine moved its Basic Science Departments to a new school on the north-east corner of South and Waterloo Streets, adjacent to Victoria Hospital. In the summer of 1965, the administrative offices, the medical library, the Basic Science Departments and the Department of Psychiatry and Preventive Medicine, with ancillary services, moved into the new Medical Sciences Building, which is directly contiguous with the Cancer Research Laboratory, the Dental Sciences Building and the School of Nursing—the initial phase of the planned Health Sciences Centre on the main university campus. The administrative offices of the Departments of Ophthalmology and Therapeutic Radiology are located at Victoria Hospital, and the Department of Paediatrics at the War Memorial Children's Hospital. With the opening of the new University Hospital in the summer of 1972, the administrative offices of the Departments of Anaesthesia, Clinical Neurological Sciences, Medicine, Obstetrics and Gynaecology, Otolaryngology, Physical Medicine and Rehabilitation, Psychiatry, Diagnostic Radiology and Surgery will be located there. The Department of Community Medicine is based at the Medical Sciences Building.

The associated teaching hospitals, through their respective administrations, provide clinical facilities for the Faculty of Medicine.

LIBRARIES

The Health Sciences Library, located on the first floor of the Medical Sciences Building, serves the Faculties of Medicine, Dentistry and Nursing. It contains over 95,000 volumes and regularly receives the leading Health Sciences periodicals. The library has an interesting collection of several thousand volumes dealing with the history of the medical sciences.

Adjacent to the library is a study hall for the use of the students in the Health Sciences.

Medical students are also permitted to use the library facilities in Victoria Hospital, St. Joseph's Hospital, Westminster Hospital and the Children's Psychiatric Research Institute.

CLINICAL FACILITIES

Victoria Hospital: Victoria Hospital has a total of 901 beds and 80 bassinets, of which the majority are available for teaching, 402 being in clinical teaching units and under the jurisdiction of Clinical Chiefs of Departments. There are also 329 "modified" teaching beds which are available to the Clinical Teachers, making a total of 731 teaching beds and bassinets.

The Hospital is approved by the Canadian Council on Hospital Accreditation, by the Canadian Medical Association and by the Royal College of Physicians and Surgeons of Canada for Interne and Resident training.

There are special facilities for the investigation and treatment of Cardiac and Pulmonary disorders, malignancy and other diseases.

Thirty-six Out-Patient Clinics are held, in addition to those under the direction of the Ontario Cancer Treatment and Research Foundation and the Crippled Children's Treatment Centre.

Victoria Hospital supports a Regional School for Nursing Education and is the site for the Regional School for Medical Laboratory Technologists for South Western Ontario. The Hospital also participates in other training programs, such as a Centralized School for X-ray Technicians, Dietetic Internes, Physiotherapy Internes, training of Registered Nursing Assistants, training of Food Supervisors, and others.

The War Memorial Children's Hospital: The War Memorial Children's Hospital, the Paediatric Department of Victoria Hospital, is situated directly opposite the main Hospital. Of the total beds listed above, there is accommodation for 174 Paediatric patients. The London and District Crippled Children's Centre has a two-floor clinic attached to the Hospital for the care of handicapped. A Child Guidance Clinic adjacent to the Hospital provides psychiatric out-patient services for children.

St. Joseph's Hospital: St. Joseph's is a general active treatment hospital owned and operated by the Sisters of St. Joseph. Its capacity is 593 beds with 90 bassinets. All patients are available for demonstration teaching and 250 beds are in Clinical Teaching Units under the supervision of 26 full-time teachers.

The hospital is approved by the Canadian Council on Hospital Accreditation, by the Royal College of Physicians and Surgeons of Canada for graduate training as part of the University affiliated programs and by the Canadian Dental Association for training of dental internes.

Included in the Obstetrical Service is a 14-bed ante-natal unit with obstetrical neonatal intensive care units for supervision and delivery of patients with high risk pregnancies.

The paediatric department has 85 beds. The psychiatric department includes facilities for out-patient treatment of emotional disorder.

Recent areas of development are in Endocrinology, Chemical Pathology, Pulmonary Function, Neurology, Clinical Pharmacology and Reheumatology.

An advanced Training Program in Family Medicine is based at the Family Medical Centre located on Oxford Street.

Other educational programs include Nursing Education and participation in training of Laboratory Technicians and X-ray Technicians as well as Registered Nursing Assistants. The Hospital is also approved for the In-service training of Inhalation Therapy Technicians and Nuclear Medicine Technicians.

Westminster Hospital: This hospital is situated at 777 Base Line Road and is operated by the Department of Veterans' Affairs. It is a hospital of 1,150 beds with three principal services—Medicine, Surgery and Psychiatry. It is approved by The Royal College of Physicians and Surgeons of Canada for graduate training and accredited by The Canadian Council on Hospital Accreditation. Over 25,000 patients are seen in the out-patient clinics annually.

London Psychiatric Hospital: This Hospital is operated by the Ontario Department of Health for the treatment of mental illness. Approximately 500 beds provide both in-patient day care and out-patient services. Special services programmes include Adolescent and Addiction Wards. A partial hospitalization programme offers day, evening and weekend care. The Hospital is used for clinical instruction in Psychiatry as part of the training within the disciplines of Medicine, Psychology, Social Work, Nursing, Occupational Therapy and other allied health professions. The Hospital is recognized by the Royal College of Physicians and Surgeons of Canada for graduate training in Psychiatry.

St. Thomas Psychiatric Hospital: This hospital situated on No. 4 Highway one and a half miles south of St. Thomas, has a bed capacity of 1,400. The annual admission rate is approximately 900, consisting of all types of psychiatric disorders, mainly the major psychoses. The hospital provides in-patient, out-patient, day-care and emergency services, as well as Consultative and Educational services to local agencies. It is recognized by The Royal College of Physicians and Surgeons of Canada for graduate training in psychiatry.

Sir Adam Beck Chest Diseases Unit: This hospital has a complement of 115 beds under the control of the London Health Association and the Ontario Hospital Services Commission for the investigation, diagnosis and treatment of all types of chest diseases including pulmonary tuberculosis. In addition it retains its role for the management of non-pulmonary tuberculosis.

The hospital is under direction of the Executive Director of the University Hospital. The hospital is accredited by the Canadian Council on Hospital Accreditation.

St. Mary's Hospital: St. Mary's Hospital of 207 beds, owned and operated by the Sisters of St. Joseph of London, is for the care of long term illness. It operates an active department of Physical Medicine and Rehabilitation.

Bethesda Home and Hospital: Patients in Bethesda Home and Hospital are available for teaching purposes in Obstetrics. In addition to the usual confinement cases, two pre-natal clinics are held weekly.

Parkwood Hospital: This hospital, owned and operated by The Women's Christian Association of London, has 186 beds for patients suffering from chronic illness. Active medical rehabilitation services are part of the treatment facilities provided.

The Children's Psychiatric Research Institute: This is a regional children's centre owned and operated by the Mental Health Branch of the Ontario Department of Health. There is an out-patient facility for children suspected of being mentally retarded, perceptually handicapped or emotionally disturbed. An inpatient facility accommodates 150 children. The Institute offers clinical diagnosis, assessment, treatment and counselling, using a multi-discipline model. A broad range of research studies are carried out by C.P.R.I. staff in collaboration with The University of Western Ontario. Clinical teaching is conducted for undergraduate and postgraduate medical students in Psychiatry, Paediatrics and Family Medicine. Special training programs for other professions are also available.

Occasional use is made of the McCormick Home for Aged People and the various Orphanages, for clinical instruction.

ADMISSION REQUIREMENTS

Students in the following categories are eligible to apply for admission to the first year of the four-year program in the Faculty of Medicine:

1. Students who have successfully completed the Second year of an Honors Program at The University of Western Ontario provided that the Program has included at least one course in each of Biology, Chemistry, Physics and Organic Chemistry.

(The Admissions Committee will consider applications from candidates who have achieved exceptional standing in First Year Programs in the Faculty of Science provided that the Programs have included Biology, Chemistry and Physics. Applicants who are granted admission under this rule will be required to obtain credit in Organic Chemistry before registration.)

2. Students who have been granted the BA or BSc degree at The University of Western Ontario after completing successfully a four-year Honors Program or a three-year General Program;

3. Students who have been granted the BA or BSc degree at a university other than The University of Western Ontario, provided it is approved by The College of Physicians and Surgeons of Ontario.

All applicants must have demonstrated the ability to succeed in Natural Science subjects, and obtained credit for a one-year course in Organic Chemistry.

Admission requirements as detailed above are being reviewed. Students wishing to apply for admission in 1973 or subsequently should request updated admission requirements from the Director of Admissions.

Because of the great number of applications received, it has become necessary to give priority of admission to those applicants who are Canadian citizens or Landed Immigrants. Two positions may be available for students supportedby the Canadian International Development Agency.

ADVANCED STANDING

Unless circumstances are exceptional applications from other than Canadian citizens or landed immigrants will not be considered; similarly applications will not be considered from students who have failed a year at another medical school.

Students registered at another medical school will not generally be considered for admission with advanced standing to the Faculty of Medicine unless they can provide evidence, acceptable to the Committee on Admission with Advanced Standing, of compassionate or other reasons for wishing to transfer. A letter of support from the Dean of the medical school at which such students are studying should accompany the application.

All students applying for admission with advanced standing may be required by the Committee on Admission with Advanced Standing to submit the results of the Medical College Admission Test. In addition, they may be required to attend for interviews with members of the Committee.

Applicants from universities accredited by the Association of Canadian Medical Colleges or the Association of American Medical Colleges may be considered for admission with advanced standing without having to write examinations. However, the Committee on Admission with Advanced Standing reserves the right to review an individual application and to impose any conditions which it considers appropriate before admission will be granted.

Applications from students or graduates of universities which are not accredited by the Association of Canadian Medical Colleges or the Association of Amercian Medical Colleges may be considered for admission with advanced standing if they successfully pass examinations required by the Committee.

Admission may be granted with advanced standing for the work of the First and Second Years, but advanced standing shall not be granted towards the work of the Third or Fourth Years.

MEDICINE

APPLICATION FOR ADMISSION

1. First Year

Application for admission to the Faculty of Medicine must be made upon the regular application form which may be obtained from the Registrar's Office, The University of Western Ontario, London 72, Canada. The completed application forms and the supporting documents (originals) are to be mailed to the Director of Admissions, The University of Western Ontario, London 72, Canada, NOT LATER THAN FEBRUARY 1st of the year in which application is made.

A student registered at The University of Western Ontario must:

(a) submit a completed application for admission form;

(b) write the Medical College Admission Test in October 1972 or May 1973 and request that his test scores be MAILED directly to the Director of Admissions. Students must make their own arrangements for the administration of this test by writing to the Psychological Corporation, 304 East 45th Street, New York 17, N.Y., U.S.A.

A student who has never registered at The University of Western Ontario must:

(a) attach to his completed application form all his Ontario Grade 13 certificates (originals) or certified transcript of his completed secondary or high school record;

(b) request the Registrars of all universities, colleges and other institutions of post-secondary education which he has attended or is attending, to mail directly to the Director of Admissions certified transcripts of his record;

(c) request the Registrar of the University, which he is attending in 1972-73, to mail directly to the Director of Admissions a second transcript of his record at the end of his current registration;

(d) write the Medical College Admission Test in October 1972 or May 1973 and request that his test scores be MAILED directly to the Director of Admissions. A student must make his own arrangements for the administration of this test by writing to the Psychological Corporation, 304 East 45th Street, New York 17, N.Y., U.S.A.

When the initial documentation has been processed, the Committee on Admissions, meeting in February or March, may recommend Early Provisional Admission. On the other hand, in some instances an applicant may be advised that it will not be possible to gain admission in September, 1973. This will provide more time to make a decision regarding alternative plans for the forthcoming year. Final determination on many applications, however, will be deferred until the marks on final examinations are available.

2. Advanced Standing

A student of another Medical School who applies for admission to the Faculty of Medicine of this University with advanced standing must submit the following:

(a) the completed application form;

(b) certified transcripts of his secondary or high school record;

(c) certified transcripts of his record at all colleges, universities and medical schools attended;

(d) a Calendar of the Medical School in which he has studied.

REGISTRATION

Students accepted for admission into any year of Medicine will be advised directly by the Registrar's office concerning registration.

No student will be registered after the designated registration date except by special permission of the Dean. Those who register late will pay a late registration fee (see FEES below).

FEES

Fees are payable in full at the time designated by the Office of the Registrar, but if necessary they may be divided into two instalments, $400 payable with Registration and $332.50 payable on the first day of the Third Quarter, January 15th, 1973. Students may not attend lectures or examinations, nor be recommended for any degree or diploma until their tuition fees, fines and other accounts owed to the University are paid, except by permission of the Dean and the Comptroller.

Undergraduate Students

For full-time intramural students	$727.50*
The above amount includes, for full-time students, Student Activity and Health Service fees totalling	54.00
Note: A student who, by reason of sickness or other cause, is in attendance one-half a year or less will be charged	400.00

For part-time or special students, fees are set by the Registrar.

Other Charges

Evaluation of non-Ontario certificates for admission	2.00
Transcript of record, each copy	1.00
Late registration	25.00
Examination for the removal of conditions, each paper	15.00

The above-mentioned fees represent within the University as a whole less than 15% of the cost of your medical education. The balance is provided by Government grants, endowment income and other grants and gifts.

*The sum is increased by $5.00 if payment is not made in one instalment.

Note: The Board of Governors reserves the right to amend the above-mentioned fee structure after the printing of this Announcement.

STUDENTS' EXPENSES

The following statement of expenses is given for the guidance of students who are not familiar with the cost of board, room, etc. These items vary from year to year, and depend also on the individual taste of students:

Room and Board	
Appr. $28.00 per week	$950.00 to $1,150.00*
Tuition and Prescribed Accessory Fees	727.50
Books	Appr. 200.00
Microscope (First Year Only)	150.00
Instruments	10.00 to 30.00
Registration with The College of Physicians and Surgeons of Ontario, if qualifications obtained outside Canada	15.00
Fees in connection with Medical Council of Canada Examinations (Final Year Only)	150.00
The College of Physicians and Surgeons of Ontario fee for Enabling Certificate (Final Year Only)	10.00

STUDENT REGULATIONS

Any statement in this Announcement applies only to the session 1972-1973. Students registering in the Faculty of Medicine are subject to any decisions which may be made by the Council of the Faculty of Medicine and by the Senate or Board of Governors of the University.

FINANCIAL RESPONSIBILITY

No senior student having an unsound financial record, either in the School or in his dealings with others, will be recommended for graduation. All other students who are reported as having an unsound financial record will be subject to special review by the Council of the Faculty of Medicine before being recommended for promotion.

A student or students will be held financially responsible for any actions of a negligent or wantonly destructive nature which result in the damage of University property. Such charges will form part of the amount due to the University. Nonpayment will result in disciplinary action by the Dean's Office.

ATTENDANCE

(a) Students registered in any year are expected to attend the courses of instruction and are required to take the examinations in all subjects prescribed for that year, unless otherwise permitted by the Chairman or Head of the Department concerned and the Dean of Medicine.

(b) Absence from lectures, laboratories, seminars or clinical work is excused if due to illness or by expressed permission of the instructor. The Office of the Dean should be notified of absence due to illness.

(c) Classes desiring a change of scheduling of any lecture, seminar, clinic or laboratory period must have the concurrence of the Chairman or Head of the Department(s) concerned and the Dean's Office.

ACADEMIC REQUIREMENTS

1. To complete each year's work and be permitted to register in the succeeding year of the medical course a student must:

(a) Meet the attendance and conduct requirements described in the announcement;

(b) Complete the prescribed assignments;

(c) Obtain at least 50% in each subject in which a final examination is held;

(d) Obtain a general average of 60% in each of the first, second and third years;

(e) In the fourth year only, for a pass in any subject, obtain a minimum mark of 50% in both the oral and written examinations. The final mark obtained in each subject must be 60% or over.

2. A student may be given permission by the Council of the Faculty of Medicine to write no more than two supplemental examinations, provided:

(a) His general average is above 55% and below 60%;

(b) His grades are below 50% in no more than two subjects.

3. A student will be considered to have failed to complete a year's work if:

(a) His general average (in all subjects of that year) falls below 55%;

(b) He has failed in more than two subjects;

(c) He has been given permission to write supplemental examinations and has failed to meet the requirements under section 1 (c) or 1 (d) above.

4. A student who fails to complete a year may be permitted by the Council of the Faculty of Medicine to repeat that year. Permission is given only under exceptional circumstances, and then only when a vacancy is available in that year. When a student is allowed to repeat a year he must pass that year without conditions to be allowed to continue in the course. Permission to repeat a year has been seldom given.

5. A student who obtains an average of 80% or over, in a year's work, is considered to have passed that year with honors. A student who passes with honors in each year in the Faculty of Medicine will be graduated *cum laude.*

6. In each subject the ratio of term grades to final examination grades is determined by the teaching staff of the Department concerned. Weighted grades, based on the teaching time in each subject, are used in computing the general average in each year of the course.

7. In the case of Combined Examinations, as in Second and Third years, a student failing to obtain 50% of the marks assigned for any section will be required to rewrite the entire Combined Examination unless he has obtained at least 60% on the overall paper.

8. At the end of each academic year, a report will be mailed to each student, showing his grade in each subject and his general average grade for the year.

Key to Grades is as follows:

A—80-100
B—70- 79
C—60- 69
D—50- 59
E—40- 49
F—Below 40

REQUIREMENTS FOR DEGREE OF DOCTOR OF MEDICINE

Every candidate for graduation in Medicine must give satisfactory evidence:

1. That the entrance requirements of the Faculty of Medicine of The University of Western Ontario have been fully satisfied;

11. That he is at least twenty-one years of age, and has been engaged in the study of medicine for the period prescribed by the Senate of the University, during which he has completed the course of required instruction in this or some other recognized University, College or School of Medicine, at least two sessions of which must have been spent at this Faculty of Medicine;

111. That his attendance at lectures, seminars, clinics and laboratories as prescribed for the different years has been satisfactory to the Departments concerned and that he has met the requirements for the courses at the time of the examinations;

IV. That he has attended the prescribed clinical services at the teaching hospitals of this University.

REQUIREMENTS FOR LICENCE TO PRACTISE MEDICINE

A university degree in medicine does not give the right to practise the profession of medicine. It is necessary to conform to the laws pertaining to the practice of medicine in the province, state or country in which it is proposed to begin practice. Each Province in Canada has its special requirements for licence. A licence to practise in any part of the Dominion may be obtained by passing the examination of The Medical Council of Canada; a certificate from one of the provincial medical councils is necessary for eligibility for this examination. To obtain such a certificate requires compliance with the regulations of the medical council of the province issuing the certificate, regarding: (1) Preliminary education, (2) Matriculation; (3) Medical Curriculum; (4) Graduation. Information relative to licences to practise in any one province may be obtained from the Registrar of that province. All questions relating to the requirements for the provincial certificate necessary as a preliminary to taking examination of The Medical Council of Canada should be similarly addressed.

Applicants (or students) who have received their premedical or any previous medical education in foreign medical schools must have their credentials confirmed by The College of Physicians and Surgeons of Ontario.

MEDICINE

MEDICAL LICENSING BODIES

The Provincial Medical Licensing Bodies are as follows:

The College of Physicians & Surgeons of British Columbia, Vancouver, B.C.

The College of Physicians & Surgeons of Alberta, Edmonton, Alberta.

The College of Physicians & Surgeons of Saskatchewan, Saskatoon, Sask.

The College of Physicians & Surgeons of Manitoba, Winnipeg, Manitoba.

The College of Physicians & Surgeons of Ontario, Toronto, Ontario.

The College of Physicians & Surgeons of Quebec, Montreal, Quebec.

The Medical Council of New Brunswick, Saint John, New Brunswick.

The Provincial Medical Board of Nova Scotia, Halifax, Nova Scotia.

The Medical Council of Prince Edward Island, Charlottetown, P.E.I.

The Newfoundland Medical Board, St. John's, Newfoundland.

N.B. When writing to any of the above, address the letter to "The Registrar",

Information concerning The Medical Council of Canada, its licence, examinations, fees, etc., may be obtained from the Registrar, 1867 Alta Vista Drive, Ottawa 8, Canada.

Deportment and Appearance of Medical Students in Teaching Hospitals — The matter of Deportment and Appearance of medical students is of concern to teaching hospitals. The following statement has been endorsed by the Board of Trustees of Victoria Hospital and the Medical Advisory Committees of St. Joseph's and Westminster Hospitals:

> "Students are reminded that, since they are now members of the treatment team in which the patients must place their entire trust, they no longer have complete freedom in matters of dress, deportment and grooming. Illness in hospital is a very major event in a patient's life, accompanied by a great deal of apprehension and emotional disturbance. There is no justification for doctors and clerks to add to the patient's fears by adopting what the patient may, rightly or wrongly, regard as bizarre dress, behaviour or grooming. Attending physicians and surgeons, since they bear full responsibility for their patient's welfare, are entitled to deny students the right to work with their patients if they feel a student's appearance or behaviour to be unacceptable. Most patients in general hospitals are a good deal older than student physicians. Consideration for their feelings in this matter is not only a sign of courtesy and good manners, but is also evidence of their willingness to put the patient's interest ahead of their own, which is the mark of a good doctor."

HONORS PROGRAMS LEADING TO THE BSc IN ONE OF THE BASIC HEALTH SCIENCES

The Departments of Anatomy, Bacteriology and Immunology, Biochemistry, Biophysics and Physiology offer programs in the Faculty of Science leading to the degree of BSc with Honors in their respective disciplines. The Department of Physiology in collaboration with the Department of Pharmacology also offers an honors program in Physiology with a Pharmacology Option. These programs begin in the Third Year and admission is from the Second Year of the Honors Program in Biology, Chemistry or, in general, in such other disciplines that require General Program (Natural Sciences) in First Year and permit inclusion of a course in Organic Chemistry. The Department of Physiology also offers a Physiology-Psychology program in collaboration with the Department of Psychology. The Announcement of the Faculty of Science and the Department concerned should be consulted for the details of the Programs and their prerequisites.

GRADUATE STUDIES

The Basic Health Sciences

Information concerning graduate studies in the basic health sciences may be obtained from the Announcement of the Faculty of Graduate Studies. Studies leading to the degrees of MSc and PhD may be carried out in the following Departments: Anatomy, Bacteriology and Immunology, Biochemistry, Biophysics, Pathology, Pathological Chemistry, Pharmacology, Physiology, and Epidemiology and Preventive Medicine.

The Clinical Sciences

Graduates in Medicine, who have completed the required graduate and post-graduate training in a clinical department of the Faculty of Medicine, are eligible for the Degree of Master of Clinical Science (MClSc). The Announcement of the Faculty of Graduate Studies contains further details.

PhD-MD and MSc-MD Combined Programs

The Faculties of Medicine and Graduate Studies have established combined PhD-MD and MSc-MD programs, in which the research curriculum of the Graduate Program is integrated into the program leading to a medical degree.

The aim of such programs is the development of future medical teacher-scientists, within an investigative discipline while contact still exists between the medical student and the basic medical sciences.

Candidates must be accepted by the Committee on Admissions of the Faculty of Medicine prior to commencing the combined program and must be accepted by the relevant basic health science department and the Faculty of Graduate Studies prior to commencing the graduate research program. The prerequisite training and academic standing required for admission to these programs are:

(a) A Bachelor's degree (Honors), with at least a "B" average in a science related to the proposed research program, or

(b) A Bachelor's degree (General) plus the successful completion of one year of the medical curriculum with at least a "B" average, plus an "A" average in courses of the chosen discipline, or

(c) The successful completion of two years of the medical curriculum, with at least a "B" average for those who have been accepted into Medicine following the two-year premedical program, plus an "A" average in courses of the chosen discipline.

A candidate with a Bachelor's degree (Honors) who elects to complete one or two years of the medical curriculum prior to entering the PhD or MSc portion of the program, will require a "B" average with an "A" average in courses of the chosen discipline, during the medical curriculum.

The minimum residence requirement for the PhD degree in this program consists of six consecutive terms plus at least one additional summer term, the minimum residence requirement for the MSc degree in this program, consists of at least three consecutive terms. This minimum residence requirement will apply whether or not the candidate possesses a previous undergraduate degree.

The student will be re-admitted to the appropriate year of the undergraduate medical course when he has completed the MSc or PhD program.

Inquiries should be directed to the offices of the Deans of the Faculties of Graduate Studies and of Medicine.

POSTGRADUATE PROGRAMS

Postgraduate training at the University is offered by the Departments of Anaesthesia, Family Medicine, Medicine, Microbiology, Clinical Neurological Sciences (Divisions of Neurology and Neurosurgery), Obstetrics and Gynaecology, Opthalmology, Otolaryngology, Paediatrics, Pathology, Pathological Chemistry (Divisions of Clinical Pathology, Medical Biochemistry, and Haematologic Pathology), Physical Medicine and Rehabilitation, Psychiatry, Surgery (Divisions of Cardiovascular and Thoracic Surgery, Orthopaedic Surgery, Plastic and Reconstructive Surgery, and Urology), Diagnostic Radiology and Therapeutic Radiology.

All programs are accredited by The Royal College of Physicians and Surgeons of Canada for full training. The training program in Family Medicine leads to the Certification examination of the College of Family Physicians of Canada. The Committee on Postgraduate Education, the Assistant to the Dean-Postgraduate Education, and the Directors of Medical Education at each of the major teaching hospitals co-operate in the coordination of clinical postgraduate education.

Appointments are usually made 6 to 8 months prior to the July 1st beginning of the academic year.

CONTINUING EDUCATION

All the basic science and clinical departments participate in an active program of continuing education for family practitioners and specialists. Special lectureships, seminars, refresher days and short courses are arranged in conjunction with the Committee on Continuing Medical Education. Inquiries should be made to the Assistant to the Dean-Continuing Education. The Committee is continuing to experiment with the use of television and other modern communication media in continuing medical education. A concerted effort continues to be made to develop ongoing programs of continuing medical education in several centres in Southwestern Ontario. The program of continuing medical education is assisting in the organization and administration of these programs, and members of the Faculty of Medicine are involved in regular visits to these communities, where they take part in ward rounds, lectures, case demonstrations and other forms of instruction.

LECTURESHIPS

The Dr. F. R. Eccles Memorial Medical Alumni Lectureship

This Lectureship in the Faculty of Medicine was inaugurated through the support of the Medical Alumni and a fund established by the will of the late Dr. F. R. Eccles. An outstanding clinician is invited to deliver the memorial lecture and participate in a clinical program presented annually in rotation by one of the clinical departments.

The John A. Macgregor Memorial Lectureship

The Lectureship was initiated in 1946 by friends of the late Dr. Macgregor, former Professor of Medicine, and by medical alumni, and is now supported by the Continuing Education funds of the Faculty. The lecture is given annually by an eminent pathologist and is open to all medical students and members of the medical profession.

The F. J. H. Campbell Lectureship

This Lectureship was established by Dr. Georges Lachapelle, Meds '45. The income from this fund is to be used to bring outstanding physicians, chosen by the Department of Medicine, to lecture to the Faculty, students and members of the medical profession; or on occasion to provide travel funds for a member of the Department of Medicine to attend a meeting in another Medical Centre, or with a medical group, to bring back to his colleagues the benefit of his findings.

The Doctor William Banghart Memorial Lectureship

This Lectureship was established in 1965 with funds transferred to The University of Western Ontario from the London Academy of Medicine and contributed by friends of the late Dr. Banghart. The lecture is arranged by the Department of Paediatrics in conjunction with the Continuing Education program.

RESEARCH

An active research program in the various departments is supported by grants from the Medical Research Council, the Department of National Health and Welfare, the Defence Research Board, the Department of Health of Ontario and voluntary organizations. A limited number of Medical Research Council Summer Undergraduate Medical Scholarships are available for undergraduate students annually.

Within the Faculty of Medicine three research funds have been established.

(a) The John McClary Memorial Fund for research in Industrial Medicine.

(b) The George Routledge Herman Fellowship for research in Heart Disease.

(c) The Ruth Knox Herman Fellowship for research in the general field of Cardiovascular Disease.

Information about any of the above may be obtained from the office of the Dean.

MEDICAL SOCIETIES

The Hippocratic Society

The Hippocratic Society is the official under-graduate Medical Society of the University. The membership consists of all medical students in the first, second, third and fourth years. It is governed by the Hippocratic Council which is elected annually from the members of the Society. This Council consists of an executive and the year presidents, and handles all student affairs. It sponsors the U.W.O. Medical Journal, the Osler Society, the Med's Merrymakers, and "Tachycardia", the annual variety show. The social program of the Hippocratic Society includes the annual Med's picnic, the Annual Hippocratic Banquet, and the Med's At Home. The Council provides certain services for the student, including current newspapers and magazines, a telephone, and current non-medical books. The University of Western Ontario Undergraduate Medical Journal is published, edited and controlled by the student body through the Hippocratic Council. A consulting editorial staff is appointed each year by the Council of the Faculty to assist the students in this publication.

A Staff-Student Liaison Committee and a Mentor System provide lines of communication between students and faculty.

A two-dollar fee for membership in the Society is payable on registration day.

Osler Society

The Osler Society is an organization open to all medical students, academic staff and local physicians. The aims of the society are to perpetuate the name of the great Canadian physician, Sir William Osler, and to provide an opportunity for the presentation and discussion of papers on medical history and various aspects of medicine.

Alpha Omega Alpha

This is an Honor Society for medical students, membership in which is based on scholarship and character. It was first organized at the College of Medicine, University of Illinois, in 1902. The Beta Chapter of The University of Western Ontario was organized in 1942.

The aim of the Society is to encourage the spirit of medical research. Chapter meetings are devoted to the presentation of scientific papers.

MEDICINE

PLAN OF INSTRUCTION

The undergraduate medical curriculum provided by the Faculty of Medicine is designed to permit the acquisition by the student of a core of fundamental knowledge and the basic technical skills, and to assist in developing attitudes which will form a basis for further postgraduate or graduate study leading to family medicine, other clinical specialties or basic or clinical research, etc.

Throughout the four years approximately 20% of the timetable is unscheduled to permit the student to pursue various electives. The electives available in First Year include a course in Behavioral Sciences related to Medicine.

Students are introduced to patients in the First Year in a combined Basic and Clinical Sciences course, and also in a course on Interviewing. The major courses in First Year are Gross Anatomy, Histology, Biochemistry, Physiology and Community Medicine. Students are also introduced to the History of Medicine.

In Second Year, several basic and clinical science departments cooperate in an integrated Neurological Sciences system course. In addition to Bacteriology and Immunology, Genetics, Pathology and Pharmacology, students receive further instruction in Biochemistry and Physiology, and the Clinical Sciences.

In Third Year the curriculum is devoted mainly to the Clinical Sciences and includes a course in Pathological Chemistry. Short courses in legal medicine, medical ethics and an introduction to computer and information science are given in Third Year.

Students have considerable exposure to Family Medicine throughout the entire four years of the program.

The Fourth Year is a forty-eight week clinical clerkship providing opportunity for rotation through the various clinical services in the teaching hospitals and including a nine-week elective period. The clinical clerk, as the junior member of the clinical team, is involved in the diagnosis, investigation and treatment of patients under the care of the team. The clerkship provides the student an opportunity to relate the knowledge, skills and attitudes already acquired to the solution and management of clinical problems. The elective period permits the student to pursue further basic science of clinical studies and to explore future career cloices. The 48-week clinical clerkship comprises five nine-week terms and three weeks for study, examinations, etc.

A new curriculum has been approved by the Council of the Faculty of Medicine to begin either in September 1972 or September 1973.

Department of Anaesthesia

Professor and Head of the Department:

W.E.G.A. Spoerel, MD Frankfurt-on-Main; FRCP(C).

Associate Professor

Webster, A.C., BSc, MB, ChB Leeds; FFARCS(eng), FRCP(C)

Clinical Associate Professors

Aitken, R.R., MD UWO; CRCP(C)

Keeri-Szanto, M., MD Budapest; CRCP(C)

Assistant Professor

Sellery, G.R., MD Toronto; DA England; DA Toronto; FRCP(C)

Clinical Assistant Professors

Bain, J.A., MD UWO; CRCP(C)

Cameron, Harold, MB, ChB Edin; CRCP(C)

Clancy, P.R., BA, MD UWO; CRCP(C)

Russell, E.S., BA, DiplMed Saskatchewan; MD UWO; CRCP(C), FACA

Clinical Lecturers

Adamson, D.H., MB, ChB Edin; FRCP(C)

Butlin, G.R., MD Del Litoral; CRCP(C)

Diamond, M.J., MB, ChB Leeds; DA England; CRCP(C)

Glennie, G.D., MB, BS London; DA McGill; MRCS(Eng), LRCP(London), CRCP(C)

Hersey, M.L.W., BSc McGill; MD, PhD UWO; CRCP(C), FACA

Millman, W.L., MD UWO; FRCP(C)

Muir, J.M., MB, ChB Glasgow; FRCP(C)

Nielsen, J.S., LRCP(London), MRCS(Eng), CRCP(C)

Norry, H.T., MD UWO; CRCP(C)

Slater, P.E., MD UWO; CRCP(C)

Squire, G.W., BA, MD UWO; FRCP(C)

Walker, F.W., DVM Toronto; MD UWO; CRCP(C)

Honorary Lecturers

Groom, A.C., BSc, PhD London; FInstP

Growse, J.M., MDCM Queen's; CRCP(C)

Toogood, J.H., MD Toronto; Dipl IntMed McGill; FRCP(C)

Instructors

Kandel, Patricia F., MD Ottawa; CRCP(C)

McFarlane, N.A., BA UWO; DDS Toronto; DA Pitt

Stewart, J.M., MD UWO; CRCP(C)

THIRD YEAR

Together with the Department of Pharmacology, twelve lectures are given in clinical pharmacology, with particular emphasis on aspects of acute medical conditions and anaesthesia. Another twelve hours of lectures and demonstrations cover clinical anaethesia and special patient care associated with it, including respirator care, inhalation therapy, and cardio-pulmonary resuscitation.

FOURTH YEAR

During their Clinical Clerkship, students are assigned for one week to Anaesthesia. Instructions are given in practical anaesthesia, care of the airway and artificial ventilation, management of the unconscious patient and respirator treatment in the Intensive Care Unit.

Students interested in anaethesia and intensive patient care are invited to use their elective time for further studies in this specialty.

Department of Anatomy

Professor and Chairman of the Department:

R. C. Buck.

Professors

Barr, M.L., SM, BA, MSc, MD UWO; LLD Queen's, Toronto, Alberta, Dalhousie; Dr med h c Basel; FRSC, FRCP(C), FACP

Buck, R.C., MD, MSc UWO; PhD London. Chairman of the Department

Associate Professors

Donisch, E.W.K.F., MD Bonn; MSc UWO

Gwinnett, A.J., BDS Birmingham; LDS, RCS (Eng); PhD Bristol

Gwyn, D.G., MRCS (Eng), LRCP, MBBS London; PhD Birmingham

Montemurro, D.G., BA, MSc, PhD UWO

Shaver, Evelyn L., BSc, MSc, PhD UWO

Singh, R.P., BA, MSc, PhD UWO

Wilson, A.S., MB, ChB, MD Glasgow

Associate Professor of Human Genetics

Soltan, H.C., BA, PhD Toronto; MD UWO

Assistant Professors

Altmann, G.G., BSc Dalhousie; MSc. PhD McGill

Clattenburg, R.E., BSc, MSc Acadia

Flumerfelt, B.A., BSc Sir George Williams; MSc McGill; PhD Cambridge

Gammal, E.B., MB, BCh Cairo; PhD UWO

Sergovich, F.R., BA McMaster; PhD UWO

Todd, Mary E., BA, MSc British Columbia; PhD Glasgow

Lecturer

Cline, Aileen, MD UWO

Honorary Lecturers

Robinow, C.F., MD Hamburg; FRSC

Walden, D.B., BA Wesleyan; MSc, PhD Cornell

Instructors

Goldberg, A.H., MBBS Dublin; LRCPI, LRCSI

Jory, T.A., MD UWO; FRCS(C), FACS

Leyshon, G.A., BA UWO; MS Illinois; PhD Oregon

Warma, S.K., MBBS Calcutta; FRCS(Eng), CRCS(C), FACS

FIRST YEAR

1. Developmental and Definitive Anatomy.

During the first quarter of the year a series of introductory "core" lectures is presented. This provides a theoretical basis for more detailed studies which follow. Definitive human anatomy is taught as a series of concepts each of which has developmental topographical and radiological aspects. While the amount of detailed memory work has been drastically reduced the class members are required to develop perspective regarding factual highlights which are considered relevant to their future clinical training.

Wherever possible classical lecturing techniques have been abandoned in favour of the more educative pursuits of lecture-demonstration and group discussion. Each practical session is introduced by a senior staff member who presents the main points at issue in a short introductory talk. Class members are encouraged to use departmental teaching aids as they see fit; this includes prosections, three-dimensional illustrations, charts, radiographs, models and mounted specimens. The extent to which particular parts are dissected in the cadaver may also be a matter of personal preference.

During the study of special parts the appropriate clinical department participates; for example in the period devoted to head and neck region otorhinolaryngologists attend; and when the pelvis is the topic obstetrical aid is available. The department of radiology provides the assistance of trained specialists to elucidate the radiological aspects of anatomical problems during the entire course.

Throughout the course strenuous efforts are made to correlate structure with function and, as far as possible, to coordinate anatomical studies with the other basic sciences.
312 hours

2. Histology.

(a) The objective is to acquire sufficient knowledge of the microscopic structure of the various tissues and organs of the body so that the functioning (Physiology) and the disease processes (Pathology) can later be understood. Considerable emphasis is placed on the ultrastructure. Since histology is concerned with the structure and relationships of normal cells, tissues and organs, it serves as a basis for understanding and recognizing normality and normal variation, both of which are significant in health maintenance or disease prevention.
46 hours.

(b) A practical laboratory course in the structure of normal human tissue and organs, with demonstrations of special preparations.
92 hours

SECOND YEAR

3. Neuroanatomy

(a) A series of lectures dealing with the microscopic and gross features, internal structure and major fibre tracts of the human central nervous system. The dynamic approach is emphasized. This is part of a course in Neurological Science, in which the Departments of Anatomy, Biochemistry, Pathology, Pharmacology, Physiology and Clinical Neurological Sciences collaborate.
39 hours

(b) A practical course in the dissection of the human brain, together with the study of sections of the brain stem and a review of the main aspects of Neurohistology. This is also part of the course in Neurological Science.
18 hours

4. Medical Genetics. A short course stressing the application of several genetic principles to medicine and acquainting the student with the basic terminology of the various branches of human genetics.
16 hours

MEDICINE



THIRD YEAR

5. Elective. An elective course in Applied Gross Anatomy will be offered by the Department of Anatomy for third year medical students and fourth year medical rehabilitation students. The objective of the course is to recall anatomical features pertinent to the clinical sciences and to present details of relevant structures previously not covered.
78 hours

The Department of Anatomy also participates in a series of Interdisciplinary Conferences based on the various aspects of the Anatomical Sciences taught in the Department.

MEDICAL REHABILITATION

1. Gross Anatomy. A series of tutorials and demonstrations is offered in regional gross anatomy and related disciplines. The teaching is supplemented by a course in the dissection of parts of the human body. The aspects of anatomy applied to the living human body are emphasized.
243 hours.

2. Neuroanatomy. A summary of the gross, microscopic and functional anatomy of the brain and spinal cord of the human. A two-hour television demonstration is provided in lieu of laboratory periods.
26 hours

3. Elective. An Elective course in Applied Gross Anatomy for fourth year medical rehabilitation students will be offered.
78 hours

NURSING

1. Human Anatomy. A course of lectures and lecture demonstrations which commence with the principal ultrastructural features of cells. Subsequent histological classification leads through developmental phenomena to major concepts of functional, topographic and systemic anatomy. Participation of students is encouraged during all meetings of the lcass and emphasis is given to the 'living' state rather than to cadaveric anatomy.
63 hours

Department of Bacteriology and Immunology

Professor and Head of the Department:

R.G.E. Murray

Professors

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

Murray, R.G.E., BA, MA Cantab; MDCM McGill; FRSC. Head of the Department

Robinow, C.F., MD Hamburg; FRSC

Whitby, J.L., BA, MA, MB, BChir Cantab; MRCP (London); DTM & H (London), FRC Path

Clinical Professor

Hatch, L.A., MBBS London; DipBact & Immun London; FCPath

Associate Professors

Ebisuzaki, K., BSc UWO; MS, PhD Wisconsin

Medzon, E.L., BSc, MSc Manitoba; PhD McGill

Robinson, John, BSA British Columbia; MSc, PhD McGill

Zajic, J.E., BA Kansas; MS Wisconsin; PhD California; JD Oklahoma City

Clinical Associate Professor

Bakerspigel, A., BA, MA McMaster; PhD UWO

Assistant Professors

Cheevers, W.P., BA Colorado; PhD Mississippi

Percy, D.H., DVM Toronto; MSc Guelph; PhD Cornell

Rozanis, J., MSc Hebrew University, Jerusalem; PhD McGill

Sinclair, N.R.S., BSc, MD, PhD Dalhousie

Singhal, S.K., BSc Agra, India; PhD McGill

Strejan, G.H., MS Bucharest; PhD Hebrew University, Jerusalem

Wilkins, P.O.B., MS Hawaii; PhD Pennsylvania

Clinical Assistant Professors

Black, W.A., MB, ChB Glasgow; MRC Path

Campsall, E.W.R., BA Queen's; MDCM McGill

Lecturer

Galsworthy, Sara B., BA Pomona; PhD Wisconsin

Honorary Lecturers

Chodirker, W.B., BSc(Med), MD Manitoba

Hannay, C.L., BSA Toronto; DIC, PhD London

Roslycky, E.B., BSc, MSc Manitoba; PhD Wisconsin

Toogood, J.H., MD Toronto; DiplIntMed McGill; FRCP(C)

SECOND YEAR

1. Medical Microbiology and Immunology. A course of lectures dealing with the nature and morphology of bacteria; host-parasite relationships; disinfection and sterilization; a survey of bacteria of medical and dental importance; the nature of viruses and virus infections; serological diagnostic methods; immunization, hypersensitivity; antibiotics and chemotherapy; and major topics in mycology and parasitology. A special section of the course will be concerned with Immunobiology.
80 hours

2. A course of laboratory exercises, demonstrations and tutorials integrated with the lecture course and illustrating the application of bacteriology, virology, mycology, parasitology, and immunology to the practice of medicine.
70 hours

NURSING

1. Microbiology for Nurses. A course of lectures, practical classes and demonstrations to illustrate the scope and principles of Microbiology and Immunology, and the application to Nursing and to Public Health. The course involves: A survey of microbial life; sterilization, disinfection and antibiosis; the host-parasite relationship; immunity mechanisms and hypersensitivity; serological diagnosis; specific bacterial, viral and fungal infective processes and their prevention; sanitary and food microbiology; protozoan and animal parasites; the practice of immunization; the services and responsibilities of hospital, regional, provincial and government laboratories.
80 hours

Department of Biochemistry

Professor and Head of the Department:

H. B. Stewart

Professors

Bigelow, C.C., BASc Toronto; MSc, PhD McMaster

Carroll, K.K., BSc, MSc New Brunswick; MA Toronto; PhD UWO

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD UWO

McCarter, J.A., BA, MA British Columbia; PhD Toronto; FRSC

McMurray, W.C., BSc, PhD UWO

Rossiter, R.J., BSc Western Australia; BA, MA, DPhil, BM, BCh, DM Oxon; FRIC(Eng), FRSC

Smith, D.B., BA, MA British Columbia; PhD Toronto

Stewart, H.B., MD, PhD Toronto; PhD Cantab. Head of the Department

Strickland, K.P., BSc, MSc, PhD UWO

Associate Professors

Ball, Judith K., BSc Mount Allison; MSc, PhD Dalhousie

Heagy, F.C., MD, MSc, PhD UWO

Magee, W.L., BSc, MSc, PhD UWO

Walker, I.G., BA Saskatchewan; MA, PhD Toronto

Webling, D.D., BSc, MB, BS, PhD Adelaide; DTM&H Sydney

Assistant Professors

Cook, R.A., BSc, MSc, PhD Manitoba

Donisch, Valentine, MD Bonn; PhD UWO

Galsworthy, P.R., BSc Queen's; PhD Wisconsin

Gatfield, P.D., MD Queen's

Gordon, B.A., MDCM, MSc, PhD Queen's

Guthrie, J.P., BSc UWO, PhD Harvard

Haines, D.S.M., BA, MD UWO; PhD Toronto

McDonald, J.W.D., MD, PhD UWO; FRCP(C)

Possmayer, F., BSc Toronto; PhD UWO

Trevithick, J.R., BSc Queen's; PhD Wisconsin

Honorary Lecturers

Chefurka, W., BSc Manitoba; MSc Montana State; PhD Harvard

Hudson, A.J., MD, BSc Toronto; FRCP(C)

Krupka, R.M., MA Saskatchewan; PhD McGill

Spencer, E.Y., BSc, MSc Alberta; PhD Toronto; FCIC

FIRST YEAR

1. A course of lectures in general biochemistry. Chemistry of carbohydrates, lipids and proteins; protein structure; chemistry of animal tissues; chemistry of the cell; blood; enzymes; cellular metabolism; structure and function of nucleic acids; biochemical genetics; lipid metabolism; protein metabolism and protein synthesis; minerals, chemistry and function of vitamins and hormones.
96 hours

2. A laboratory course illustrating the material covered in the lectures. During a portion of the course the class is broken down into small groups for exercises of the "project" type.
96 hours

SECOND YEAR

1. Neurochemistry. Lectures in Neurochemistry are given as part of the Second Year course in Neurological Science.

2. Integrative Biochemistry. A course of lectures and seminars devoted to a consideration of control mechanisms in biological processes including genetic, hormonal and chemical mechanisms.
40 hours

NURSING

1. An introductory course of lectures in general biochemistry is presented to students enrolled in the second year of the nursing baccalaureate program.
25 hours

Department of Biophysics

Professor and Chairman of the Department

Margot R. Roach

Professors

Burton, A.C., MBE, BSc London; MA, PhD Toronto; LLD Alberta; FRSC

Roach, Margot R., BSc New Brunswick; MD, CM McGill; PhD UWO, FRCP(C). Chairman of the Department

Associate Professors

Groom, A.C., BSc, PhD London; FInstP

Inch, W.R., BSc Queen's; PhD UWO

Taylor, C.P.S., BA British Columbia; BA, MA Oxon; PhD Pennsylvania

Assistant Professors

Canham, P.B., BASc Toronto; MSc Waterloo; PhD UWO

Duncan, R.I., BSc, MSc, PhD Oklahoma

Sherebrin, M.H., BSc(EP) Manitoba; MSc, PhD UWO

Sutherland, R.M., BSc Acadia; PhD Rochester

Honorary Lecturers

Johnson, L.N., BS Pacific; MS Oregon; PhD Michigan

Miller, D.M., BSc, MSc Alberta; PhD McGill

Nagai, T., MEng, MSc, DSc Tokyo

The Department applies the fundamental laws of physics to cells and organisms.

Electives are available for Medical Students and may involve guided reading, research, or clinical teaching (physical diagnosis). Students should consult Dr. Roach for further information.

First Year Electives: A seminar course on the fundamentals of Biophysics as applied to human biology in health and disease. Research projects can be arranged if the student desires.
1 hour per week

Second Year Elective: A seminar course on the basic biophysical principles involved in physical as opposed to chemical disease, including discussion of the fundamental physics of sound production and transmission involved in percussion and auscultation, and a series of sessions on problem solving and differential diagnosis.

Third Year Elective: The Biophysical Basis of Physical Diagnosis conducted at Victoria Hospital throughout the year so that patients can be used as examples. The fundamental laws of physics (sound, elasticity, etc.) are applied to examination of the chest, heart, abdomen, musculoskeletal and nervous systems. The emphasis is on how altered physical states produce altered physical findings. Limited Registration.

Fourth Year Elective: As for third year, except in a block, or else a research project tailored to the student's interests.

Graduate Program: MSc and PhD programs are described in the Graduate Calendar. A wide variety of medically-oriented research projects are underway at present. Details can be obtained from the Department.

Cancer Research Laboratory

CANCER RESEARCH LABORATORY

(A Unit of the National Cancer Institute of Canada)

Director, and Professor of Biochemistry

McCarter, J.A., BA, MA British Columbia; PhD Toronto; FRSC

Associate Professor

Ball, Judith K., (Biochemistry), BSc Mount Allison; MSc, PhD Dalhousie

Ebisuzaki, K., (Bacteriology and Immunology), BSc UWO; MS, PhD Wisconsin

Assistant Professor

Cheevers, W.P., (Bacteriology and Immunology), BA Colorado; PhD Mississippi

The Cancer Research Laboratory was established by a grant from the Ontario Division of the Canadian Cancer Society, and is maintained chiefly by annual grants from the National Cancer Institute of Canada. It is housed on the main University campus. Activities are centred on a variety of problems in basic cancer research. Senior members of the laboratory hold joint appointments in appropriate Departments of the Faculty of Medicine, and participate in the teaching of undergraduate and graduate students.

Graduate students may proceed to MSc and PhD degrees in the Laboratory, receiving their advanced degrees in whatever discipline their supervisor has his joint university appointment. These include at the present time, Bacteriology and Immunology and Biochemistry.

Application should be made, in the first instance, to the Director of the Laboratory.

Department of Clinical Neurological Sciences

Professor and Chairman of the Department:

Drake, C.G., MD, MSc UWO; FRCS(C), MS Toronto.

Clinical Assistant Professor

Allcock, J.M., MRCS, LRCP (Eng), MBBS London; DMRD (Eng), FFR

Honorary Lecturers

Ball, M.J., MD Toronto, CRCP(C)

Haust, M. Daria, MD Heidelberg; MSc Queen's; CRCP(C)

Hinton, G.G., BSc, MDCM McGill; DCH, FRCP(C)

DIVISION OF NEUROLOGY

Professor and Chairman of the Division:

Barnett, H.J.M., MD Toronto; FRCP(C).

Associate Professor

Hudson, A.J., MD, BSc Toronto; FRCP(C)

Assistant Professors

Brown, W.F., MD UWO; FRCP(C)

Kertesz, A., MDCM Queen's; BSc (Med), Toronto; FRCP(C)

Clinical Assistant Professor

McInnis, W.P., BA MD UWO

Lecturer

Jaatoul, N., MD Damascus; FRCP(C)

DIVISION OF NEUROSURGERY

Professor and Chairman of the Division:

Drake, C.G., MD, MSc UWO; FRCS(C), MS Toronto.

Assistant Professors

Amacher, A.L., MD UWO; FRCS(C)

Girvin, J.P., MD UWO; PhD McGill; FRCS(C)

Clinical Assistant Professor

Barr, H.W.K., BSc (Med) Toronto; MD UWO; FRCS(C)

SECOND YEAR

Neurological Sciences. A combined course is given in conjunction with the Departments of Anatomy, Physiology, Biochemistry, Pathology and Pharmacology. The course provides an integrated basic science and clinical study of the different regions of the nervous system in lectures, laboratories and clinical demonstrations.
160 hours

DIVISION OF NEUROLOGY

1. Clinical Sciences. An introductory clinical course is given in the teaching hospitals, in conjunction with the Departments of Medicine, Obstetrics and Gynaecology, Paediatrics and Surgery. Emphasis is placed upon the physical examination.

THIRD YEAR

2. Clinical Neurology. Students will be assigned to the Neurological Service of the teaching hospitals for a period of eight weeks for a total of 28 hours. Emphasis will be placed on neurological history-taking and the elicitation of signs in the localization of neurological disease.

3. Applied Therapeutics. In the course of "Principles of Medicine and Applied Therapeutics" in the Department of Medicine, lectures and case assignment essays will be given in neurology as part of the general course.

FOURTH YEAR

4. Clinical Clerkship. Students will be assigned patients that are admitted or referred to the neurological service in the teaching hospitals and will assume responsibility for their care under the supervision of the attending staff. A complete history, physical examination, course of investigation and treatment will be required on all of the cases that have been assigned.

5. Clinical Neurological Sciences Rounds. The students are expected to attend the weekly combined rounds of the Division of Neurology and Neurosurgery, as well as Neurology, Neuroradiology, Neuropathology and basic science teaching sessions.

DIVISION OF NEUROSURGERY

SECOND YEAR

1. Clinical Science. The Division of Neurosurgery participates in an introductory course in clinical neurological examination and basic neurosurgical principles.
5 hours

THIRD YEAR

2. Clinical Neurology. The Division of Neurosurgery participates in the program of clinical neurology.

FOURTH YEAR

3. Clinical Clerkship. Students are assigned to the neurosurgical service for one week. Patients are assigned for examination and subsequent clinical study at the bedside. In addition the student is attached to the resident staff for daily rounds, investigation of cases and appropriately in the operating room as an observer or assistant.

4. Seminars. Students participate in each of the four neurosurgical seminars at Victoria Hospital and at St. Joseph's Hospital.

5. Clinical Neurological Sciences Rounds. Students are expected to attend the weekly combined rounds of the Divisions of Neurology and Neurosurgery as well as Neuroradiology, Neuropathology and basic science rounds.

An elective is offered in the Department for both the Third and Fourth Years.

Department of Epidemiology and Preventive Medicine

Professor and Chairman of the Department:
Carol W. Buck

DIVISION OF EPIDEMIOLOGY AND PREVENTIVE MEDICINE

M.F. Fallon Memorial Professor of Preventive Medicine and Chairman of the Division:
Carol W. Buck

Associate Professors
Rand, C.G., BA Mt. Allison; MDCM, Dipl IntMed McGill; CRCP(C), MPH Harvard
Stavraky, Kathleen M., MD, PhD UWO
Wanklin, J.M., BA, PhD UWO

Clinical Associate Professor
Hutchison, D.A., MD, DPH Toronto

Assistant Professors
Robertson, J.M., DVM Toronto; MSc Pennsylvania
Thurlow, H.J.A., BA, MA, MD UWO
Watson, J.H., MDCM Dalhousie; DPH Toronto
Williams, J.I., BA Nebraska Wesleyan; MA New Hampshire; PhD Florida State

Clinical Lecturers
Aldis, R.M., MD UWO; DPH Toronto
Appleford, R.D., BA, MD, DPH Toronto
Cram, D.M., MD, MSc UWO; CRCP(C)
Harris, A.J., DDS Toronto
Leake, J.L., DDS, DDPH Toronto
Martinello, B.P., DDS, DDPH Toronto
Smith, Elizabeth, MD UWO

Honorary Lecturer
Neilson, J.B., MBE, MD Toronto; FACHA

Instructors
Craig, R.A., CertPHI Manitoba
Donaldson, Elizabeth F., DiplSW Toronto
Jeffs, J.I., MD, DPH Toronto
Mumby, Dorothy M., BScN UWO; MA Columbia

DIVISION OF FAMILY MEDICINE

Professor and Chairman of the Division:
I. R. McWhinney, MB, BCh, MD Cambridge; MRCP London.

Associate Professors
Butson, F.J., MD UWO
Hunter, A.T., BA, MD UWO; CCFP, FCFP
Pratt, G.E., BA, MD UWO

Assistant Professors
Brennan, M., LRCP&SI
Hennen, B.K., MD Queen's
Molineux, J.E., BA, MA Queen's
McKim, J.S., MD, MSc UWO; DCH(Eng), CRCP(C)
Orchard, J.W., MD UWO
Vinger, I., BA, MDCM McGill

Clinical Assistant Professor
Hanna, E., MSW, DSW, Michigan State

Lecturers
Biehn, J.T., MD UWO
Dickie, G.L., MB, ChB Aberdeen; D Obst RCOG
Newell, J.P., BA, MD UWO

Clinical Lecturers
Annett, R.K., MD UWO
Burns, S.J., BSc McGill; MD UWO
Collyer, J.E., BA, MD UWO
Dillon, M.T., BA, MD UWO
Edwards, K.N., MD Manitoba; FRAI
Elliott, D.W., PhmB Toronto; MD UWO
Ellyatt, W.G., MD UWO
Fraser, W.P., BA British Columbia; MDCM McGill, CCFP
Gambrill, R.B., MD UWO
Gay, K.E., MD Ottawa; CRCP(C)
Gibson, G., MD UWO
Gillick, R.H., MD UWO
Johnston, K.A., BA, MD UWO
Keidan, H., MB, ChB Liverpool
McCue, D., MBChB Glasgow
Marchuk, P., MD UWO
Merritt, J.O., MD UWO
McGhie, T.G., MD UWO
Naftolin, L.Z., BA, MD UWO
Patten, J.F., MD UWO
Pennington, P.W., BSc Windsor; MD Toronto
Ragula, B.D., MD Louvain
Redden, C.S.
Robinson, H.C., MD UWO
Sangster, J.F., MD UWO; CCFP
Suffel, Priscilla S., RN Peking; MD West China
Theoret, J.J., BSA Toronto; MD UWO
Weston, W.W., MD Toronto, CCFP
Wilson, R.C., MBChB Aberdeen

Honorary Lecturers
Chernick, A.B., MD UWO; FRCS(C)
Chernick, Beryl A., MD, PhD UWO
Clarke, G.L., BSc, MD UWO; MRCOG, CRCS(C), FACS
Fletcher, H.G., MD UWO

MEDICINE

Instructors

Bernstein, P., MDCM Queen's, CCFP
Brady, P., MD Toronto, FCFP
Brubacher, L.E., BA Goshen; MD UWO
Bryant, W.E., MD UWO; FCFP
Butler, W.E., BSc, MD UWO
Clark, Maureen, BA Nursing Pretoria
Gourley, Ruth, RN
Hickey, M.C., MD UWO; CCFP
Hiscock, R.J., BA, MD UWO
Lamb, J.I. Linda, BA, BSN British Columbia
Leeson, J.I., MD UWO; CCFP
McCallum, Betty, BScN UWO
McKim, J.C., MD UWO
Meredith, A.R., MD UWO
Moulton, R., MA, MB, BChir Cantab; D ObstRCOG
O'Neil, Theresa F., RN, BSc St. Thomas, New Brunswick
Piper, G.A., MD Toronto
Shearer, R.S., BSc Edin; MSc New Brunswick; MD UWO
Thompson, G.H., MD UWO
Warren, K.R., MD, BScEng Sask
Zaltz, M., MD UWO; CCFP

FIRST YEAR

32 weeks — 2 hours per week

1. Epidemiology. An introduction to the uses and methods of epidemiology by lectures and practical exercises.

2. Introduction to Family Medicine. With special emphasis on the behavioral aspects of medical care.

THIRD YEAR

1. Community Medicine. A course given mainly by seminar discussions of assigned reading on the comprehensive approach to the prevention, detection and control of health problems.
32 weeks - 2 hours per week.

2. Family Medicine. A course of group discussions and visits to preceptors in their offices.
2 hours per week for 24 weeks

FOURTH YEAR

1. Community Medicine Clerkship. A block rotation providing direct experience in Family Medicine and in Health Department programs.
3½ weeks per student

History of Medicine and Science

Associate Professor and Acting Chairman of the Department

R. A. Richardson, BA Sir George Williams; MA McGill; PhD Wisconsin.

Lecturer

Plotkin, H.N., BA Michigan

Honorary Lecturers

Balderston, W., BA, PhD Cornell
Lewis, J.A., MD UWO; FRCP(C), FACP
Warwick, O.H., BA Mount Allison; MDCM McGill; MA Oxon; FRCP London; FRCP(C), FACP, LLD Mount Allison

FIRST YEAR

History of Medicine. An introductory course of sixteen lectures dealing with the historical growth and expansion of medical and scientific ideas from antiquity to modern times.

The responsibilities of this Department include programs in the history of scientific ideas available to honors students in the Health Sciences and Faculty of Science, and to graduate students in the Biosciences Division and the School of Library and Information Science.

Department of Medicine

The Richard Ivey Professor of Medicine and Head of the Department:

R. W. Gunton, MD UWO; DPhil Oxon; FRCP(C), FACP.

Professors

Brien, F.S., BA, MB Toronto; FRCP London; FRCP(C), FACP
Barnett, H.J.M., MD Toronto; FRCP(C)
Hession, B.L., MD, MSc UWO; FRCP(C)
Lewis, J.A., MD UWO; FRCP(C), FACP
Manning, G.W., MA, MD, PhD Toronto; FRCP(C)

Associate Professors

Ahuja, S.P., MBBS Nagpur, India; DTM&H(Eng), FRCP(C)
Bocking, D., MD UWO; FRCP(C), FACP
Bondy, D.C., MD UWO; FRCP(C)
Cameron, W.M., MD UWO; FRCP(C)
Chamberlain, M.J., MBChB Birmingham; MRCP London; MRCS(Eng); LRCP London
Chodirker, W.B., BSc(Med), MD Manitoba; FRCP(C)
Clarke, O., BA, MA, MB, BCh, MD Cantab; MRCS, LRCP London; MRCP London
Harth, M., MD Toronto; FRCP(C)
Hudson, A.J., MD, BSc Toronto; FRCP(C)
Lefcoe, N.M., BSc McGill; MD Vanderbilt; FRCP(C)
Linton, A.L., MB, ChB Edin; FRCP Glasgow; FRCP Edin
Loudon, J.L., MD Toronto; FRCP(C)
Roach, Margot R., BSc New Brunswick; MD, CM McGill; PhD UWO; FRCP(C)
Rodger, N.W., BSc, MD, BSc(Med) Manitoba; FRCP(C)
Thompson, J.M., BA Amherst; MD UWO; FRCP(C)
Toogood, J.H., MD Toronto; Dipl IntMed McGill; FRCP(C)
Watson, W.C., MB, ChB, MD, PhD Glasgow; MRCP London; FRCPG

Clinical Associate Professors

Aikenhead, D.E., MD Manitoba; MRCP London; FRCP(C)
Alway, A.E., MD, MSc UWO; FRCP(C)
Barton, W.B., MD UWO; FRCP(C), Dipl IntMed McGill
Chertkow, G.C., BA Saskatchewan; MD Toronto; FRCP(C)
Coulter, W.K., MD UWO; FRCP(C)
England, N.J., MBE, MD UWO; FRCP(C)
Fisher, C.F.S., MD, MSc UWO; CRCP(C)
Meltzer, D.B., BSc Manitoba; MD UWO; FRCP(C)
Pace, W.E., MD, MSc UWO; FRCP(C)
Pickard, H.A., MD UWO; FRCP(C)
Rechnitzer, P.A., BA, MD UWO; FRCP(C), MRCP (Edin)
Sears, G.A., MD UWO; FRCP(C)
Smith, D.R., MD UWO; FRCP(C)
Walker, J.B., MD UWO; FRCP(C), MRCP London
White, D.F., MD UWO; FRCP(C)

Assistant Professors

Ahmad, D., LRCP&SI, MRCPI, CRCP(C)
Barr, R.M., MD UWO; FRCP(C)
Borda, I.T., MD Budapest; FRCP(C)
Goddard, M.D., MBChB Otago; MRACP, FRCP(C)
Jones, D.T., BA, MD UWO; FRCP(C)
Kertesz, A., MDCM Queen's; BSc(Med) Toronto; FRCP(C)
Kimber, R.W., BA McMaster; MD UWO; FRCP(C)
McCourtie, D.R., MD UWO; FRCP(C)
McDonald, J.W.D., MD, PhD UWO; FRCP(C)
Plunkett, E.R., MD, PhD UWO
Redinger, R.N., BA, MD UWO; FRCP(C)
Shaw, D.B., BSc St.F.X.; MDCM, PhD McGill
Stiller, C.R., MD Saskatchewan
Stuart, R.K., MD UWO; FRCP(C)
Tevaarwerk, G.J., MD UWO
Wolfe, B.M., BA Saskatchewan; MA, BM, BCh Oxon; MSc McGill; FRCP(C)
Wood, T.E., BA, MD UWO; MSc McGill; FRCP(C)

Clinical Assistant Professors

Albers, H. J., MD Dusseldorf; CRCP(C)
Cholod, E. J., MD Alberta; CRCP(C)
McInnis, W. P., BA, MD UWO
Price, I. C., MDCM Dalhousie; CRCP(C)

Lecturers

Brown, W. F., MD UWO; FRCP(C)
Jaatoul, N., MD Damascus; FRCP(C)

Clinical Lecturers

Douglas, J. H. C., BA, MD UWO
Filipich, R. L., MD UWO; FRCP(C)
Hagerman, E. S., MD, CM Queen's; FRCP(C)
Purres, J., BSc Toronto; MD Ottawa; FRCP(C)

Honorary Lecturers

Bartram, E. A., MD UWO
Hobbs, G. E., BA, MD Toronto; MPH Michigan; FRCP(C)
Kennedy, F. S., BA, MD UWO; MS in Medicine Minnesota; FACP
Langland, K. G., BA Saskatchewan; MSc UWO
Middleton, W. W., MD UWO; FCCP
Neufeld, A. H., BSc, MSc, PhD Manitoba; MDCM McGill; FCIC
Parker, J. M., MD Manitoba; DPH, PhD Toronto
Robinson, J. B., MD Toronto
Sexton, G. B., MDCM Queen's
Warwick, O. H., BA Mount Allison; MDCM McGill; MA Oxon; FRCP London; FRCP(C), FACP, LLD Mount Allison
Watt, A. J., MD Toronto; FCCP, CRCP(C)
Webling, D. D., BSc, MB, BS, PhD Adelaide; DTM&H Sydney
Wilcox, L. D., MD UWO; FRCP(C)

MEDICINE

FIRST YEAR

1. Basic and Clinical Science. Six 3-hour sessions, each one beginning with the whole class present for a discussion, by both a basic scientist and a clinician, of a common sign or symptom, and followed by bedside teaching of the same subject, in small groups, at the various hospitals. Emphasis is placed on the relevance of basic science to clinical medicine and on the approach to the patient.
18 hours

SECOND YEAR

2. Clinical Science. An introductory course in Clinical Science is given in conjunction with the Departments of Surgery, Obstetrics and Gynaecology, Paediatrics and Clinical Neurological Sciences. Emphasis is placed upon physical examination.
60 hours

THIRD YEAR

3. Clinical Science. Continuing instruction and experience in physical diagnosis and history taking.
32 hours (First semester)

4. Principles of Medicine and Applied Therapeutics. A course of systematic lectures and case assignment essays on the principles of Medicine and Therapeutics.
78 hours

5. Clinical Medicine. For a four-week period students will be assigned supervised hospital ward duties, three half-days per week. Patients will be assigned to each student, and bedside teaching by members of the staff will occur at each session.
52 hours (Second semester)

6. Tuberculosis Clinics. The class will be divided into groups, and each student will devote two mornings a week, for one week, to attendance at Clinics at the Beck Memorial Sanatorium.
8 hours

7. Noon Rounds. Students are expected to attend noon-hour and other Staff Conferences in the various hospitals when the scheduled time of the Conference and the timetable permit.

FOURTH YEAR

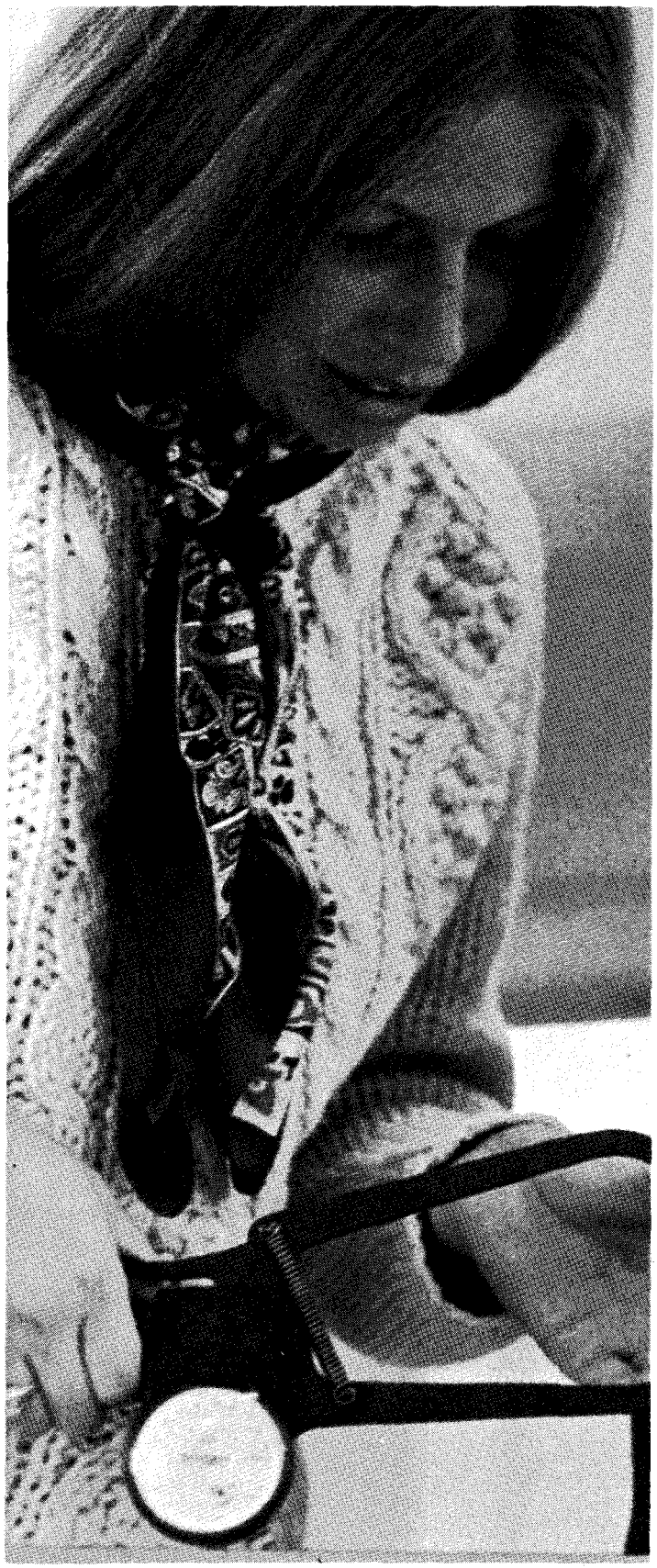
8. Clinical Medicine

(1) Clinical Clerkship. Students will be assigned patients in one of the three major teaching hospitals, with increasing responsibility, with advice and supervision from staff members in attendance on the ward and at the bedside. They will have the opportunity of performing histories and physical examinations, and discussing diagnostic and therapeutic techniques with Residents and Staff on a formal as well as informal basis. Seminars are conducted by staff members in sub-specialities, on both formal and informal bases.
366 hours.

2. Out-Patient Department. Students attend clinics one half-day per week.
36 hours.

(3) Noon Rounds. Students are expected to attend the noon-hour and other staff Conferences in the various hospitals when the scheduled time of the Conferences and the timetable permit.

9. Interdisciplinary Conferences (Third and Fourth Years). Interdisciplinary Conferences are held on alternate weeks, one morning per week during the second semester, and may involve several Departments at one session. All students are expected to attend.



Department of Obstetrics and Gynaecology

Professor and Chairman of the Department

E. R. Plunkett

Professors

Armstrong, D. T., BSA Toronto; MS, PhD Cornell

Plunkett, E. R., MD, PhD UWO; FRCP(C); Chairman of the Department

Walters, J. H., BA, MD UWO; MRCOG, FRCS(C)

Clinical Professor

Allen, H. H., MD UWO; FRCS(C)

Associate Professor

Harding, P. G. R., MD, MSc UWO; FRCS(C)

Clinical Associate Professors

Collins, J. A., MD UWO; FRCS(C)

Wearing, M. P., MD, MSc UWO; CRCS(C)

Assistant Professors

Anderson, R. J., MD UWO; FRCS(C)

Gammal, E. B., MB BCh Cairo; PhD UWO

Milne, J. K., MD UWO; FRCS(C)

Possmayer, F., BSc Toronto; PhD UWO

Raud, H. R., BSc, MSc, PhD McGill

Yuzpe, A. A., BSc Assumption of Windsor; MD, MSc UWO; FRCS(C)

Clinical Assistant Professors

Copeland, G. G., BA, MD UWO; CRCS(C)

Girvan, G. R., MDCM McGill; CRCS(C)

Manners, D. O., BA, MD UWO; FRCS(C), FACOG, FACS

Prueter, G. W., MD, BSc(Med) Toronto; MRCOG, FRCS(C)

Clinical Lecturers

Lawrence, D. W., BSc Sir George Williams; MD UWO

Robinson, M. L., BA McMaster; MD UWO; MRCOG, FRCS(C), FACS, FACOG

Sloan, W. G., BA, MD UWO; FRCS(C)

Tew, W. L., BA, MD UWO; FRCS(C), FACS

Wright, V. C., MD UWO; FRCS(C)

Honorary Lecturer

Johnson, F. L., MD Toronto; FRCS(C)

SECOND YEAR

Clinical Science. With the advent of the new curriculum, 9 hours are devoted to clinical science as appliced to Obstetrics and Gynaecology. During this time the class will be split up in small groups and a tutorial approach will be carried out. The emphasis will be on the correct methods of obstetrical and gynaecological history taking and examination of the obstetrical and gynaecological patient. This will be the medical student's first introduction to the obstetrical and gynaecological patient and it is hoped that this earlier introduction will be beneficial as it places the emphasis on patient care earlier in his course.

THE CLINICAL YEARS

THIRD AND FOURTH YEARS

During this time clinical teaching dominates with only twenty-three didactic lectures scheduled for third year and none in the fourth. The third year, divided into small groups, spends two weeks on the service during the first semester and three weeks during the last. Selected seminar topics, in part prepared by the student, are used to augment the clinical experience. The remainder of the time is devoted to clinical clerking. Accommodation is available in both St. Joseph's and Victoria Hospitals for the students to "live in" and permit the close follow-up of patients in labour. Out-patient clinics in both hospitals provide additional opportunity for learning.

The intention is to have the student see the patients on the private teaching service and follow their progress while in hospital. Special aspects of the subject will be covered by seminars and discussion groups.

During the Fourth Year, students may increase their experience by initiating a research project or working within one of the clinical units. Such electives are arranged on an individual basis.

Department of Opthalmology

Clinical Professor and Head of the Department:

C. Dyson, MD, UWO; DOph McGill; CRCS(C).

Clinical Associate Professors

Ballantyne, J.F., MD Toronto; FRCS(C)

Nicholls, J. V. V., BA, MDCM, MSc McGill; FACS, FRCS(C)

Thompson, C. A., BA UWO; MD, CM McGill; CRCS(C)

Clinical Assistant Professors

Collyer, R. T., BA, MD UWO; FRCS(C)

Mills, D. W., BA, BSc Carlton; MD UWO; MSc(Med) Queen's; FRCS(C)

McFarlane, D. C., MD UWO; CRCS(C)

Clinical Lecturers

Burt, W. L., MD UWO; FRCS(C)

Oliver, G.L., MD, MSc UWO; FRCS(C)

THIRD YEAR

1. A course of lectures dealing with the anatomy, physiology, methods of examination, and the commoner diseases of the eye.
12 hours

FOURTH YEAR

2. Each student will be attached to the Ophthalmology service of one of the teaching hospitals for one week.

During this period, he will participate in daily dressing rounds, observe in the clinics and operating room, and be present at the examination of inpatients by the residents and staff.

He will be given the opportunity to acquire some of the basic skills of ophthalmic examinations, particularly fundoscopy, tonometry, analysis of strabismus, and the treatment of the commoner ophthalmic emergencies.

Department of Otolaryngology

Professor and Head of the Department:

F. J. Rounthwaite

Professors

Rounthwaite, F.J., BSc, MDCM McGill; FRCS(C), FACS. Head of the *Department*

Greenway, R.E., MD UWO; FRCS(C)

Clinical Associate Professors

Babb, J.W., BA, MD UWO; CRCS(C)

Burnett, W.H., MD Toronto; CRCS(C)

Assistant Professor

Ruby, R.R., BA, MD UWO; FRCS(C)

Clinical Assistant Professor

LeBoldus, G.M., MD UWO; FRCS(C)

Clinical Lecturers

MacRae, E.E., MD Dalhousie; CRCS(C)

Smith, D.M., BA, MD UWO; CRCS(C)

Wong, G.L., BSc, MD Alberta; CRCS(C)

Honorary Lecturer

Gettas, P.G., MD UWO; CRCS(C)

THIRD YEAR

1. Otology, Rhinology and Laryngology. A course of lectures dealing with the anatomy, physiology, methods of examination, and the commoner diseases of the ear, nose and throat.
12 hours

FOURTH YEAR

2. Each student will spend one week taking part in the day-to-day activities of the Department.

Department of Paediatrics

Professor and Head of the Department:

J. C. Rathbun

Professors

Rathbun, J.C., MD Toronto; FAAP, FRCP(C). Head of the Department

Valentine, G.H., MB, ChB Bristol; MRCS(Eng), MRCP(London), DCH(Eng), FAAP, FRCP(C)

Associate Professors

de Veber, L.L., MD Toronto; FRCP(C)

Hinton, G.G., BSc, MDCM McGill; DCH(Eng), FRCP(C)

Jaco, N.T., MA, BSc, BM, BCh Oxon; MRCP, CRCP(C), DCH(Eng)

Clinical Associate Professors

Denison, A.G., MD UWO; DCH(Eng), FAAP, CRCP(C)

Soltan, H.C., BA, MD UWO; PhD Toronto

Vincent, J.E., MDCM Queen's; BSc McGill; FAAP, CRCP(C)

Assistant Professors

Amacher, A.L., MD UWO; FRCS(C)

Ecclestone, E.R., MD UWO; FRCP(C)

Jenner, M.R.F., BA, MD Sask

Li, M.D., MB National Taiwan; FRCP(C)

Young, J.A., MBChB Glasgow; MRCP, RCPS Glasgow; MRCP(London)

Clinical Assistant Professors

Cram, D.M., MD, MSc UWO; CRCP(C)

Dubois, J.R., BSc, MD Michigan; CRCP(C)

McKim, J.S., MD, MSc, UWO, DCH(Eng), CRCP(C)

Nicholson, J.R., BA, MD UWO; FAAP, CRCP(C)

Rajic, D.S., MD Graz; CRCP(C)

Riese, R.R., BA, MA, PhD UWO

Whelen, W.S., BSc, MDCM McGill; FAAP, CRCP(C)

Clinical Lecturers

Atkinson, D.I., MD UWO; FRCP(C)

Bolton, R.J., MD Queen's; FRCP(C)

Li, K.T., MB Taiwan; CRCP(C)

Pozsonyi, J., MD Pecs, Hungary

Trout, Ellen E., MD UWO; FAAP, CRCP(C)

Uilenberg, Catharina, MD Rijks Holland; CRCP(C)

Honorary Lecturers

Campbell, Margaret K.P., MD Toronto; CRCP(C)

Feasby, W.H., DDS, DipPaed Toronto; FRCD(C)

Haust, M. Daria, MD Heidelberg; MSc Queen's CRCP(C)

McAlpine, K.L., MD UWO; CRCP(C)

Instructor

Robinson, Halina M.C., Chem(Eng) Sweden

FIRST YEAR

1. The Department of Paediatrics participates in a course in interviewing, providing an introduction to clinical medicine.
12 hours

2. A series of case presentations is offered demonstrating clinical problems which can be explained by simple basic science knowledge.
6 hours.

SECOND YEAR

3. An introductory lecture and demonstration course on the examination of the infant and young child, including growth and development, is given as part of the Clinical Science program, at St. Joseph's Hospital.
9 hours

THIRD YEAR

4. A series of twenty-four lectures is given covering Nutrition, Diseases of the Newborn, Infancy and Childhood. The differences between the infant and the child's response to disease when compared with the adult are pointed out. Electives are available.
24 hours

5. Bedside Teaching. Each clinic group is given a block of beside teaching in Paediatrics, mainly in the second semester. Some further demonstrations are given in clinical science. Students are given the opportunity to examine sick children, noting the effect of disease on the young patient. Signs and symptoms of disease are demonstrated by members of the paediatric staff and discussion held with the groups on management.
30 hours

FOURTH YEAR

6. Final year students are expected to attend and participate at thirty weekly Paediatric Rounds held in the Busby Room, Victoria Hospital, and thirty weekly Staff Rounds held in the Classroom of War Memorial Children's Hospital. Interesting cases presently undergoing treatment in Children's Hospital are discussed.
60 hours

7. Clinical Clerking. Each student is required to act as a clinical clerk for one 5-week period, writing histories, examining patients, making physical diagnosis and doing laboratory tests under the direction of the teaching Fellow or Chief Resident and members of the staff. He also devotes a portion of his time to clinics given by members of the staff in the Out-Patient Department at War Memorial Children's Hospital. Students are on call in the evenings in order to see acute admissions. The student is required to present the findings in these cases to attending physicians on ward rounds twice weekly. Four-week or eight-week electives are available along with an opportunity for each student to attend and participate in clinics held at the Muncey Indian Reservation. While on paediatrics, students are expected to prepare and present a weekly seminar on a topic of current paediatric interest.

8. The Department of Paediatrics participates in interdisciplinary teaching throughout all years.

9. Bio-chemical research laboratory is situated in the War Memorial Children's Hospital. This provides an outline for those interested in clinical research. A paediatric x-ray unit, situated in the War Memorial Children's Hospital, allows for instruction of the student in Paediatric Radiology. Students are expected to attend and participate in a weekly paediatric radiology round. A paediatric E.E.G. laboratory is also available in Children's Hospital. A Paediatric Immunohaematology Research Laboratory is situated in an annex to the Children's Hospital. This permits research in this growing field.

Department of Pathological Chemistry

Professor and Head of the Department:

A. H. Neufeld

Professors

Barton, W.B., MD UWO; FRCP(C), Dipl Int Med McGill
Brownstone, Y.S., BScA, MSc Manitoba; PhD McGill
Hobkirk, R., BSc, PhD Edinburgh
Neufeld, A.H., BSc, MSc, PhD Manitoba; MDCM McGill; FCIC

Associate Professors

de Veber, L.L., MD Toronto; FRCP(C)
Tustanoff, E.R., BA Assumption; MS Detroit; PhD UWO
Zaharia, W., BSc Manitoba; PhD McGill

Clinical Associate Professors

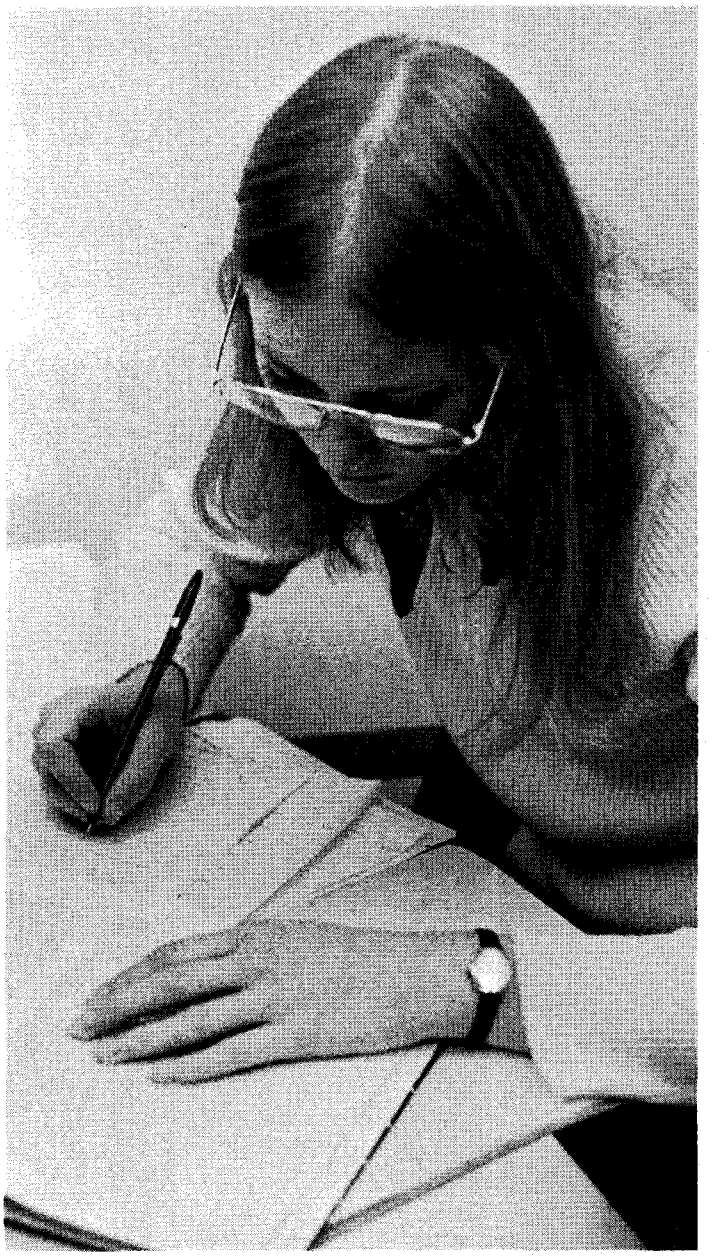
Binns Smith, M., MB, ChB, PhD Edinburgh; CRCP(C)
Haust, H. L., MD Heidelberg; MSc(Med), PhD Queen's
Meltzer, D.B., BSc Manitoba; MD UWO; FRCP(C)

Assistant Professors

Barr, R. M., MD UWO; FRCP(C)
Kimber, R. W., BA McMaster; MD UWO; FRCP(C)
Linton, A. L., MB, ChB Edin; FRCP Glasgow; FRCP Edin
McDonald, J. W. D., MD, PhD UWO; FRCP(C)
Raud, H. R., BSc, MSc, PhD McGill

Lecturer

Jones, D. S., BA Albion College; MA Michigan State; PhD UWO



THIRD YEAR

As a necessary complement to the acquisition of clinical skills, the student must become acquainted with laboratory medicine by exposure to Medical Biochemistry, Haematology, Blood Banking and other areas of laboratory medicine. This is accomplished as follows:

(1) Introductory sessions with the entire class will serve the purpose of scrutinizing the major principles of methodology currently available in the foregoing fields and surveying their wide range of clinical applicability.

(2) Students in small groups will then participate in the critical evaluation of laboratory data for diagnosis and management of disease.

Department of Pathology

Professor and Head of the Department:

A. C. Wallace

Professors

Haust, M. Daria, MD Heidelberg; MSc Queen's CRCP(C)

Paterson, J. C., OBE, MD, BSc(Med) Toronto

Wallace, A. C., BA, MD UWO; FACP, CRCP(C). Head of the Department

Clinical Professors

Mills, D. M., BA, MD UWO; CRCP(C)

Smout, M. S., MD UWO; MCPath, FCAP

Associate Professors

Frei, J. V., MDCM Queen's; MSc, PhD McGill; CRCP(C)

Warren, B.A., BSc(Med), MBBS Sydney; DPhil, MA Oxford

Clincial Associate Professors

Abdelnour, G. M., MB, ChB Alexandria, Egypt; CRCP(C)

Davies, Eleanor M., MD Toronto; CRCP(C)

Slinger, R. P., BA, MD Toronto; MCPath, CRCP(C)

Assistant Professors

Jones, D. S., BA Albion College; MS Michigan State; PhD UWO

Lewis, F. N., BA, MD UWO; MCPath, CRCP(C)

Clincial Assistant Professors

Ball, M. J., MD Toronto; CRCP(C)

Dietrich, M., MD UWO; CRCP(C)

Enriquez, A.A., AA San Carlos; MD Santo Tomas; CRCP(C)

Ramzy-Saeed, I., MB, BCh, DMScPath, MDPath Cairo; FRCP(C)

Turnbull, D. I., BSc, MDCM McGill

Instructors

Adilman, H. B., BA Saskatchewan; MD Alberta; CRCP(C)

Frishette, W. A., MD UWO; CRCP(C)

Division of Oral Pathology

Associate Professor

Gardner, D. G., DDS Toronto; MSD Indiana. Chairman of the Division

Assistant Professor

Sapp, J. P., DDS Dalhousie; MS Michigan

Instructors

Bell, J. H., DDS Toronto

Jarvis, Ann M., BDS London; MSD Minnesota

SECOND YEAR

1. General Pathology. A course of lectures, demonstrations and laboratory periods dealing with fundamental aspects of disease processes. Subjects include inflammation and repair, regressive changes, vascular diseases, disorders of growth and neoplasia, specific examples of inflammation.
66 hours

2. Special Pathology. A comprehensive course in human pathology, taught on a regional and systemic basis. The course is taught by means of formal lectures, gross and microscopic demonstrations, and informal teaching to small groups. In addition to museum specimens and microscopic loan collections, there is extensive use of current postmortem and surgical material from participating hospitals.
180 hours

THIRD YEAR

3. Medical Jurisprudence. Nine lectures dealing with law as related to the practice of medicine, duties of a coroner, the coroner's autopsy, matters of medico-legal importance.

FOURTH YEAR

4. Clinical Pathological Conferences. In co-operation with the clinical departments, conferences are held throughout the academic year for the discussion of selected autopsies in each of the teaching hospitals. Students present the clinical history, physical findings, laboratory and radiological investigation, the differential diagnosis and preferred diagnosis. The professor in the clinical department concerned discusses and comments upon the case. The pathologist discusses the pathological findings particularly from the standpoint of cause of death, the mode of death and clinical pathological correlations.
16 hours

PATHOLOGY FOR NURSING, MEDICAL REHABILITATION AND NON-MEDICAL HONORS STUDENTS

This is a survey course of 12 lectures and demonstratons dealing with the basic components of general pathology. It is designed to introduce the student to the common disease processes. The course is appropriate for students of Nursing and Medical Rehabilitation and, combined with Course 512, for graduate and honors science students.
18 hours

METHODS IN PATHOLOGY

This course of twelve lectures and demonstrations deals with modern methods of investigating disease processes using the techniques of experimental pathology. It is appropriate for medical or non-medical graduates who desire some understanding of the investigation of disease processes from the point of view of experiemental pathology.
24 hours

Department of Pharmacology

Professor and Head of the Department:
C. W. Gowdey

Professors

Gowdey, C. W., BA, MSc UWO; DPhil Oxon. Head of the Department

Parker, J. M., MD Manitoba; DPH, PhD Toronto

Associate Professors

Colhoun, E. H., BSA Toronto; PhD Cantab

Hamilton, J.T., BSA.Toronto; PhD Edinburgh

Hirst, M., BSc, PhD, Liverpool; PhD UWO

Philp, R. B., DVM Toronto; PhD UWO

Assistant Professor

Hersey, M. L. W., BSc McGill; MD, PhD UWO; CRCP(C), FACA

Lecturers

Borda, I. T., MD Budapest; FRCP(C)

Lovegrove, T. D., BA, MD, MSc UWO

Meltzer, D. B., BSc Manitoba; MD UWO; FRCP(C)

Spoerel, W. E. G. A., MD Frankfurt-on-Main; FRCP(C)

White, D. F., MD UWO; FRCP(C)

Instructors

Dinel, B., BScPhm Toronto; MSc Ohio State

Hansford, D. F., PhmB Toronto

SECOND YEAR

1. Medical Pharmacology. The course of lectures deals with the absorption, distribution, metabolism and excretion of drugs, the relation between chemical structures and pharmacological activity, the mechanism of action, therapeutic uses, contraindications and toxic effects of the clinically important drugs.

In the laboratory periods experiments are performed to demonstrate the principles of biological assay and the effects of drugs on isolated organs and intact animals. The problems of clinical assessment of therapeutic agents are also discussed.
120 hours

2. Neuropharmacology-Pharmacology Section of Neurological Science. Lectures and laboratory exercises devoted to a study of the effects of both endogenous chemical substances and drugs on neuromuscular transmission and on the central nervous system in both healthy and diseased states, including drugs used in anaesthesia, and anaesthetic agents.
35 hours

THIRD YEAR

3. Toxicology. A series of five lectures dealing with the general problem of toxic substances in the air, in agriculture (pesticides, weedkillers, etc.), in food, in cosmetics and in household chemical products, as well as the toxic effect of drugs, both from their use and misuse. Prevention, antidotes and treatment are discussed.

4. Clinical Pharmacology. A series of colloquia given in collaboration with the Department of Anaesthesia. Subjects include: clinical trials, placebos, general sedation, autonomic blockade, muscle relaxants, therapeutic gases, electrolyte balance, and the management of pain, hypotension, shock, convulsions and drug intoxication.
13 hours

NURSES

5. Survey of Pharmacology and Drug Therapy. A course of lectures, demonstrations and tutorials dealing with the properties of drugs, their mechanisms of action, therapeutic uses, limitations and toxicity.
52 hours

Department of Physical Medicine and Rehabilitation

Professor and Head of the Department:

Cameron, M. G. P., MD Toronto; FRCP(C).

Assistant Professors

Durnin, R.A., MD, CM Queen's; FRCP(C)

Stewart, Olive J., BA, MD UWO; CRCP(C)

Lecturer

Krysztofiak, B.E., MD Poznan; CRCP(C)

Clinical Lecturer

Berkeley, J., MBChB, DPH, MD Glasgow; CRCP(C)

Honorary Lecturer

Donisch, E.W.K.F., MD Bonn; MSc UWO

Robinson, J.B.C., MD, MSc UWO

THIRD YEAR

Lecture-demonstrations will be given on Medical, Surgical and Paediatric problems in Rehabilitation. Techniques of electrodiagnosis, physical therapy and the use of braces and prostheses will be shown. Physical therapy prescription writing will be stressed. The social, economic and psychological effects of chronic disability will be discussed with various members of the rehabilitation team.
16 hours

FOURTH YEAR

During a one week period, each student will act as a ward clerk on the rehabilitation service. There will be opportunities to study electrodiagnostic techniques, amputees and prosthetics, and to participate in assessing and writing physiotherapy prescription for patients in an out-patient setting.
20 hours

PROGRAMS IN MEDICAL REHABILITATION

More detailed information can be found in the Brochures of the Faculty of Medicine entitled "Program in Physical Therapy," "Program in Communication Disorders" and "Program in Occupational Therapy."

Department of Physiology

Professor and Chairman of the Department:

V. B. Brooks

Professors

Armstrong, D.T., BSA Toronto; MS, PhD Cornell

Brooks, V.B., BA PhD Toronto; MS Chicago. Chairman of the Department

Mogenson, G.J., BA, MA Saskatchewan; PhD MCGill

Associate Professors

Bondy, D.C., MD UWO; FRCP(C)

Calaresu, F.R., BA Pavia; MD Milan; PhD Alberta

Critz, J.B., BS in Ed, MA, PhD Missouri

Dellow, P.G., BDS, MB, BS Adelaide; FACDS

Harding, P.G.R., MD, MSc UWO; FRCS(C)

Mercer, P.F., DVM Toronto; PhD Cornell

Seguin, J.J., BSc, MSc, PhD UWO on leave to August 31, 1972

Squires, B.P., BA, MD, PhD UWO

Vanderwolf, C.H., BSc Alberta; MSc, PhD McGill

Associate Professor (Electrical Engineering)

Chess, G.F.H., BASc Toronto; MEng McGill

Assistant Professors

Cunningham, D.A., BA UWO; MSc Alberta; PhD Michigan

Girvin, J.P., MD UWO; PhD McGill; FRCS(C)

O'Hea, E.K., BAgrSc, MAgrSc Dublin; PhD Illinois

Ziegler, W.H., MD British Columbia; MSc Drexel Institute of Technology; PhD McGill

Lecturers (sessional)

Reese, L., MDCM Queen's; FRCS(C), FACS

Sellery, G.R., MD Toronto; DA England; DA Toronto; FRCP(C)

Honorary Lecturers

Manning, G.W., MA, MD, PhD Toronto; FRCP(C)

Rounthwaite, F.J., BSc, MDCM McGill; FRCS(C), FACS

Steele, J.E., BSc Dalhousie; MSc UWO; PhD Saskatchewan

Instructor

Walker, Esme H., BA, MA Toronto

FIRST YEAR

The instructional and learning programme is composed of lectures, question periods, small group and individual tutorials, laboratory classes, demonstrations, panel discussions, evaluation periods, and the writing of one essay under supervision.

The content includes a consideration of homeostasis, excitable tissues, neurohumoral transmission, the cardiovascular system, blood, respiration, the renal and urinary system, acid-base and electrolyte balance, the gastro-intestinal system, metabolism, the endocrine system, sex and reproduction, and foetal and neonatal physiology. A special section is devoted to integrative physiology, in which the body systems are cross-related during a consideration of total function of the organism. The autonomic nervous system and topics of applied physiology will be introduced in this section. A full study of the central nervous system is deferred until the second year course.
160 hours.

SECOND YEAR

1. Neurophysiology. This course, which covers the physiology of the nervous system, particularly in man, is given as part of the general Second Year course in Neurological Science. It consists of lectures, and both human and animal demonstrations and experiments.
40 hours.

2. Integrative Physiology. This course is designed to integrate the various physiological principles discussed in the first year with particular emphasis on physiological responses to the environment and to disease processes.
32 hours.

NURSING

1. A course of lectures covering the principles of Physiology; general properties of the living cell and tissue, peripheral nerve and muscle, blood, metabolism and nutrition, digestion, circulation, respiration, kidney and body fluids, and endocrine glands and reproduction.
52 hours

2. A course of laboratory exercises and conferences to demonstrate and analyse the function of the various physiological systems.
78 hours

MEDICAL REHABILITATION (PHYSICAL THERAPY)

SECOND YEAR

1. A course of lectures covering the principles of Physiology: general properties of the living cell and tissue, peripheral nerve and muscle, blood, metabolism and nutrition, digestion, circulation, respiration, kidney and body fluids, the endocrine glands and reproduction.
52 hours

2. A course of laboratory exercises and conferences to demonstrate and analyse the functions of the various physiological systems.
78 hours

FOURTH YEAR

Advanced course in neurophysiology and in neuromuscular and exercise physiology.

Department of Psychiatry

Professor and Chairman of the Department:

G. F. D. Heseltine

Professors

Heseltine, G.F., BA Manitoba; LMSA West London; DPsych. McGill; CRCP(C); MRC Psych Eng. Chairman of the Department

Hobbs, G.E., BA, MD Toronto; MPH Michigan; FRCP(C), FAPA

Associate Professors

Keil, W.E., MD UWO; CRCP(C) on leave of absence January 1, 1972 to September 30, 1972

Max, P., BA, MD UWO; CRCP(C)

Tillmann, W.A., MD, MSc UWO; CRCP(C)

Clinical Associate Professors

Goldberg, B., BSc New Brunswick; MD, CM Dalhousie; CRCP(C)

Wickware, D.M., MDCM Queen's; DPsych Toronto; CRCP(C)

Assistant Professors

Gort, G.H., MD Alberta; CRCP(C)

Jurjans, V., MD Tuebingen; CRCP(C)

McLeish, J.C., MD UWO; CRCP(C)

Clinical Assistant Professors

Boyce, R.M., MD UWO; DPsych Toronto; CRCP(C)

Carscallen, H.B., MD UWO; DPsych Toronto; CRCP(C)

Deinum, E. Jeanne, MD UWO; DPsych Toronto; FRCP(C)

Dubois, J.R., BSc, MD Michigan; CRCP(C)

Galbraith, D.A., MD UWO; CRCP(C)

Johnson, F.G., MB, BS London; LRCP, MRCS, CRCP(C)

McGregor, K.M., BA, MD UWO; DPsych Toronto; CRCP(C)

Summerby, J.H., BSc, MDCM McGill; CRCP(C)

Lecturers

Stewart, Olive J., BA, MD UWO; CRCP(C)

Thurlow, H.J.A., BA, MA, MD UWO

Clinical Lecturers

Andrèws, W.N., MB, ChB New Zealand; CRCP(C)

Babiak, W., MD Kiel; DPsych Toronto

Corrin, R.C., MD UWO; DPsych Toronto; CRCP(C)

Dolan, J., MBChB Glasgow; DPH(Eng), DPM(Eng), MRCP Glasgow; FRCP(C)

Galbraith, H.C., MD UWO; CRCP(C)

Jenkins, G.E., MD UWO; DPsych Toronto; CRCP(C)

Johnson, Diana M.M., BA, MD UWO; CRCP(C)

Kalb, S., MD Manitoba; DPsych Toronto; CRCP(C)

Kaufman, J.J., BA UWO; MD Ottawa; CRCP(C)

Lapp, C.A., BA, MDCM Queen's; CRCP(C)

McKenzie, F.A., BA Iowa; MD UWO; CRCP(C)

Palmer, R.B., MD UWO; CRCP(C)

Tobin, W.G., MD Toronto

Instructors

Corrin, B.N., MD UWO

Dingus, R.L., BA, MA Cincinnati

Dingus, Ruth Marie Adams, AB Wellesley College; MA Pittsburgh

Hoover, M.P., MD Toronto

Lovegrove, T.D., BA, MD, MSc UWO

McKim, Mary E., MD Toronto, CRCP(C)

Mountain, H.E., MD UWO; CRCP(C)

Nugent, S.M., MB, BCh, BAO National University Ireland; DPM Eng

Rai, Jyotsna, MBBS, DMCW Calcutta; CRCP(C)

Riese, R.R., BA, MA, PhD UWO

FIRST YEAR

1. Two half-day visits to familiarize the students with the psychiatric facilities in the area.

SECOND YEAR

2. A lecture course with demonstration clinics covering the clinical syndromes of Psychiatry. Emphasis is on the syndromes encountered in the practice of Medicine.
48 hours

THIRD YEAR

3. A series of lectures emphasizing the background knowledge essential in the understanding of the psychiatric case in the first term and the various therapies in the second term.

4. During the first term, there is one clinic on the psychiatric examination. During the second term there are twelve three-hour clinics in the various psychiatric facilities associated with the Department.

FOURTH YEAR

5. For a three-week period students will act as clinical clerks in the psychiatric wards of the general hospitals.

6. Clinical experience with psychiatric disorders of children will be provided during the clerkship in Paediatrics.

Department of Diagnostic Radiology

Professor and Chairman of the Department:

L. S. Carey, MD, CM, MSc(Med) Queen's; MS Minnesota.

Clinical Associate Professors

Agnos, J.W., MD UWO; DMR Toronto; CRCP(C)

Allcock, J.M., MRCS, LRCP(Eng), MB, BS London; DMRD(Eng), FFR

Johnston, E.E., MDCM, DMR Queen's; CRCP(C)

Wilkins, W.W.J., MDCM Queen's; DMR Toronto; FRCP(C)

Clinical Assistant Professors

Coates, R.K., BA, MD UWO; FRCP(C)

MacDonald, A.C., MD UWO; FRCP(C)

Nicol, D.A., BA Saskatchewan; MD, DMR Toronto; CRCP(C)

Rajic, D.S., MD Graz; CRCP(C)

Clinical Lecturers

Black, J.H.D., MB, BCh Dublin; MRCPI, FRCP(C)

Brown, T.C., MD UWO; CRCP(C)

Edgar, H.W., MD UWO; DMR McGill; CRCP(C)

Greenhow, P., MD Toronto; CRCP(C)

Hamilton, G., MD UWO; FRCP(C)

Harwood, R.A., MD UWO; CRCP(C)

Linsdell, F.J., BA, MD UWO; CRCP(C)

Reid-Smith, E.A.M., BA, MB, BCh Dublin; DMRD London; CRCP(C)

Honorary Lecturers

Hauch, P.P., MD UWO; DMRD London; CRCP(C)

Hill, M.B., MDCM Queen's; CRCP(C)

Instructor

Lefcoe, M.S., BSc, MDCM McGill

A course in Diagnostic Radiology is given in the Third Year. This consists of sixteen hours of instruction in weekly sessions, the first few of which are devoted to didactic lectures. In the remaining sessions the class is divided into small groups, each assigned to an instructor with whom current Radiological cases are studied in detail and in which System Study is accentuated.

In the Fourth Year, each student spends one week in the Department of Diagnostic Radiology at the new University Hospital, Victoria Hospital or St. Joseph's Hospital.

The staff of the Department contributes to interdisciplinary conferences, mainly in the Third and Fourth Years. There is as well active participation on the part of the departmental staff within the Department of Anatomy.

Department of Therapeutic Radiology

Clinical Professor and Head of the Department:

Watson, T. A., MB, ChB New Zealand; DMR London; MD Saskatchewan; FACR, FRCP(C).

Associate Professors

Heagy, F. C., MD, MSc, PhD UWO

Inch, W. R., BSc Queen's; PhD UWO

MacDonald, J. C. F., BA, MA British Columbia; PhD Toronto

Clinical Associate Professor

Thomson, D.H., MB, ChB Glasgow; DMRT(Eng), CRCP(C)

Clinical Assistant Professors

Banerjee, P., MBBS Calcutta; DMRT (Eng), FFR (Eng)

Fetterly, J. C. M., MD, CM Queen's; DMRT, CRCP(C)

Lecturer

Sutherland, R. M., BSc Acadia; PhD Rochester

Clinical Lecturer

Dawson, D. J., BASc, MA, PhD Toronto

Honorary Lecturers

Barton, W.B., MD UWO; FRCP(C), Dipl IntMed McGill

McCredie, J. A., MB, BCH, BAO Belfast; FRSC (Edin), FRCS (Eng), MCh Belfast; FRCS(C), FACS

Plunkett, E. R., MD, PhD UWO

Reese, L., MDCM Queen's; FRCS(C), FACS

Warwick, O. H., BA Mount Allison; MDCM McGill; MA Oxon; FRCP London; FRCP(C), FACP, LLD Mount Allison

White, D. F., MD UWO; FRCP(C)

Instructor

Gilchrist, J. A., MBBS London; DMRT (Eng), CRCP(C)

Instruction for the most part is built up around clinical material which is available through The Ontario Cancer Foundation's London Clinic at Victoria Hospital. Aspects of radiation physics, radiobiology, radiotherapy and nuclear medicine are covered from the practical standpoint, in their application to the patient suffering either from cancer or benign lesions amenable to ionizing radiation. Joint teaching sessions in conjunction with the clinical departments are arranged. Each Fourth Year student rotates through this Department for five half-days for instruction in radiation therapy, the medical uses of radioisotopes and general experience in cancer.

Department of Surgery

Professor and Head of the Department:

A. D. McLachlin

Professors

Carroll, S. E., BA, MD UWO; FRCS(C), FACC, FACS, FACCP

Drake, C. G., MD, MSc, UWO; FRCS(C), MS Toronto

McLachlin, A.D., MD, MSc UWO; DPhil Oxon; MS Toronto; FRCS(C), FRCS(Eng), FACS. Head of the Department

Clinical Professor

Johnston, D. W. B., BA, MD UWO; FACS, FRCS(C)

Associate Professor

McCredie, J. A., MB, BCH, BAO, MCh Belfast; FRCS (Edin), FRCS (Eng), FRCS(C), FACS

Clinical Associate Professor

McLarty, T. D., BA, MD UWO; FRCS(C)

Assistant Professors

Girvin, J. P., MD UWO; PhD McGill; FRCS(C)

Passi, R. B., MD UWO; FRCS(C), FACS

Clinical Assistant Professors

Barr, H. W. K., BSc (Med) Toronto; MD UWO; FRCS(C)

Jamieson, W. G., BA Eastern Michigan; MD UWO; FRCS(C), FRCS (Eng)

McKenzie, D. A., MD UWO; MSc Minnesota; FRCS(C), FACS

Clinical Lecturers

McLachlin, J. A., MD UWO; FRCS(C); FACS, MCISc

Marshall, D. G., MD UWO; FRCS(C), FAAP

Meads, G. E., BA Michigan; MD UWO; FRCS(C)

Walker, J. H., MD, MSc UWO; FRCS(C), FACS

Instructor

Sweeney, J. P., MD UWO; FRCS(C), FACS

DIVISION OF CARDIOVASCULAR AND THORACIC SURGERY

Clinical Professor and Chairman of the Division:

Coles, J. C. G., BA, MD, MSc UWO; FRCS(C).

Clinical Lecturer

Gergely, N. F., MD Budapest; FRCS(C)

DIVISION OF NEUROSURGERY

See Department of Clinical Neurological Sciences

DIVISION OF ORTHOPAEDIC SURGERY

Clinical Professor and Chairman of the Division:

Kennedy, J. C., MD UWO; FRCS(C).

Clinical Assistant Professor

Cameron, H. S., MD UWO; FRCS(C), FACS

Clinical Lecturers

Bailey, W. H., BA, MD UWO; FRCS(C)

Fowler, P. J., BA, MD UWO; FRCS(C)

Grainger, R. W., MD UWO; FRCS(C)

Honorary Lecturer

Ollerhead, W.W., BA, MD UWO; MChOrth Liverpool; CRCS(C)

DIVISION OF PLASTIC AND RECONSTRUCTIVE SURGERY

Clinical Professor and Chairman of the Division:

McFarlane, R.M., MD, MSc UWO; FRCS(C), FACS.

Clinical Lecturer

Stavraky, W.K., MD UWO; FRCS(C)

DIVISION OF UROLOGY

Clinical Professor and Chairman of the Division:

McAninch, L.N., MD UWO; FRCS(C), FACS.

Assistant Professor

Sharpe, J.R., BA, MD UWO; FRCS(C)

Clinical Assistant Professors

Reese, L., MDCM Queen's; FRCS(C), FACS

Sales, J.L., MD UWO; FRCS(C)

Wyatt, J.K., MD UWO; FRCS(C)

Clinical Lecturer

Busby, S.M., MD UWO; CRCS(C)

Instructor

Downham, D.W., BA, BChir, MB Cantab; FRCS(Eng), CRCS(C)

MEDICINE

The course content and method of teaching have been changed extensively. Greater emphasis is placed on the principles of surgery and the contribution by the Basic Sciences. The anatomical and technical aspects play a much smaller role.

Acquiring knowledge from clinical contact and discussions is encouraged. Few didactic lectures are given.

SECOND YEAR

An introductory course in Clinical Science is given in conjunction with the Departments of Medicine, Obstetrics and Gynaecology, and Paediatrics. Major emphasis is placed on history-taking and physical examination. 63 hours.

THIRD YEAR

Lectures. The principles of surgery and course content are presented. 46 hours.

Clinical Teaching. This is mainly accomplished by ward rounds, clinical demonstrations and seminars. The ability to take a good history and perform an adequate physical examination are regularly checked. 96 hours.

FOURTH YEAR

Clinical Clerkship. Each student rotates through the surgical specialties. Students are required to take the history, make physical examination, and write orders under supervision on patients assigned to them. Two-hour seminars are held each morning on topics covering the major topics in surgery. 140 hours.

Interdisciplinary and Clinical Pathological Conferences. These are presented weekly. There are no formal lectures. 38 hours.

SPECIAL LECTURERS

Special Lecturer in Legal Medicine

Krever, H., QC, BA, LLB Toronto

Special Lecturer in Medical Ethics

Robinson, J.B.C., MD, MSc UWO

Special Lectures

LEGAL MEDICINE

Special Lecturer: H. Krever

A course of lectures to the students of the Third Year on law and its relation to the practice of medicine. 5 hours.

MEDICAL ETHICS

Special Lecturer: J.B.C. Robinson

A series of 9 lectures is given by Dr. J.B.C. Robinson on medical ethics and problems of practice to the Third Year. 9 hours.

INFORMATION AND COMPUTER SCIENCE

A series of four lectures introducing students to the field of Information and Computer Science will be given in the third year with the co-operation of the Department of Computer Science.

TIMETABLE

First, Second and Third Years — 1972-1973

First Quarter — September 11 to November 3

Second Quarter — November 6 to January 12

Third Quarter — January 15 to March 9

Fourth Quarter — March 12 to May 4

If the new curriculum begins in September 1972, the First Year Timetable will be altered.

FOURTH YEAR — 1972-1973

The Fourth Year will be a 48-week Clinical Clerkship, broken into five nine-week Terms as follows:

First Term — Monday, June 26th, to Sunday, August 27th, inclusive;
Second Term — Monday, August 28th, to Sunday, October 29th, inclusive;
Third Term — Monday, October 30th, to Sunday, January 7th, inclusive; *
Fourth Term — Monday, January 8th, to Sunday, March 11th, inclusive;
Fifth Term — Monday, March 12th, to Sunday, May 13th, inclusive.

*This Term is 10 weeks to allow one week's leave during the Christmas holiday period.

The students will rotate through the various Departments so that each student will be on the various Services for the length of time specified below:

SERVICE	NUMBER OF WEEKS
Anaesthesia	1
Community Medicine including Physical Medicine and Rehabilitation	3½
Medicine	9
Obstetrics and Gynaecology	4½
Ophthalmology	1
Otolaryngology	1
Paediatrics	4½
Psychiatry**	3
Diagnostic Radiology	1
Therapeutic Radiology	½
Surgery	7

The remaining twelve weeks will be utilized as follows:

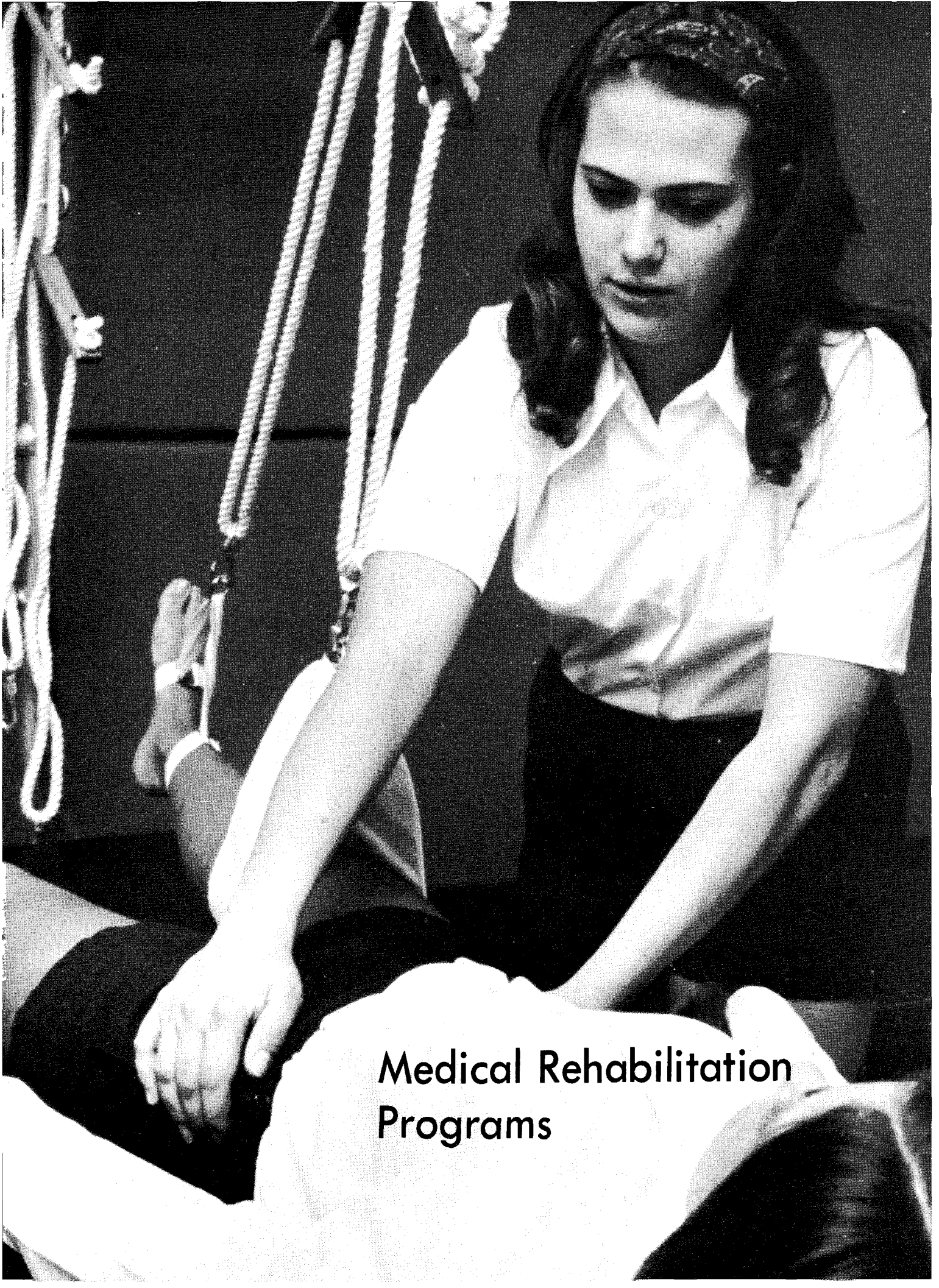
Elective	8
Travel Time with Elective	1
Examinations and Study Time	2
Christmas Leave*	1

*To be arranged by the Head of the Department concerned in each case.

Interdisciplinary Conferences will be held, jointly with Third Year, at 0800 hours, Thursday morning, at Victoria Hospital, weekly beginning Thursday, January 18th. Clinical Pathological Conferences will be held at the various hospitals, students being expected to attend at the hospital where they are working at the time.

All students will be provided with detailed schedules and instructions for each term before the beginning of the session.

** In order to comply with the regulations of The College of Physicians and Surgeons of Ontario, all students contemplating a Straight Internship rather than a Rotating Interneship must arrange to take a fourth week of Psychiatry during Elective or vacation time.



Medical Rehabilitation Programs

Program in Communication Disorders

MEMBERS OF THE FACULTY OF THE PROGRAM IN COMMUNICATION DISORDERS

Professors

Rounthwaite, F. J., BSc, MDCM, FRCS (C), FACS, Acting Director

Assistant Professors

Booth, John C., BA, MA, PhD Florida

Kroll, Allan, BSc McGill; MSc Brooklyn, PhD Purdue

Stouffer, James L., BSc Buffalo State; MSc, PhD Pennsylvania State

Lecturers

Yovetich, William S., BSc Buffalo State; M.A. Western Michigan

General Information

The Program in Communication Disorders is a three year Program which follows one year of general University training. The aim of the Program is to provide students with a general education in the natural, medical, and behavioral sciences while at the same time preparing the student for a career in Speech Pathology and Audiology through professional courses in these areas. Students graduating from this Program are trained to provide diagnostic and therapeutic services for individuals manifesting disorders of speech and/or auditory function. Graduates of the Program are encouraged to seek post graduate training to further develop their therapeutic and remedial skills.

Admission Requirements

Completion of the First Year University studies, at The University of Western Ontario with standing in Psychology 20, Sociology 20 and at least two of Biology 22, Chemistry 20 or 23 or Physics 20 or 22. Applicants with equivalent standing from other recognized Universities will also be considered for admission to the program.

Admission will be based on:

(a) First year achievement — Minimum "C" standing

(b) Achievement in required courses — Minimum, overall "C" standing.

Candidates are advised that enrollment in the program is limited, and that minimum achievement will not necessarily be adequate for admission.

Application forms are available from the Director of Admissions.

Final date for application to First Year university studies: July 1.

Final date for application to the Program in Communication Disorders: May 31.

Fees and Other Expenses

Refer to the General Information section of this Calendar.

Courses of Study

SECOND YEAR

Physics 33. The physics of Music and Sound.

Psychology 56. Child Psychology.

Anatomy 214. Basic human gross anatomy with special reference to the functional anatomy of the speech and hearing mechanism.

Physiology 201. A survey course of lectures, demonstrations and laboratory exercises outlining the principles of mammalian physiology with emphasis on human physiology: general properties of the living cell and internal environment, nerve and muscle, cardiovascular, respiratory and gastrointestinal systems; metabolism and nutrition; body fluids and the kidney; the nervous system; endocrine glands; controls, regulations and homeostasis.
2 lectures; 3 laboratory hours — 4.

Neuroanatomy 278. The anatomy of the nervous system, including special lectures in the neuroanatomy of the speech and hearing mechanism.

Survey of Speech Disorders. Development of speech and language. Introduction to the etiology, symptomatology, and nature of defective speech.

Introductory Audiology. Basic considerations of hearing and hearing impairment. Discussion of causes, types and measurement of hearing loss.

Elective

Approximate number of hours in Second Year: 20 per week.

THIRD YEAR

Sociology 46. Medical Sociology and Public Health.

Psychology 59. Exceptional Children.

Advanced Audiology. Advanced pure tone and speech audiometry, psychophysics of audition related to clinical problems, special tests and exploratory techniques for assessing the usefulness of residual hearing. Study of the physical components of hearing aids, hearing aid performance and clinical evaluation of hearing aid use in education and rehabilitation.

Remedial Principles in Speech Disorders. Principal methods used for rehabilitation of individuals manifesting disorders of articulation, voice, language, and rhythm. Students will be required to observe and participate in the therapeutic process at various clinics.

Audiology. Methods in Auditory Training and Speech Reading. Principle and techniques of remedial procedures for hearing handicapped; examination of clinical practices; evaluation of recent research in this field.

Audiology. Interpretations of Clinical Tests. Supervised clinical practice in pure tone air and bone conduction audiometry. Audiogram interpretations and rehabilitative recommendations considered.

Elective

Practicum*

Approximate number of hours in Third Year: 19 hours per week.

***Practicum.** During the summer months after the third and fourth years, students in Communication Disorders will be required to undergo an 8 week period of practicum at various clinics in the London area during which time they will observe and participate in diagnostic, therapeutic, counselling, etc. procedures under the supervision of the various therapists in charge.

FOURTH YEAR

Psychology 79. Abnormal Psychology.

Seminar in Speech Pathology. A consideration of physiogenic and psychogenic disorders of speech with reference to diagnostic and rehabilitative procedures.

Seminar in Audition. Concepts and principles relevant to the normal hearing processes: acoustics, review of the gross anatomy of the ear, psychophysical methods and basic subjective correlates of the auditory system.

Medical Problems Related to Communication Disorders. The relationship between the speech and hearing clinician and the physician and dentist. Facilities available and referral procedures will be discussed.

Diagnostic Methods in Speech Disorders. Principal methods of diagnosis and testing, application of diagnostic tools; interviewing and counselling procedures.

Speech Science and Phonetics. Descriptive and articulatory phonetics including broad transcription. The physical attributes of speech and their measurement.

Two electives chosen from the following:

Research Problems in Speech Pathology. A review of current literature and research in Speech Pathology.

Individual Study in Special Areas. Directed study of special problems in Speech Pathology and Audiology.

Psychoacoustics. Lectures and discussion on advanced topics and current research in auditory sensation and perception.
(Consent of instructor).

Industrial Audiology, Hearing Conservation, and Noise Control. Environmental noise: its characteristics, effects on hearing and control, associated topics.
(Consent of instructor).

Practicum*

Approximate number of hours in Fourth Year: 20 hours per week.

***Practicum.** During the summer months after the third and fourth years, students in Communication Disorders will be required to undergo an 8 week period of practicum at various clinics in the London area during which time they will observe and participate in diagnostic, therapeutic, counselling, etc. procedures under the supervision of the various therapists in charge.

Standards of Achievement

Within the three professional years of the Program, a student qualifies for advancement to each subsequent year if he obtains a grade average of at least 60% and a passing grade in every course. (One supplemental examination is permitted in professional courses in each academic year).

A student who obtains an average grade of 80% or better in any year is considered to have passed that year with honors. A student who passes with honors in each year in the Program in Communication Disorders will be graduated cum laude.

A student will be considered to have failed a complete year if his general average (in all courses of that year) falls below 60%; or if he failed in more than one professional course.

A student may be given permission to write a supplemental examination in a professional course at the discretion of the instructor. (Note that supplemental examinations are not offered by the Faculties of Arts, Science or Social Science.)

A student who has failed to complete a year may be permitted by the Program in Communication Disorders to repeat that year if a vacancy is available. A student may repeat only one year of the Program. When a student is allowed to repeat a year, he must pass that year without condition in order to continue in the Program.

Licensing

In Canada at the present time, only the Provinces of Manitoba and Quebec require that Speech Pathologists and Audiologists be licensed. Therapists may work in any other Province without being registered.

Regulations regarding eligibility for practice in Canada, Britain, the United States or other countries may be obtained by writing to the following:

The Canadian Speech and Hearing Association
Box 1314
Winnipeg, Manitoba

The American Speech and Hearing Association
9030 Old Georgetown Road
Washington, D.C. 20014
U.S.A.

Secretary
The College of Speech Therapists
47 St. John's Wood High St.
London, N.W. 8
England

International Association of Logopedics and Phoniatrics
Svejagervej 52, Hellerup
Copenhagen, Denmark

Program in Occupational Therapy

Officers of Admission

Dean: Douglas Bocking, M.D.
Director: Margaret F. Trider, O.T. Reg.
Program Secretary: Jane Coalter

FACULTY

Assistant Professors

Parker, Gwendolyn (Mrs.) BS, MA (NYU), OTR
Trider, Margaret F. (Mrs.), Dip OT Toronto, OT Reg, OTR, Director

Lecturers

Ernest, Marilyn L., Dip OT Toronto; BSR, OT Reg.
Mack, J.S., BS Colorado State, OTR

The objective of the four-year undergraduate Program in Occupational Therapy is to offer students a general education through the study of appropriate biological, medical and behavioral sciences, in conjunction with professional courses, in preparation for the practice of occupational therapy. The curriculum is designed to prepare future practitioners to provide a service directed towards the prevention, reduction or elimination of incapacity resulting from physical, psychosocial or environmental stress.

ADMISSION REQUIREMENTS

FIRST YEAR

Enrollment in Occupational Therapy is limited. The candidate is advised to have an alternate plan should he not gain entry into the Program. Applications for the Program should be submitted to the Director of Admissions by March 31.

A full Ontario Grade X111 program, or its equivalent, as described in the 1971-72 General Information Booklet, plus satisfactory completion of the tests of the Service for Admission to College and University (SACU) administered through the Ontario high schools, OR the tests of the College Entrance Examination Board (CEEB). A minimum acceptable Grade X111 average is not specified since enrollment in this program is limited. Applicants will be considered by the Admissions Committee on the basis of individual merit and in competition with other applicants to the Program.

Candidates are advised to include Biology in their Grade X111 courses.

An interview is given by a member of the Faculty of the Program to ensure that applicants have full knowledge of the Program and of his chosen profession, and is personally suited for the practice of occupational therapy.

The final choice made by the Admissions Committee of the Program is dependent upon the academic record of the student, plus his personal suitability. The Admissions Committee reserves the right to reject candidates who have obtained the published minimum requirements.

ADMISSION WITH ADVANCED STANDING

Students with credits in required courses from an approved University may apply for admission with advanced standing.

Candidates holding a Diploma from a school of Occupational Therapy accredited by the World Federation of Occupational Therapists, and recognized as the equivalent of the Canadian Schools of Occupational Therapy, and who hold Canadian

citizenship or Landed Immigrant status, may apply for admission to the intramural Post-Diploma Program consisting of 10 credits, and leading to the baccalaureate degree. This Program will be four semesters in length, including summer sessions.

Applications for the Program should be submitted to the Director of Admissions by March 31.

Fees

Each Year:

Payable at registration $517.50

If paid in two instalments—
Registration Day $300.00
First Day of Second Term $222.00

COURSES OF STUDY

FIRST YEAR

Psychology 20
Sociology 20
Physiology 101
Anthropology 20
Occupational Therapy 110

SECOND YEAR

Psychology 56
Sociology 40
Anatomy 214 (Gross Anatomy)
Neuranatomy 278 (b)
Occupational Therapy 210 (a)
Occupational Therapy 215

THIRD YEAR

Occupational Therapy 312
Occupational Therapy 326
Occupational Therapy 330
Occupational Therapy 340
Occupational Therapy 350
Medical and Surgical Lectures 198
Psychiatry (½ course)
Paediatrics (a) (½ course)
Pathology (b) (½ course)
Sociology 31
Occupational Therapy 360 (Field Placement during summer months)

FOURTH YEAR

Occupational Therapy 413
Occupational Therapy 451
Occupational Therapy 470
Occupational Therapy 490
Psychology 252
Psychology 363
Psychiatry (a)
Selective

Requirements for Standing

ATTENDANCE

80% attendance at lectures and laboratories is required. 100% attendance is required for field placements. Students may be denied the right to write examinations because of unsatisfactory attendance at lectures or laboratories, or unsatisfactory work.

EXAMINATIONS

(a) Each examination subject is weighted according to its value and number of lecture-laboratory hours.

(b) Tests, assignments and practical work will account for a certain percent of the total mark, the remainder being accounted for by the final examination in the Spring.

(c) Grades:

80 – 100%	A
70 – 79%	B
60 – 69%	C
50 – 59%	D
40 – 49%	E
0 – 39%	F

A,B,C and D are passing grades.

(d) one supplemental examination is permitted in professional courses in each academic year.

(e) Examinations may be of an oral, written, practical, subjective or objective nature. The fourth year final examinations in the professional subjects are comprehensive examinations, and are designed to cover the whole four years work, and to determine whether the student has sufficient general knowledge to become a competent occupational therapist. These examinations may be written or oral, or both, and are additional to the course examinations.

(f) The student is advised that a failed paper has been read at least twice. Note statement on "Appeal" in the General Information Booklet.

Advancement

Advancement to Second Year

A student qualifies for admission automatically if, for the previous year he has obtained a grade of at least 70% in each of Psychology 20, Sociology 20 and Occupational Therapy 110, and an overall grade average of at least 60%, with a passing grade in each subsidiary course. A student who fails to qualify for automatic admission but has a grade of at least 60% in each of Psychology 20, Sociology 20 and Occupational Therapy 110, and an overall grade average of at least 60%, and a passing grade in each subsidiary course, may be permitted to advance at the discretion of the Program.

Advancement to Subsequent Years

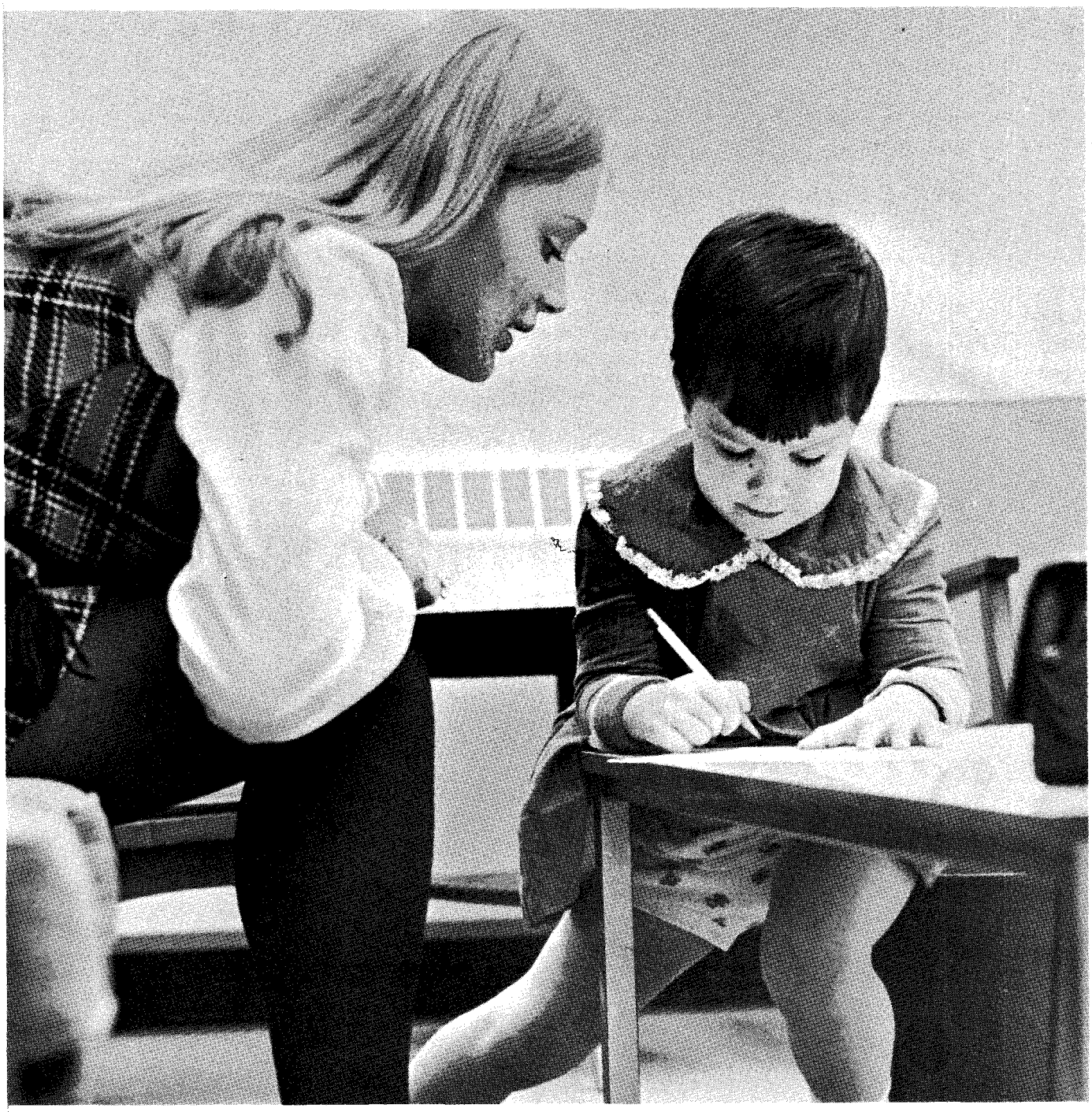
A student qualifies for admission automatically to each subsequent year, if he has obtained a grade average of at least 70% and a passing grade in every course. A student who fails to qualify for automatic admission but who has a grade average of at least 60% and a passing grade in every course may be permitted to progress at the discretion of the Program.
(One supplemental examination is permitted in professional courses in each academic year)

A student who obtains an average grade of 80% or better in a years work is considered to have passed that year with honors. A student who passes with honors in each year in the Program in Occupational Therapy will be graduated cum laude.

A student will be considered to have failed to complete a years work if:
(1) His general average (in all courses of that year) falls below 60%, or
(2) He has failed in more than one professional course.

A student may be given permission by the Program in Occupational Therapy to write a supplemental examination in a professional course. (Note that supplemental examinations are not offered by the Faculties of Arts, Science, or Social Science.)

REHABILITATION



GRADUATE INFORMATION

The governing and registering body is the Canadian Association of Occupational Therapists. Applicants for registration must have successfully completed a University program in Occupational Therapy, and in addition, must successfully complete six months postgraduate interning arranged by the CAOT. A small stipend is paid during the interning period.

Registration permits the therapist to practice in Britain, the United States, or other countries and may be obtained by writing to the following:

Canadian Assocition of Occupational Therapists
Suite 412, 57 Bloor Street West
Toronto 189, Ontario

The American Occupational Therapy Association
251 Park Avenue South
New York, New York 10010, U.S.A.

The Association of Occupational Therapists
251 Brompton Road
London S.W.3, England

The World Federation of Occupational Therapists
29 Sherbrooke Avenue
Glasgow S.1, Scotland

Description of Courses

FIRST YEAR

Psychology 20. Introduction to Psychology. A general survey of the methods and findings of Psychology in the scientific analysis of animal and human behavior. Topics to be covered may include Learning, Motivation, Perception, Thinking, Memory, Development and Maturation, Personality Theory and Measurement, and Social Interaction. Although there is no laboratory requirement, voluntary participation in approved projects will be encouraged.
3 hours

Sociology 20. Introduction to Sociology. An examination of the major theoretical perspectives in the field of Sociology, methods of empirical investigation of social phenomena, socialization, group structure, principles of social organization, community structure, population and social change.
3 hours

Occupational Therapy 110. An introductory course emphasizing the philosophy and orientation of occupational therapy; the history of practice; a survey of systems of delivering health care, and orientation to the Health Sciences and Behavioral Sciences. The course will include lectures and demonstrations.
2 lecture hours, 2 laboratory hours

Physiology 101. 1. A course of lectures covering the principles of Physiology: general properties of the living cell and tissue, peripheral nerve and muscle, blood, metabolism and nutrition, digestion, circulation, respiration, kidney and body fluids, the endocrine glands and reproduction.
52 hours

2. A course of laboratory exercises and conferences to demonatrate and analyse the functions of the various physiological systems.
78 hours

Anthropology 20. A survey of the basic concepts and teachings of anthropology. Discussion topics include: the origin of man; origin and development of culture and social structure; nature of race; comparative study of such cultural institutions as language, art and religion; ethnology of a selected area.
3 hours

SECOND YEAR

Psychology 56. An introduction to theory and research in selected areas of child behavior, with particular emphasis on learning, motivation, perception and personality.
2 lectures, 1 tutorial hour

Sociology 40. Social Problems. Study of theories of deviant behavior and of social disorganizations, with particular attention to certain specific problems of the contemporary period.
3 hours

Occupational Therapy 210 (a). An introduction to clinical kinesiology utilizing the essentians of gross anatomy, and the principles of biomechanics and neurophysiology as they apply to an integrated study of motor function under normal and pathological conditions. Techniques preparatory to the assessment of physical disability and the kinetic analysis of activities are explored.
2 lecture hours, 2 laboratory hours

Occupational Therapy 215. The theory and practice of occupational therapy emphasizing the techniques of kinetic analysis and disability assessment. Basic Tests and Measurements.
2 lecture hours, 2 laboratory hours

Anatomy 214. A lecture and laboratory dissection course with special emphasis on the nerves, muscles and skeletal system; demonstration lectures in organ anatomy. A short course in Neuroanatomy will be included.
2 lecture hours, 7 laboratory hours

THIRD YEAR

Psychiatry. An introduction to the clinical syndromes of psychiatry.
1 hour

Paediatrics (a). An introduction to clinical paediatrics.
1hour

Pathology (b). A brief description of general pathological processes enabling the student to comprehend the pathology of disease.
1hour

Medical and Surgical Lectures. Lectures and demonstrations emphasizing the aetiology, symptomatology and treatment of diseases, emphasizing those of particular interest to the occupational therapist.
3 hours

Occupational Therapy 312. Introduction to the analysis of occupational roles and occupational behavior.
1 lecture hour, 1 laboratory hour

Occupational Therapy 326. The theory and practice of occupational therapy as applied to paediatric conditions. Study of normal growth and development precedes consideration of childhood disorders, both congenital and acquired.
1 lecture hour, 2 laboratory hours,

Occupational Therapy 330. Theory and practice of occupational therapy as applied to medical and surgical conditions, including topics of special interest such as prosthetics and orthotics, proprioceptive neuro-muscular facilitation, and adaptive equipment.
1 lecture hour, 2 laboratory hours

Occupational Therapy 340. Theory and practice of occupational therapy as applied to psychiatric disorders, including an introduction to the psychological analysis of activity based on object relations; projective techniques; group dynamics; psychosomatic conditions; industrial therapy; mental retardation.
1 lecture hour, 2 laboratory hours

Occupational Therapy 350. Introduction to case method and techniques of problem solving in the clinical and non-clinical fields of occupational therapy.
2 lecture hours, 2 laboratory hours

Occupational Therapy 360. At the end of the third academic year, the student is required to spend four weeks becoming oriented to selected community and institutional programs in which occupational therapy may be practised. The placements are arranged and supervised by the faculty.
160 hours

FOURTH YEAR

Occupational Therapy 413. Lectures, laboratories and seminars in advanced theory and practice, including Analysis and Assessment of Occupational Roles and Behavior.
3 seminar hours, 5 laboratory hours

Occupational Therapy 451. Advanced study of and practice in case method and techniques of problem solving, including field placement.
5 seminar hours

Occupational Therapy 470. Studies of selected topics including Program planning, Administration, Ethics and Jurisprudence, Community Programs, Preventive Occupational Therapy, and techniques of providing consultation.
5 seminar hours

Occupational Therapy 490. A comprehensive report or study done by the student on some aspect of Occupational Therapy. The subject must be approved by the Program. One hour per week will be assigned for preparation, at which faculty members will be available for consultation.
1 hour

Abnormal Psychology 252. An introduction to psychopathology. General principles such as description and classification, development and dynamics, causation, evaluation, treatment, research design. Application of these principles to the analysis of the main syndromes of abnormal behavior.
4 hours

Psychiatry (a). Lectures emphasizing the background knowledge essential in the understanding of psychiatric cases and the various therapies.
Selective. To be approved by the Program.
3 hours

Occupational Psychology 363b. An appraisal of the relationship between human abilities and personality and occupational choice, performance and tenure.
Half course, second term.
4 hours (2lecture and 2 tutorial)

Note: The above outline of courses is subject to change.

REHABILITATION

POST–DIPLOMA PROGRAM

The course of study shall be determined by the Director, who shall appoint one advisor for each candidate.

Sociology 31
Psychology 271
Occupational Therapy 493 (1½ courses)
Occupational Therapy 495 (1½ courses)
Five full course electives from:
- Anatomy 214
- Anthropology 20
- Engineering Science 290
- Neuroanatomy 278 (½ course)
- Occupational Therapy 419 (1½ courses)
- Philosophy 44
- Psychology 221 (a) (½ course)
- Psychology 242
- Psychology 252
- Psychology 344 (a) (½ course)
- Psychology 353
- Psychology 363 (b) (½ course)
- Approved option

Occupational Therapy 419. Seminars on advanced topics in applied kinesiology with emphasis placed on implications for clinical practice in occupational therapy.

Occupational Therapy 493. Special studies in depth on selected topics of inquiry in an applied bioscience, behavioral science or clinical field related to occupational therapy.

Occupational Therapy 495. Thesis, incorporating the results of an investigation in an appropriate field, as approved by the candidate's advisor.

Anatomy 214-4. A lecture and laboratory dissection course with special emphasis on the nerves, muscles and skeletal system; demonstration lectures in organ anatomy. A short course in Neuroanatomy will be included.

Anthropology 20. Introduction to Anthropology. A survey of the basic concepts and teachings of Anthropology. Dicussion topics include: the orgin of man; origin and development of culture and social structure; nature of race; comparative study of such cultural institutions as language, art and religion; ethnology of a selected area.

Neuroanatomy 278. A summary of the gross, microscopic and functional anatomy of the brain and spinal cord of the human. A two-hour television demonstration is provided in lieu of laboratory periods.

Philosophy 44. Philosophy of the Social Sciences and the Philosophy of History. The first term of this course will be devoted to a philosophical examination of the structure and methodology of the social sciences, e.g. psychology and sociology. Special attention will be given to problems of functionalism, teleological explanation, and verification of social theories. The second term will be devoted to a critical examination of various theories of history and historical understanding. Emphasis will be given to problems of explanation, objectivity, chronicling, describing, predicting, etc.

Engineering 290.

Biological Basis of Behavior 221a. Structure and function of the nervous system in relation to behavior; an introduction to physiological psychology.

Developmental Psychology: Exceptional Children 242. Problems and methods in work with mentally deficient, brain-damaged, and emotionally disturbed children with emphasis on behavior abnormalities and behavior change techniques.

Abnormal Psychology 252. An introduction to psychopathology. General principles such as description and classification, development and dynamics, causation, evaluation, treatment, research design. Application of these principles to the analysis of the main syndromes of abnormal behavior.
4 hours

Social Psychology 271. An introduction to the theories, methods, findings and problems encountered in the study of man as a social being. Emphasis will be placed on laboratory and field research. Substantitve areas to be covered include the following: socialization, social factors in perceptual cognitive processes; attitudes, prejudice and propaganda; social influence; group dynamics; leadership; intergroup relations.

Developmental Psychology: Social and Emotional 344a. Consideration of processes of socialization in infants and young children. Topics may include analysis of infant-mother interaction systems, peer relations and imitation.

Tests and Measurements 353. Basic considerations in the measurement of human differences, the development and use of psychological tests and description and evaluation of typical measuring instruments. Discussion of persistent problems in the field of measurement.

Occupational Psychology 363b. An appraisal of the relationship between human abilities and personality and occupational choice, performance and tenure.

Program in Physical Therapy

ADMINISTRATION

Dean of Medicine:

Bocking, D., M.D., FRCP(C)

Director of Program in Physical Therapy:

Morgan, Miss S., DipP Toronto, MCPA, BA, Teacher's diploma in physiotherapy

MEMBERS OF THE FACULTY

Associate Professor

Morgan, Miss S., DipP Toronto, MCPA, B.A.

Assistant Professor

Egan, D.A., MCSP, DipP, MCPA, Teacher's Diploma in Physiotherapy

Lecturers

Edwardson, Miss B., MCSP, MCPA, Teacher's Diploma in Physiotherapy; BA (Pt) Manitoba

Grantham, P.W., MCSP, MCPA, Teacher's Diploma in Physiotherapy

Instructors

Cameron, Miss S., BA(PT) Manitoba; MCSP, MCPA

Gilroy, Miss J., DipTP Toronto; MCPA, Teacher's Diploma in Physiotherapy

MacRae, Mrs. A., MCSP, MCPA

Thiruchelvam, N., MCPA

Valentine, Mrs. P., MCSP, MCPA

Address:

Program in Physical Therapy
Room 1006, Dental Sciences Building
The University of Western Ontario
London 72, Canada
Telephone: 679-3789

Address after September 1, 1972:

Program in Physical Therapy
Room 028, University Hospital
London 72, Canada

PROGRAM IN PHYSICAL THERAPY

The Program in Physical Therapy offers a degree following three years of specialized instruction in the Faculty of Medicine, following one year of studies in the Faculties of Arts, Science or Social Science.

Fees

Each Year:

Payable at registration annually	$517.50
If paid in two instalments —	
Registration Day	$300.00
First Day of Second Term	$222.00

The fee includes Student Activity and Health Insurance fees totalling $54.

A $50 non-refundable tuition deposit is required of all freshmen students.

Other expenses over 3 years: Texts, uniforms, travel, instruments — $700.

Career Opportunities

Following internship, the graduate may work in a variety of settings, such as rehabilitation centres, industry, the Armed Forces, etc.

Regulations regarding work in Britain, the United States of America, or other countries may be obtained by writing to one of the following addresses:

The Canadian Physiotherapy Association
64 Avenue Road
Toronto 180, Ontario

The Chartered Society of Physiotherapy
14 Bedford Row
London W.C. 1, England

The American Physical Therapy Association
1156 15th St., N.W.
Washington, D.C. 20005

The World Confederation of Physical Therapy
Secretary General
Brigray House
20/22 Mortimer St.
London W.1, England

Admission Requirements

Completion of First Year university studies, the courses of which must include at least one in Psychology and at least two of Biology, Chemistry or Physics.

Admission will be based on:

(a) first year achievement — Minimum, overall "C" standing

(b) achievement in required courses — Minimum, overall "C" standing

(c) counselling: Before applying, prospective candidates are asked to consult the Program Director concerning personal suitability requirements.

Candidates are advised that enrollment in the program is limited, and that minimum achievement will not necessarily be adequate for admission.

Application forms are available from the Director of Admissions.

Final date for application to First Year university studies: July 1, 1972.

Final date for application to Physical Therapy Program: April 30, 1972.

Admission With Advanced Standing

Applicants eligible for membership in the Canadian Physiotherapy Association may be granted advanced standing of up to two years of the Four Year Program.

Summer Session courses in the Program will be offered for applicants with advanced standing.

Applications for admission with advanced standing for the Winter Session must be submitted to the Director of Admissions by April 30, 1972.

Applications for admission with advanced standing for the 1973 Summer Session must be submitted to the Director of Admissions by December 15, 1972.

REHABILITATION

Program of Study

SECOND YEAR

Anatomy 214-2
Neuroanatomy 278-2
Pathology 189-2
Physiology 101-2
Kinesitherapy 282-2
*Elective

Approximate hours: 30 per week.

Two weeks of hospital orientation in London Institutions in May following final examinations.

THIRD YEAR

Survey of Human Diseases 198-3
Electrotherapy 280-3
Kinesitherapy 282-3
*Elective
Clinical Physical Therapy
Approximate hours: 30 per week

FOURTH YEAR

Physical Therapy 277-4
Physical Therapy Paper 490-4
Physiology 442-201-4
Sociology 46
*Elective

Clinical Physical Therapy

Approximate hours: 30 per week.

NOTE: Above outline of courses is subject to change.

*Elective shall be selected after consultation with the Program Director.

Academic Regulations

Progression in the Program will be based on each year's achievement,

The minimum for which is:
an overall course average of "C", "C" in each of principal courses or physical therapy subjects, and satisfactory clinical performance;

80% attendance at lecture and laboratory courses as prescribed for the different years, such attendance to be attested by the Program Director before admission to examinations; 100% attendance in Hospital placements; Examination privileges may be cancelled for failure to meet any of the above requirements.

Tests, assignments and practical work, as well as performance in final examinations will constitute final mark in each course.

Examinations

Examinations may be oral, subjective, objective, or practical. The Fourth Year examinations in the professional subjects are designed to cover the whole three years' work, and to determine whether the student has sufficient general knowledge to become an effective Physical Therapist.

GRADING SCHEDULE

Key to Grades is as follows:

A — 80 — 100%
B — 70 — 79%
C — 60 — 69%
D — 50 — 59%
E — 40 — 49%
F — 0 — 39%

SUPPLEMENTAL EXAMINATIONS

The privilege of supplemental examinations in courses offered by the Program will be extended to students who obtain an overall average of at least 60% when failed subject is excluded from average.

Aegrotat standing may be granted only in the final year.

Privilege of deferred examination may be granted by the Program Director for illness or other reasons.

FAILED YEAR

Failure to obtain "C" standing average
Failure to obtain "C" standing in each principal course.
Unsatisfactory clinical performance.
Failure in two or more subjects.

Description of Courses

SECOND YEAR

Anatomy 214-2. A lecture and laboratory dissection course with special emphasis on the nerves, muscles and skeletal system; demonstration lectures in organ anatomy.

Neuroanatomy 278-2. A descriptive course of the gross anatomy of the central nervous system with demonstrations of prepared specimens.

Pathology 189-2. *Introductory course.*

Physiology 101-2. A lecture and laboratory course designed to enable the student to understand the normal human physiology.

Kinesitherapy 282-2. An introduction to the underlying theories of posture, movement and exercise, as related to the normal and abnormal. Practice is gained in the application of massage, movement and exercise, and in general patient management. Includes patient evaluation which closely follows anatomy lectures, and trains the student in observing and recording normal muscle action, joint movement, sensation and function, as a preparation for assessment of disability.

THIRD YEAR

Survey of Human Diseases 198-3. Lectures and demonstrations of disease, emphasizing those which may benefit from Physical Therapy techniques.

Electrotherapy 280-3. A study of the production, effects and uses of electrical energy. Demonstration and practice in the application of various forms of electrical energy, heat and cold.

Kinesitherapy 282-3. Physical Therapy and Rehabilitation aspects of conditions described in Survey of Human Diseases. Various forms of exercise as therapeutic measures.

Clinical Physical Therapy. Practical experience through observation and practice, under supervision, of the methods used in evaluating and treating patients in the hospital situation.

FOURTH YEAR

Physical Therapy 277-4. Studies in more specialized areas of Physical Therapy; discussion of problems of administration, research and continuing education; sessions pertaining to the total field of Medical Rehabilitation.

Physical Therapy Paper 490-4. A comprehensive report or study done by the student on some aspect of Physical Therapy.

Physiology 201-4. Further studies in Physiology of Exercise and Neurophysiology.

Sociology 46. Study of the sociological nature of health and illness, medical establishments and professional roles.

Clinical Physical Therapy. *The student will be given increasing* responsibility in more difficult areas for evaluating his patient, planning the program and carrying out the treatment in both hospital and home.

Interning

(a) In addition to the supervised work in the hospital setting during the Program, the student must also fulfill the requirements of a further four-month internship to be acceptable for licensing.

(b) A small stipend is paid the intern during this period.

(c) Following internship, the graduate is eligible for membership in the Canadian Physiotherapy Association and for provincial licensing.



Faculty of Music

Faculty of Music

Deans and Administration

Dean of the Faculty and Professor

Clifford von Kuster, LRCT Toronto, MusBac Toronto

Associate Dean and Professor

Donald A. McKellar, ARCT Toronto, AMus London, Ontario, MusBac Toronto, MM Eastman

Administrative Officer and Secretary to the Dean

Mrs. Marjorie Thomas, BA

Administrative Assistants

Eric A. Cosgrove

Secretary to the Associate Dean

Mrs. Erlene Prevett

Departmental Secretaries

Mrs. Marietta Dodds, BHSc

Mrs. Marjorie Semple, BA

Mrs. Gwen Willison

Address for Correspondence

All inquiries regarding the Faculty of Music should be directed to: The Dean of the Faculty of Music, The University of Western Ontario, London 72, Canada.

Department of Applied Music and Performance

Associate Professor and Department Chairmann

John S. McIntosh, ARCT Toronto, AAGO New York, MusBac Toronto, MM Eastman

PIANO

Professor

Clifford von Kuster, LRCT Toronto, MusBac Toronto

Assistant Professor

Damiana Bratuz, Master's Diploma in Piano (Trieste), MM St. Louis, MusDoc Indiana

Howard Munn

Lecturer

John-Paul Bracey, BM Converse, MM Eastman

Instructor

Pauline Aldrich, LTCL Trinity, LRSM Royal Schools, London England, Premier Prix, Luxembourg

Gwen Beamish

Patricia Giron, BMus Oberlin

Marian MacLennan, RCAD (Artist's Diploma) Toronto, BA (UWO)

Antonia Mazan, LMus, London, Ontario, Gradute of Vienna Academy, BA (UWO)

Lesley Munn, BMus Philadelphia Conservatory of Music

Sheila Ryerse

Sandra Weaver, BM, MM Indiana

CLASS PIANO

Lecturer

John-Paul Bracey, BM Converse, MM Eastman

Instructor

Kathryn Baker, ARCT Toronto, AMus London, Ontario, MusBac (UWO), MM Eastman

ORGAN

Associate Professor

John S. McIntosh, ARCT Toronto, AAGO New York, MusBac Toronto, MM Eastman

Lecturer

Larry Cortner, MusBac Oberlin, MM Eastman

HARP

Instructor

Maria Lorcini

STRINGS

Visiting Professor

Tsuyoshi Tsutsumi, Graduate of To Ho Conservatory, Tokyo, Artist Diploma, Indiana (Violoncello)

Associate Professor

Ralph Aldrich, LRSM, LGSM, London, England, MusBac Victoria, Wellington, N.Z. (Viola)

Assistant Professor

Hermon C. Dilmore, BM, MM Eastman (String Classes)

Robert A. Skelton, ARCT TORONTO, MusBac Toronto, MM Indiana (Violin)

Lecturer

Gwen Thompson (Violin)

Instructor

Mary Evens (Violoncello)

Sandra Stark (Violin)

Jeffrey Stokes, BM Eastman (Double bass)

WOODWIND

Associate Professor

Kenneth I. Bray, MusBac Toronto, MM Eastman (Bassoon)

Assistant Professor

Robert Riseling, BMEd Illinois Wesleyan, MM Texas (Clarinet)

George VanOstrand, BSc State University of New York, MM, DMA Eastman (Clarinet)

Instructor

Laura Jaeger, BM Indiana (Oboe)

Gabor Janota (Woodwind Consultant)

G. J. Meyer, Graduate of Royal Conservatory, Amsterdam (Flute)

Philip Murphy, BA, MusGPaed (UWO) (Clarinet)

Ray Sealey (Classical Guitar)

Leola Wilkins (Flute)

BRASS

Assistant Professor

Stephen Seiffert, BM Eastman, MA Brown, DMA Eastman (French horn)

Lecturer

Charles Dalkert, BM Illinois Wesleyan, MM Eastman (Trombone)

A. James Ford, (Trumpet)

Instructor

Joan Clarke, MusBac Toronto (Trumpet)

PERCUSSION

Assistant Professor

Robert Hughes, MusBac, BEd, MM Toronto

MUSIC

VOICE

Professor

Alfred Rose, BA (UWO)

Associate Professor

Deral J. Johnson, BA Sterling, Kansas, MA Colorado

James A. Stark, BA Minnesota, MusM Toronto

Assistant Professor

Karin Pendle, BA Minnesota, MM, PhD Illinois

Instructor

Mary Ellen Gustafson

CONDUCTING

Professor

Donald A. McKellar, ARCT Toronto, AMus London, Ontario, MusBac Toronto, MM Eastman

Associate Professor

Deral J. Johnson, BA Sterling, Kansas, MA Colorado

Assistant Professorr

Hermon C. Dilmore, BM, MM Eastman

Instructor

Clifford Evens

Department of Music Education

Associate Professor and Department Chairman

J. Paul Green, ARCT Toronto, MusBac Toronto, MM Eastman

Visting Professor

Ilona Bartalus, Graduate of Franz Liszt Academy of Music (MA of Music) Budapest

Professor

Donald A. McKellar, ARCT Toronto, AMus London, Ontario, MusBac Toronto, MM Eastman

Associate Professor

Ralph Aldrich, LRSM, LGSM London, England, MusBac Victoria, Wellington, N.Z.

Kenneth I. Bray, MusBac Toronto, MM Eastman

Deral J. Johnson, BA Sterling, Kansas, MA Colorado

Assistant Professor

Hermon C. Dilmore, BM, MM Eastman

Robert Hughes, MusBac, BEd, MM Toronto

Robert A. Skleton, ARCT Toronto, MusBac Toronto, MM Indiana

Earle Terry, BA, BPaed Toronto, MMus Montreal

George VanOstrand, BSc State University of New York, MM, DMA Eastman

Lecturer

Charles Dalkert, BM Illinois Wesleyan, MM Eastman

A. James Ford

Instructor

Laura Jaeger, BM Indiana

Jeffrey Stokes, BM Eastman

Department of Music History

Professor and Department Chairman

Gordon K. Greene, AMus, BA, BEd, MA Alberta, PhD Indiana

Professor

Alfred Rose, BA (UWO)

Associate Professor

Philip G. Downs, BA Leeds, England, MusM, PhD Toronto

James A. Stark, BA Minnesota, MusM Toronto

Assistant Professor

Karin Pendle, BA Minnesota, MM, PhD Illinois

Stephen Seiffert, BM Eastman, MA Brown, DMA Eastman

Lecturer

Roger Gustafson, BM Oberlin, MA Kent State, MA (Musicology) Michigan State

Instructor

Jeffrey Stokes, BM Eastman

Department of Musical Theory and Composition

Associate Professor and Department Chairman

Carl F. Haenselman, BMusEd, MMus Colorado, PhD Indiana

Visiting Professor

Ilona Bartalus, Graduate of Franz Liszt Academy of Music (MA of Music) Budapest

Associate Professor

Ralph Aldrich, LRSM, LGSM London, England, MusBac Victoria, Wellington, N.Z.

Kenneth I. Bray, MusBac Toronto, MM Eastman

Assistant Professor

Peter J. Clements, MusBac, MM Michigan

Alfred J. Fisher, BM Boston University, MM Michigan State

Arsenio Giron, BMus Oberlin, MA Tulane

Robert Hughes, MusBac, BEd, MM Toronto

Robert Riseling, BMEd Illinois Wesleyan, MM Texas

Lecturer

Jean M. Anderson, LRAM Royal Academy, London, England, BM Nottingham, MM Eastman

Larry Cortner, MusBac Oberlin, MM Eastman

Instructor

Kathryn Baker, ARCT Toronto, AMus London, Ontario, MusBac (UWO) MM Eastman

Laura Jaeger, BM Indiana

Michael Longton, ARCT Toronto, LTCL Trinity, London, England, BMus, MMus British Columbia

Jeffrey Stokes, BM Eastman

Malcolm Wechsler, BSc, MSc Juilliard



The Library

The music library is a divisional/professional library of the University of Western Ontario Libraries. It is staffed by four full-time professional librarians and six full-time library assistants, together with a varying number of part-time student assistants.

The collection presently totals 88,000 items. Of this total, 37,500 items are housed together and are comprised of books, bound periodicals, scores and/or parts, records, tapes, and microforms. The other 50,500 items form a separate but adjoining library comprised of choral, band, and orchestral scores and parts. This library is called the "Choral/Band/Orchestral Music Library." In addition, the library currently subscribes to 300 periodicals.

Study and listening facilities will accommodate a total of 76 persons. Other equipment includes three microform readers and a photocopier.

Librarian in Charge

Larry C. Lewis, AMus London, Ontario, BA (UWO), BLS Toronto

Librarians

Cheryl E. Osborn, BA Victoria, BLS British Columbia

K. Linda Ward, AMus London, Ontario, BA, MLS (UWO)

Merwin D. Lewis, BA Kalamazoo College, MM, MLS Indiana

Instruments

The Faculty of Music has a large collection of string, woodwind and brass instruments for use by students in minor wind and string classes. A collection of historical instruments, for use in the Collegium Musicum performances, has been started with the acquisition of members of the viola da gamba family, and recorders. Two-manual harpsichords, by Challis and Sassmann; two Kney practice organs, a Wilhelm chamber organ and a Casavant studio organ are also a part of this growing collection.

Performing Organizations

A number of musical ensembles are under the supervision of the Faculty of Music.

Faculty of Music Concert Choir

This ensemble of about 70 mixed voices performs the major choral literature.

Faculty of Music Singers

This ensemble of about 35 mixed voices performs choral literature from all periods in history.

Collegium Musicum

A small ensemble of mixed voices and instrumentalists who study the performance practices of Medieval, Renaissance and early Baroque music through performance.

University of Western Ontario Orchestra

This orchestra functions as a Faculty of Music ensemble for instrumental majors, and is open, by audition, to students from all university faculties. It performs the major symphonic literature.

University Symphonic Band

One of the most active ensembles on campus, this group is for instrumental majors and is open, by audition, to students from all university faculties. Its repertoire ranges widely and includes major works for symphonic band.

University of Western Ontario Choir

This is an interfaculty mixed choir of about 80 members whose activities are closely allied to the Faculty of Music program.

Chamber Ensembles

Experience in chamber literature is provided in a variety of trio, quartet and quintet ensembles.

MUSIC

General Information

The Faculty of Music offers programs leading to the following degrees:

1. Bachelor of Music with Honors in one of (1) Music Education; (2) Performance — Piano, Voice, Organ & Church Music, or Orchestral Instrument; (3) Theory & Composition; (4) Music History.
2. Bachelor of Arts with Honors Music.
3. Bachelor of Arts with Music Options.
4. Bachelor of Musical Arts.
5. Masters Degree (see pages and)

REQUIREMENTS FOR ADMISSION TO ALL PROGRAMS

I. Academic Requirements

Five Grade 13 credits other than Music, one of which must be English, or six Grade 13 credits including Grade 13 Music.

II. Music Requirements

Satisfactory results in an audition to be held at the Faculty of Music, by appointment in writing. Auditions, Piano Proficiency examinations, General Musicianship tests and interviews will be held during the following periods in 1972:

February 21 to 25, March 20 to 24, March 27 to 31, May 8 to 12, May 15 to 19, June 19 to 23. All dates inclusive.

To ensure early acceptance, applicants should plan to complete the audition not later than March 31, 1972.

(a) Principal Instrument

Applicants must demonstrate a performance level of at least Conservatory Grade VIII standard in a performance area. The audition includes the performance of two or three pieces of contrasting styles of at least a Grade VIII level of difficulty, some scales and other technical exercises, and sight reading. Pieces need not be memorized.

(b) Piano Proficiency

Students whose principal instrument is other than piano are required, in addition to the audition, to try a piano proficiency examination. Candidates who are unable to pass this examination will register for Class Piano until this requirement is met. The examination will include scales, chords and arpeggios in major and minor keys, simple chord progressions, harmonization of a melody, simple transposition, sight reading and the performance of pieces of approximately the Conservatory Grade VI level of difficulty.

(c) General Musicianship

The General Musicianship test measures the applicant's aural aptitudes and knowledge of music rudiments. Proficiency beyond Conservatory Grade II Theory and Grade III Harmony, or Ontario Grade 13 Music, would be helpful to students in this portion of the audition.

Honors in Music Education

Students planning to teach music in the secondary schools should enrol in the Honors Music Education (Secondary) program in second year.

Those planning to teach music in the elementary schools should enrol in the Honors Music Education (Elementary) program in second year.

The Bachelor of Music in Music Education meets the requirements of the Ontario Department of Education circular 649, and leads to the Type A certificate in instrumental and vocal music.

On application, all other Bachelor of Music programs will be evaluated by the Registrars of the Ontario Colleges of Education for admission to the Type A or Type B programs for secondary school teaching. Students who may decide to enter school music teaching upon graduation are advised to include all the choral technique courses in their program.

Extra Courses

Permission to take an extra full or half course must be obtained in writing from the Dean of the Faculty of Music.

A student must maintain an A average in music subjects in order to be considered eligible for the study of more than one principal instrument.

HONORS PROGRAMS — ADMISSION TO SECOND AND SUBSEQUENT YEARS

A student will be automatically accepted if he has an average of at least 70 percent with no grade of less than 60 percent in the music courses. He must also have a passing grade in each of the courses listed as subsidiary courses by the Department(s) concerned.

A student with an average of 60 to 69 percent in the principal courses of his Honors Program, and a passing grade in each of the subsidiary courses, may be accepted by special permission of the Department(s) concerned.

BACHELOR DEGREE PROGRAMS

These are four-year Honors and three-year General Programs. All students will be enrolled in a common first year. At the beginning of the second year each student will choose an area of concentration and will enrol in one of the five honors programs or two general programs.

Before graduation all students who elect a four-year Honors Program must reach a minimum of the Associate level in performance in their applied principal instrument. Honors in Performance candidates must be well above this level and, in addition, must present a public recital in their final year. All students are encouraged to perform on student recital programs.

Students who elect the Bachelor of Arts with Music Options Program must reach a minimum of Grade X level of performance although students who are able will be encouraged to reach the Associate level.

Students who elect the Bachelor of Musical Arts Program must attain one of the following:

Grade X level on Orchestral Instrument or Voice with Grade VIII level piano;

OR

Grade X level piano with Grade VIII level Voice

OR

Associate level, any instrument, with Grade VI level piano.

A minimum of two years must be devoted to Applied Music.

Common First Year

Since few music students have sufficient knowledge of music on entrance to University to choose wisely the path that best suits their individual abilities and talents, and since the same basic core of knowledge is necessary to all musicians whatever area of the field they may ultimately enter, we have designed a common first year. It is felt that by the end of the freshman year the student should be better equipped to decide upon the area of specialization.

	Hours
21. Applied Principal Instrument	1
24. Instrumental Music	1
25. Theory	5
26. Music History	3
27. Choral Technique	1
28. Ensemble (See page)	
117. Brass and Woodwind Class (For prospective Music Education [Secondary] majors only)	1
Class Piano (if required)	
English 20, 24 or 26	3
One other course from the Faculties of Arts, Science or Social Science (Those intending to major in Honors Music History or Honors in Performance with a major in Voice must take a language other than English)	2 to 3
Total Hours	16 to 18



MUSIC

HONORS IN MUSIC EDUCATION (SECONDARY)

Second Year

217. Brass and Woodwind Class	1
231. Applied Principal Instrument	1
232. Music Education Ensemble	1
235. Theory	5
236. Music History	3
237. Choral Technique	1
238. Ensemble (See page)	
247. String Class	1
Class Piano (if required)	
Any senior English course	2 to 3
One course from the Faculties of Arts, Science or Social Sciences	2 to 3
Total Hours	17 to 19

Third Year

317. Brass and Woodwind Class	1
332. Music Education Ensemble	1
337. Choral Technique	1
341. Applied Principal Instrument	1
342. Conducting	1
347. String Class	1
348. Ensemble (See page)	
350. Music Education Seminar	1
Two music electives, one to be chosen from music history or theory area	4 to 6
Physics 33	3
One course from the Faculty of Arts, Science or Social Science	2 to 3
Total Hours	16 to 19

Fourth Year

432. Music Education Ensemble	1
437. Choral Methods and Materials	2
442. Conducting	1
449. Comparative Studies in Music Education	2
450. Music Education Seminar	2
451. Applied Principal Instrument	1
455. Orchestration	2
458. Ensemble (See page)	
One of the following two combinatons:	
417. Brass and Woodwind Class	1
and	
467. Percussion Class (Prerequisite 317)	½
or	
447. String Class	1
and	
447A. Music Education String Repertoire (Prerequisite 347)	1
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	14½ to 16

HONORS IN PERFORMANCE WITH A MAJOR IN PIANO

For admission to this Program, applicants must demonstrate a performance level of at least a Conservatory Grade X standard in piano, as well as evidence of exceptional performing ability, in addition to the requirements listed on page

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
238. Ensemble (See page)	
Any senior English course	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	13 to 15

Third Year

341. Applied Principal Instrument	1
348. Ensemble (See page)	
354 (P). Piano Literature	1
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	10 to 14

Fourth Year

417. Brass and Woodwind Class	1
432. Music Education Ensemble	1
437. Choral Methods and Materials	2
442. Conducting	1
447. String Class	1
447A. Music Education String Repertoire	1
450. Music Education Seminar	2
451. Applied Principal Instrument	1
455. Orchestration	2
458. Ensemble (See page)	
467. Percussion Class	1/2
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	14 1/2 to 15 1/2

HONORS IN MUSIC EDUCATION (ELEMENTARY)

Second Year

229. The Child Voice	1
231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
237. Choral Technique	1
238. Ensemble (See page)	
One of:	
217. Brass and Woodwind Class (Prerequisite 117)	1
or	
247. String Class	1
Class piano (if required)	
Physics 33	3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	17 to 18

Third Year

332. Music Education Ensemble	1
337. Choral Technique	1
339. Communication in Music (Prerequisite 229)	2
341. Applied Principal Instrument	1
342. Conducting	1
348. Ensemble (See page)	
One of:	
317. Brass and Woodwind Class (Prerequisite 217)	1
347. String Class (Prerequisite 247)	1
350. Music Education Seminar	1
Two music electives, one to be chosen from music history or theory area	4 to 6
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	14 to 17

Fourth Year

451P. Applied Principal Instrument (1 hour individual lesson) (1 hour class lesson)	2
453. Piano Pedagogy	1
458. Ensemble (See page)	
One music elective	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	7 to 9

HONORS IN PERFORMANCE WITH A MAJOR IN VOICE

For admission to this Program, applicants must demonstrate a performance level of at least a Conservatory Grade X standard in voice, as well as evidence of exceptional performing ability, in addition to the requirements listed on page

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
238. Ensemble (See page)	
Class Piano (if required)	
One course from the Faculties of Arts, Science or Social Science	2 to 3
One language course other than English	2 to 3
Total Hours	13 to 15

Third Year

341. Applied Principal Instrument	1
348. Ensemble (See page)	
352. Music History Seminar	2
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	11 to 15

Fourth Year

451P. Applied Principal Instrument (1 hour individual lesson) (1 hour class lesson)	2
452. Music History Seminar	2
453. Vocal Pedagogy	1
458. Ensemble (See page)	
One music elective	2 to 3
One course from the faculties of Arts, Science or Social Science	2 to 3
Total Hours	9 to 11

HONORS IN PERFORMANCE WITH A MAJOR IN ORGAN AND CHURCH MUSIC

For admission to this Program, applicants must demonstrate a performance level of at least a Conservatory Grade X standard in organ, as well as evidence of exceptional performing ability, in addition to the requirements listed on page

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
237. Choral Technique	1
238. Ensemble (See page)	
Class Piano (if required)	
Any senior English course	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	14 to 16

Third Year

337. Choral Technique	1
341. Applied Principal Instrument	1
348. Ensemble (See page)	
353. Church Music	1
354(0). Organ Literature	1
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	12 to 16

Fourth Year

437. Choral Methods and Materials	2
451P. Applied Principal Instrument (1 hour individual lesson) (1 hour class lesson)	2
453. Organ Pedagogy	1
458. Ensemble (See page)	
463. Church Music	2
One music elective	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	11 to 13

MUSIC

HONORS IN PERFORMANCE WITH A MAJOR IN ORCHESTRAL INSTRUMENT

For admission to this Program, applicants must demonstrate a performance level of at least a Conservatory Grade X standard in the orchestral instrument, as well as evidence of exceptional performing ability, in addition to the requirements listed on page

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
238. Ensemble (See page)	
252. Music History Seminar	2
Class Piano (if required)	
One course from the Faculties of Arts, Science or Social Science	2 to 3
One language course other than English	2 to 3
Total Hours	15 to 17

Third Year

Music 341. Applied Principal Instrument	1
342. Conducting	1
348. Ensemble (See page)	
Two courses from the Music Theory area	5 to 6
Physics 33	3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total hours	12 to 14

Fourth Year

Music 451. Applied Principal Instrument	1
458. Ensemble (See page)	
Two courses from the Music Theory area	5 to 6
One music elective from the Music History area	2
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total hours	10 to 12

HONORS IN THEORY AND COMPOSITION

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
238. Ensemble (See page)	
239. Composition	2
Class Piano (if required)	
Any senior English course	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	15 to 17

Third Year

Music 341. Applied Principal Instrument	1
348. Ensemble (See page)	
Three music electives, two from the Music History area	6 to 7
Two courses from the Faculties of Arts, Science or Social Science. (One of which should be general political and economic history)	4 to 6
Total hours	11 to 14

Fourth Year

451. Applied Principal Instrument	1
452. Music History Seminar	2
458. Ensemble (See page)	
One Music History elective	2
One other music elective	2 to 3
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	11 to 14

HONORS IN MUSIC HISTORY

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
238. Ensemble (See page)	
Class Piano (if required)	
Any senior English course	2 to 3
One course from Faculties of Arts, Science or Social Science	2 to 3
Total Hours	13 to 15

Third Year

341. Applied Principal Instrument	1
348. Ensemble (See page)	
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	9 to 13

Fourth Year

451P. Applied Principal Instrument (1 hour individual lesson)	
(1 hour class lesson)	2
453. Pedagogy	1
458. Ensemble (See page)	
One music elective	2 to 3
One course from the Faculties of Arts, Science or Social Science	2 to 3
Total Hours	7 to 9

BACHELOR OF ARTS WITH HONORS MUSIC

Second Year

231. Applied Principal Instrument	1
235. Theory	5
236. Music History	3
237. Choral Technique	1
238. Ensemble (See page)	
Class Piano (if required)	
Three courses from the Faculties of Arts, Science or Social Science	6 to 9
Total Hours	16 to 19

Third Year

Music 337. Choral Technique	1
341. Applied Principal Instrument	1
348. Ensemble (See page)	
Three music electives, two from the Theory or Music History areas	6 to 9
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total hours	12 to 17

Fourth Year

437. Choral Methods and Materials	2
451. Applied Principal Instrument	1
458. Ensemble (See page)	
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	11 to 15

BACHELOR OF ARTS WITH MUSIC OPTIONS

Second Year

31. Applied Principal Instrument	1
35. Theory	5
36. Music History	3
37. Choral Technique	1
38. Ensemble (See page)	
Class Piano (if required)	
Three courses from the Faculties of Arts, Science or Social Science	6 to 9
Total Hours	16 to 19

Third Year

41. Applied Principal Instrument	1
47. Choral Methods and Materials	2
Two music electives	4 to 6
Three courses from the Faculties of Arts, Science or Social Science	6 to 9
Total Hours	13 to 18

BACHELOR OF MUSICAL ARTS

Second Year

29. The Child Voice	1
31. Applied Principal Instrument	1
35. Theory	5
36. Music History	3
37. Choral Technique	1
38. Ensemble (See page)	
One of:	
217. Brass and Woodwind Class	1
or	
247. String Class	1
Class Piano (if required)	
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	16 to 18

Third Year

39. Communication in Music	2
41. Applied Principal Instrument (If graduation requirements have not been completed)	1
42. Conducting	1
47. Choral Methods and Materials	2
49. Comparative Studies in Music Education	2
50. Music Education Seminar	1
One of 317. Brass and Woodwind Class (Prerequisite 217)	1
or	
347. String Class (Prerequisite 247)	1
Two music electives	4 to 6
Two courses from the Faculties of Arts, Science or Social Science	4 to 6
Total Hours	17 to 22

Master's Degrees in Music

Master of Music (Mus.M)

Master of Arts in Musicology (M.A.)

Areas of Concentration

The Master of Music degree is offered in the field of Music Theory, Music Education, Composition, and in Music Literature and Performance. The Master of Arts degree is offered in Musicology.

Admission: A candidate must be a graduate of an accredited university or hold equivalent qualifications, including an Honors degree (Bachelor of Music) or its equivalent with at least a B average. Students who have taken a Pass degree (three year) program may be admitted conditionally, but they must complete a Prerequsite year before being admitted to candidacy or must demonstrate exceptional competence beyond the Pass degree on entrance examinations and auditions. A student shall be recommended for candidacy when all admission requirements have been met.

Entrance Examinations: All prospective graduate students shall be required to take a number of examinations which serve as placement tests. These examinations are given at various times during the year and must be taken prior to registration. Deficiencies that become apparent as a result of these examinations must be removed at the earliest opportunity through approved courses or re-examination. A student will be presumed to be deficient in any area in which he does not take the entrance examination.

Students should achieve an A on the entrance examination in their chosen area of specialty, and not less than B in the other areas. Deficiency courses may not be used as a means of improving the academic average to meet the minimum level for admission to candidacy.

Entrance examinations will be given in the areas of Music Theory, Music History, Piano Proficiency, and in the student's Applied Music area (piano, voice, violin, etc). The content of these examinations may be obtained by writing to the Dean of the Faculty of Music.

Special Prerequisites: A course in Acoustics and undergraduate training in Orchestration is required of candidates pursuing the degree in Music Theory. Knowledge of German is required of candidates in Musicology.

Students concentrating in Music Education must have completed two years of classroom teaching. This prerequisite does not apply to all courses but it does apply to the Music Education Seminar and Thesis.

Candidates in Composition must submit scores of their recent compositions and have them accepted by the Graduate Music Faculty.

Candidates in the areas of Literature and Performance must demonstrate in their audition a level of performing ability comparable to an A standard of the final undergraduate year before being admitted to candidacy.

MUSIC

Language Requirements: Before being admitted, all candidates must demonstrate competence in the English language. In certain programs, a student must also have a reading knowledge of at least one language other than English which is acceptable to the student's department and is useful in his research. If a student is not able to meet the foreign language requirement at the time of his application for admission, he may be allowed to pursue some graduate courses while he is gaining language competence.

Musicology majors will be required to obtain a reading knowledge of German and any other language necessary for the student's research.

Voice majors, in addition to obtaining a reading knowledge of one language other than English, must satisfy the Graduate Committee of the Faculty of Music that they have facility in the pronunciation of German, French, and Italian before graduating. In the Music Education program, the foreign language requirements may be waived depending on the nature of the student's research. This will be done only on the recommendation of the student's faculty adviser and with the approval of the Professional Degree Committee for Music.

Period of Study: Candidates shall be required to spend at least two terms of each academic year in residence, and to complete the program within five years. Students must register for each session during which they plan to use any university facilities, and must register in the session during thich they plan to complete their degree program.

The minimum time in which the requirements can be completed is one full year (three terms), but the actual duration will depend upon the proposed course of study. Candidates who undertake remunerative employment must be prepared o spend additional time. When a deficiency in any area is indicated by the entrance examinations, the student must plan to devote more than one academic year to complete the program.

Course of Study: The course of study shall be initially proposed by the student's adviser and the chairman of the department in which the candidate is working and shall be approved by the Graduate Music Committee. For each candidate, the Graduate Music Committee shall appoint at least one adviser.

The program of study normally involves five courses (fifteen hours) and a thesis. The suggested content of the study program in each of the areas of concentration may be obtained from the Dean of the Faculty of Music.

Participation in Ensemble is required of all students majoring in Literature and Performance and is recommended for all students.

Thesis and Document: A thesis incorporating the results of an investigation in the field of the student's major area is required of all candidates in Music Theory, Musicology, Music Education, and Composition. Students working toward a Master of Music in Literature and Performance will present a document following the procedure laid down for theses. The regulations of the Faculty of Graduate Studies will be followed concerning the preparation and presentation of the thesis and document and the make-up of the examining board that conducts the oral examination on the thesis or document.

Examinations: Oral or written examinations on course work, as well as a comprehensive examination, may be required. Notice of the type of any examination required shall be given by the chairman of the department to the candidate at least two months before the date on which the examination is to be held.

A final oral examination on the thesis or document will be conducted under the supervision of the Professional Degree Committee in Music, which will appoint a chairman and an examining board. The board will consist of a chairman and at least three examiners, at least one of whom will be from another department, school or faculty. At the discretion of the department, a student who has been permitted to substitute additional course work for a thesis may be required to pass an oral comprehensive examination conducted by a similar examining board.

The chairman of the department, in consultation with the chairman of the appropriate Committee on Graduate Studies, may request that a thesis be read by an external examiner.

The candidate's chief adviser will attend the examination but may not question the candidate except with the permission of the chairman. Any other members of the Faculty of Graduate Studies may attend and participate in the examination, but only members of the examining board shall vote on the approval of the candidate. To be successful, a candidate must be approved by a majority of the examining board.

1971-72 placement examinations will be held at the Faculty of Music on January 10, 11, 1972 and June 26, 27, 1972.

COURSES

***530. Music Bibliography and Research Techniques**
***582. Research Tutorial**

Theory and Composition

501. Theory Review I for Graduates (no credit)
502. Theory Review II for Graduates (no credit)
510. History and Pedagogy of Theory
***512. Advanced Orchestration**
514. Analytic Techniques
***516a. 16th Century Stylistic Counterpoint**
***516b. 18th Century Stylistic Counterpoint**
***516c. 20th Century Counterpoint**
518. Composition
591. Mus. M. Thesis
594. Mus. M. Composition Thesis

Music Education

***570. Advanced Conducting**
***572. Advanced Brass Techniques**
***574. Advanced Woodwind Techniques**
***576. Advanced Choral Techniques**
***578. Advanced String Techniques**
580. Music Education Seminar

Performance

509. Applied Music
513. Phonetics for Singers (no credit)
***545. Seminar in the Interpretation of Music Styles**
592. Document for Mus. M. in Performance
593. Mus. M. Recital

Musicology and Literature

503. Survey of Music History I for Graduates (no credit)
504. Survey of Music History II for Graduates (no credit)
534. Music Notation
536. Seminar in Medieval and Renaissance Music
538. Seminar in Baroque Music
540. Seminar in Pre-Classic and Classic Music
542. Seminar in Twentieth Century Music
544. Performance Practices in Early Music
***545. Seminar in the Interpretation of Musical Styles**
546. Beethoven
***548. History in Music Criticism**
550. Verdi and Wagner
552. Studies in Gregorian Chant
554. From Symphony to Symphonic Poem
556. Schoenberg and His School
557. Art Song
***558a. Keyboard Literature to 1700**
***558b. Keyboard Literature from Bach to Beethoven**
***558c. Piano Literature of the 19th Century**
***560a. Seminar in Choral Literature**
***560b. Seminar in Choral Literature**
562. Bach and Handel
***564. History in Vocal Art**
590. M. A. Thesis

***Half Course**

Description of Courses

THEORY AND COMPOSITION

25. Theoretical Studies: Analysis, sight-singing, dictation and written harmony based on triads, dominant seventh chords and their inversions. Rhythmic reading and dictation, modulation. Keyboard harmony.
Five hours

35, 235. Theoretical Studies: Continuation of Music 25. Analysis, sight-singing, dictation and writing using diatonic seventh chords, chromatic harmony, extended modulation, formal analysis, post-Romantic developments and an introduction to twentieth century style.
Prerequisite: Music 25
Five hours

239. Composition: An introductory course in composition including analysis of widely divergent works in the literature. Students will write compositions for voices and instruments.
Two hours

45, 345. Counterpoint: First Term — The contrapuntal style of the sixteenth century, including analysis of works of Palestrina and Lassus. Writing in two, three and four parts. Second term — The contrapuntal techniques of the eighteenth century, including analysis of works of Bach and his contemporaries. Writing in two, three and four parts.
Prerequisite: Music 35 or 235
Three hours

349, 459. Composition: Works in the larger forms for solo instruments and chamber ensembles. Continuation of analysis with an emphasis on twentieth century literature. Third and fourth year students will be expected to have several works completed during the year
Prerequisite: Music 239
(Music 349 is prerequisite to Music 459)
Three hours

365. Twentieth Century Techniques: Compositional techniques in National Schools, neo-Baroque, neo-Classicism, dodecaphonic composers, and recent developments in aleatoric, computer and electronic synthesizer applications.
Prerequisite: Music 35 or 235
Three hours

455. Orchestration: Instruments of the orchestra — tone-colors, transpositions. Practical scoring for individual choirs, chamber orchestra and full orchestra, choir, and symphonic band.
Prerequisite: Music 35 or 235
Two hours

HISTORY AND LITERATURE OF MUSIC

26. Music History. A study of the history and literature of music up to 1750. The first half of a two year survey.
Three hours

36, 236. Music History II. a continuation of the survey to the present time.
Prerequisite: Music 26
Three hours

306. History of Ancient, Medieval and Renaissance Music. A seminar on music to circa 1600.
Prerequisite: Music 36, 236 or equivalent
Two hours

316. History of Music in the Baroque Era. A seminar on music from approximately 1600 to 1750.
Prerequisite: Music 36 or 236
Two hours

326. History of the Symphony. A seminar on music composed for orchestra from the pre-Classic through the Romantic era.
Prerequisite: Music 36 or 236.
Two hours

336. History of Chamber Music. A seminar on music composed for chamber ensembles from the sixteenth century to the present time.
Prerequisite: Music 36 or 236
Two hours

346. History of Music in the Romantic Era. A seminar on music of the nineteenth century.
Prerequisite: Music 36 or 236
Two hours

346A. History of the Art Song and Oratorio. A seminar devoted to the study of the literature of song and oratorio.
Prerequisite: Music 36 or 236
Two hours

354(P). Piano Literature. A study of the literature for solo piano. For piano majors in the third year.
Prerequisite: Music 36 or 236
One hour

354(0). Organ Literature. A study of the literature for organ. For organ majors in the third year.
Prerequisite: Music 36 or 236
One hour

356. History of Opera. A seminar on the development of opera from the time of the Florentine Camerata to the present day.
Prerequisite: Music 36 or 236
Two hours

252, 352, 452. Music History Seminar. A study of Medieval, Renaissance and Baroque music (vocal and instrumental). Participation in Collegium Musicum is required of Music History majors.
Two hours

366. Selected Composer Study. A seminar on the life and works of a single composer, to be selected and named in advance by the instructor.
Prerequisite: Music 36 or 236
Two hours

376. Contemporary Music. A seminar in music of the twentieth century.
Prerequisite: Music 36 or 236
Two hours

386. Studies in Instrumental Forms. A seminar in which special emphasis will be given to the study of instrumental forms of a limited time period in music history.
Prerequisite: Music 36 or 236
Two hours

396. Studies in Stylistic Change. A seminar on periods of important stylistic change in music.
Prerequisite: Music 36 or 236
Two hours

APPLIED MUSIC AND PEDAGOGY

21, 31, 231, 41, 341, 451. Individual lessons in the student's principal applied music areas.
One hour

At the end of each academic year, the student must successfully pass an examination of his or her principal applied music subject conducted by a jury of the faculty. Before graduation each student must have reached the required examination level in his principal applied subject. Honors in Performance candidates must be well above this level and, in addition, must present a public recital. All other majors are encouraged to perform on student recital programs.

Class Piano. A deficiency course for students whose principal instrument is other than piano and who are unable successfully to pass the piano proficiency examination. Students will be assigned to appropriate sections of the course until the deficiency is removed.
One hour per week in each of the first two years.
No credit

353, 463. Church Music. Materials, methods and techniques of service playing. For organ majors in the third and fourth years.
Music 353 One hour
Music 463 Two hours

451P: Individual lessons in the student's principal applied music area.
One hour individual lesson
One hour class lesson
Two hours

453. Pedagogy of the principal instrument or voice: Required of all students registered in an Honors in Performance program in the fourth year.
One hour

MUSIC

MUSIC EDUCATION

24. Instrumental Music. A general history of the development of the wind and string instruments. The instrumentation of the orchestra and band. Transposing instruments. Elementary score reading and conducting.
One hour

117, 217, 317, 417. Woodwind and Brass Class. Class instruction in the woodwind and brass instruments. The student is expected to acquire playing proficiency in one instrument of each family and a general playing knowledge of the others.
One hour

232, 332, 432. Music Education Ensemble. Performance of band and orchestral literature suitable for school performing ensembles.
One hour

27, 37, 237, 337. Choral Technique. Basic elements of voice production and choral singing. Elementary choral conducting. Study of rehearsal techniques through performance of selected repertoire.
One hour

29, 229. The Child Voice. Music materials and procedures which may be employed in the development of the child and adolescent voice.
One hour

39, 339. Communication in Music. An exploratory course in rhythmic movement, instrumental activities and listening techniques which are related to the development of the child. Attention will be given to special areas of creativity.
Two hours

49, 449. Comparative Studies in Music Education. A comparative study of the materials and procedures in music education. The work of Kodaly, Orff and Suzuki will be selected for more intensive work.
Two hours

47, 437. Choral Methods and Materials. A survey of choral repertoire suitable for use in high schools. Advanced choral conducting. The administration of a choral music program in the schools.
Prerequisite: Music 337
Two hours

247, 347, 447. String Class. Class instruction in performance on the string instruments.
One hour

447A. String Repertoire. A survey of string literature for school orchestras and ensembles.
One hour

42, 342. Conducting. Basic conducting techniques.
One hour

442. Conducting. Advanced instrumental conducting techniques.
One hour

50, 350. Music Education Seminar. An introductory seminar dealing with the historical background and evolving philosophy of school music and its administration.
One hour

450. Music Education Seminar. School music administration. Classroom teaching techniques. School music libraries. Methods and materials of school wind, string and percussion classes. Band and orchestra performing materials. Psychology of the musical mind. Tests and measurements of musical ability.
Two hours

467. Percussion Class. Instruction in the fundamental playing techniques of percussion instruments.
One half hour

ENSEMBLES

28, 38, 48, 238, 348, 458: Band, Orchestra, Chorus, Collegium Musicum, Chamber Ensembles and Accompanying: Performance of major works for the respective media. A student is required to attain a minimum of 12 hours of ensemble credit within the four year programs and six to nine hours in the three year programs.

Music Courses for Students from the Faculties of Arts, Social Science, Natural Science and the Professional Schools.

The following music courses are specifically designed as electives for students from Faculties other than Music.

A student may, however, enrol in any Faculty of Music course, with the permission of the Dean of his Faculty and the approval of the chairman of the Music Department concerned.

Survey of Music Literature. Baroque, Classic and Romantic repertoire. Students will be expected to prepare works for class performance.
One hour lecture, one hour lab. (half course) — 18

Music 20Y. A listener's course designed to acquaint students with the landmarks of the orchestral, choral and chamber repertoire through guided listening to recordings and live performance.
Two hours, plus lab. — 18

Music 30. Performance and Survey of Music Literature II. This course is divided into two parts. To obtain credit both parts must be taken.

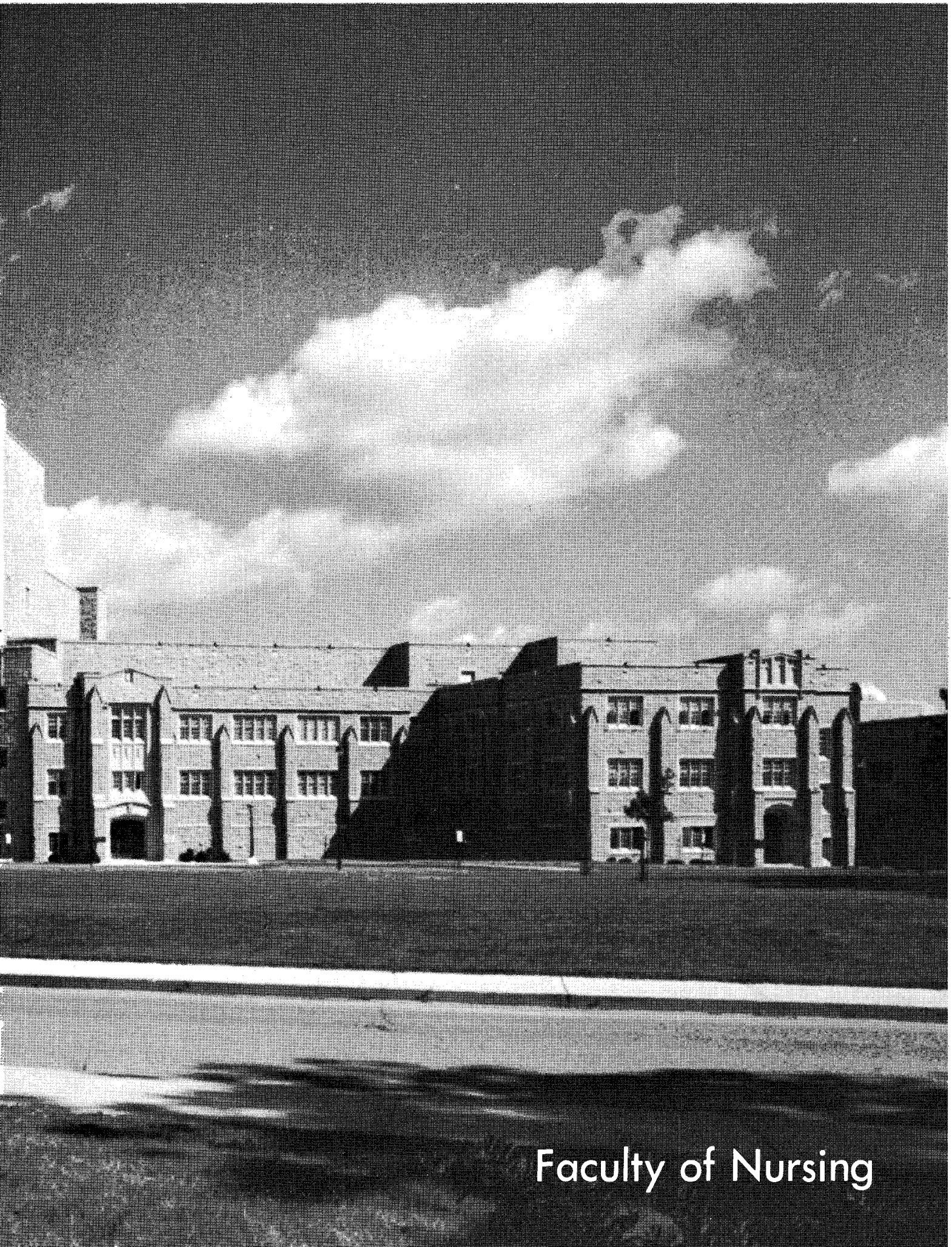
Performance. Individual lessons arranged by the Faculty of Music. Credit for this course will be determined by the student's progress during the year and by a final performance examination. Prerequisite: A minimum of the Grade VIII level in the instrument. (The student must pay for individual lessons.)
One hour (half course)

Survey of Music Literature. Music repertoire and performance practices with special emphasis on contemporary trends. Students will be expected to prepare works for class performance.
One hour lecture, one hour lab (half course) — 24

Music 30Y. A continuation of Music 20Y, including a detailed study of several large-scale compositions from a listener's viewpoint.
Prerequisite: Music 20Y or equivalent
Two hours, plus lab. — 18

Music 20. Performance and Survey of Music Leterature I. This course is divided into two parts. To obtain credit, both parts must be taken.

Performance. Individual lessons arranged by the Faculty of Music. Credit for this course will be determined by the student's progress during the year and by the final performance examination. Prerequisite: A minimum of the Grade VI level in the instrument. (The student must pay for individual lessons.)
One hour (half course)



Faculty of Nursing

Faculty of Nursing

Officers of Administration

Dean

R. Catherine Aikin, RegN; BA, BN McGill; MA Chicago

Assistant Dean (Academic)

Amy E. Griffin, RegN; BA Toronto; MSc Wayne State; EdD Columbia

Assistant Dean (Administration)

Dorothy M. Hibbert, RegN; BS, MA, Columbia

Health Sciences Librarian

M. Anne Seheult, BA; BLS

Administrative Assistant

G.W. Graham

Coordinator Graduate Programs

Amy E. Griffin, RegN; BA Toronto; MSc Wayne State; EdD Columbia

Coordinator Basic Nursing Degree Program

Jean Forrest, RegN; BN McGill; BA Laurentian; MS Boston

Coordinator Post Basic Nursing Degree Program

Caroline Dauk, RegN; BN McGill; MA Columbia

Coordinator Continuing Education Programs

Vivian Wood (Mrs.), RegN; BScN UWO; EdM Boston

Professor Emeritus

McDowell, Edith M., RegN; BS, MA Columbia; LLD

Professor and Dean

Aikin, R. Catherine, RegN; BA, BN McGill; MA Chicago

Professors

Griffin, Amy E., RegN; BA Toronto; MSc Wayne State; EdD Columbia

Hibbert, Dorothy M., RegN BS, MA, Professional Diploma Columbia

Associate Professors

Brown, Louise S., RegN; BScN UWO; MS Western Reserve

Horn, Ethel M., RegN; BS, MA Columbia

Stewart, Diane Y., RegN; BScN, MScN UWO (Part-time)

Wood, Vivian (Mrs.), RegN; BScN UWO; EdM Boston

Assistant Professors

Brown, Barbara, RegN; BScN UWO; MN Washington

Creeggan, Sheila, RegN; BScN Windsor; MScN UWO

Dauk, Caroline, RegN; BN McGill; MA Columbia

Forrest, Jean W., RegN; BN McGill; BA Laurentian; MS Boston

Gerhard, Wendy (Mrs.) RegN; BScN, MScN UWO

Gow, Christina M., RegN; BSc, MSc Manitoba; BScN Queen's; MN Washington

Hall, Phyllis R. (Mrs.), RegN; BScN B.C.; MS California

Mantle, Jessie, RegN; BN McGill; MS California

McWhirter, Jeananne, RegN; BN McGill; MPH Pittsburgh

Patterson, Joan (Mrs.), RegN; BScN Windsor; MScN UWO (Part-time)

Potter, Thelma I., RegN; BN McGill; MScN Boston

Shea, Hattie (Mrs.), RegN; BSNEd; MSN Texas

Lecturers

Fraleigh, Donna (Mrs.), RegN; BScN UWO

Fuller, Marcia (Mrs.), RegN; BScN UWO (Part-time)

Jasinski, Joan (Mrs.), RegN; BScN UWO

Laman, K. Jane (Mrs.) RegN; BSc Ottawa

Pfisterer, Janet (Mrs.), RegN; BScN UWO (Part-time)

Skafel, Ann (Mrs.), RegN; Diploma NEd UWO (Part-time)

Weber, Elizabeth (Mrs.), RegN; BScN UWO

Wynne, Ethel, RegN; BScN UWO

Instructors

Mahoney, Lorraine, RegN; BN McGill

McMaster, Elsie E. (Mrs.), RegN; BScN UWO (Part-time)

Melchior, Lorraine (Mrs.), RegN; BScN UWO

Mullen, Elaine (Mrs.) RegN; BScN Windsor (Part-time)

Titherington, Barbara (Mrs.), RegN; BScN UWO

ACADEMIC CALENDAR

1972

September 11	Classes start for Years 2,3 and 4, Basic Nursing
September 11-15	Registration Week
September 18	Classes start for all other BScN students
December 16	Term 1 ends
December 17	Christmas break starts

1973

January 8	Term 2 classes start
February 26-March 3	Conference Week (no classes)
April 14	Term 2 ends
April 16-May 8	Examinations
April 23	*Term 3 starts for Year 3 Basic Nursing
May 25	Term 3 ends

*Starting date of Term 3 for Years 1 and 2, Basic Nursing to be determined by examination dates of courses involved.

The Booklet **"General Information"**, presenting concise introductory information about The University of Western Ontario, may be obtained from the Registrar's Office, The University of Western Ontario, London 72, Canada.

NURSING

History of the Faculty of Nursing

The year 1972 marks the fifty-second year since the establishment of the first educational program in nursing at The University of Western Ontario.

It is important to view our present Faculty against those years of effort and interest, but equally important to go back to an earlier date, the year 1917, in order to bring a significant event into perspective. That year, with considerable awareness of need and concern to carry its special educational role in the control of disease and the promotion of health, the University's Board of Governors brought into being the Faculty of Public Health—the first independent Faculty of Public Health to be established in a university within the British Commonwealth. The objective of this educational program was to prepare graduate physicians for their responsibilities as medical officers of health. The new Faculty was housed in the building of the Institute of Public Health at the corner of South and Waterloo Streets, just across from the old Medical School, and the Director of the Institute, the late Dr. H.W. Hill, was appointed Dean of the new Faculty.

In 1920, the Canadian Red Cross Society granted to five Canadian Universities sufficient funds to support, for a three-year period, educational programs in Public Health Nursing. Having been selected, and receiving its grant through the Ontario Division of the Canadian Red Cross Society, The University of Western Ontario established a Division of Studies for Graduate Nurses within the Faculty of Public Health under Dean Hill. The late Miss Margaret McDermid was appointed to give professional leadership to the new program.

Dean Hill was succeeded by the late Dean A.J. Slack. Thus, under the capable leadership of two successive Deans, both of whom were outstanding public health men, the University's varied public health enterprises within the Institute continued to expand. This became increasingly true of the laboratory services provided for London and the counties of Southwestern Ontario. Expanding laboratory services during this period might be taken as an index of the growth of health services throughout the region, and an index of the rapidly growing, though still very young, public health movement.

In 1924, the Board of Governors and Senate approved the establishment of a five-year under-graduate program, leading to the degree of Bachelor of Science in Nursing. The following year, two further post-basic programs were established:

1. A program designed to prepare teachers for hospital schools of nursing, leading to a Certificate of Instructor of Nursing.
2. A program designed to prepare hospital administrators, leading to a Certificate in Hospital Administration.

In 1946, nearing the completion of three decades of public health activity within the Institute of Public Health, the Board of Governors of the University reviewed its many enterprises to see what reorganization might be undertaken. As preventive medicine had become an integral aspect of medical education, it was decided that the Faculty of Public Health should close with the end of the 1946-1947 academic year. This year coincided with the retirement of Dean Slack. A further decision was made to withdraw from the laboratory services so that these, as a regional laboratory, would become the responsibility of the Ontario Department of Health.

The future of educational programs in nursing was assured with a further decision of the Board of Governors to establish a School of Nursing, as an autonomous unit within the constituent University. Miss Edith M. McDowell was appointed Dean of this new Faculty in the summer of 1947. The W.K. Kellogg Foundation of Battle Creek, Michigan, made a grant of $50,000 to be spent over a three-year period (1947-1950) in improving and strengthening the educational programs of the School. Under Dean McDowell's inspiring leadership, the School developed rapidly in both quality of programs offered and in enrolment.

The new School of Nursing remained in the Institute Building until January 1951, when it moved to the lower hall of University College. As enrolment in the School of Nursing continued a marked upward trend, it was not long before the space in University College became inadequate. During the summer months of 1958, the School of Nursing moved to more spacious quarters in the upper floor of the Physics-Chemistry Building, but before a year had passed, these quarters became overcrowded.

The 1957-1958 academic year saw the establishment of a third post-basic program leading to a Diploma in Nursing Service Administration. Eleven students were enrolled. (The Certificate program in Hospital Administration had not been offered since the 1946-47 Academic Session.) Hospital administrators, governing boards and members of the medical and nursing professions had become acutely aware of the need for better preparation for those who are given responsibility for the administration of nursing services in our hospitals. The new program was an outgrowth of that expressed concern.

In the early summer of 1959, having approved a brief presented by the School of Nursing, the W.K. Kellogg Foundation of Battle Creek, Michigan, presented the University with the first of a series of cheques which reached a total of $142,000 over a six-year period. This was spent in the development of projects in administration.

This very generous grant made possible the establishment of a two-year graduate program in administration leading to a Master of Science in Nursing degree. The first candidate was presented at the 1961 Spring Convocation and her degree, Master of Science in Nursing, was conferred. This was the first time in the history of nursing in Canada that a Master's Degree had been granted by a Canadian University.

Another significant event occurred during the 1960-61 Academic Session. During the Christmas recess the School of Nursing moved to its own building. This attractive new building was made possible largely through a very generous grant from the Kresge Foundation. The 1960's saw the development of the Health Sciences concept at The University of Western Ontario, with nursing as an integral part. Expansion of the physical facilities of the Health Sciences complex is now being planned. In this expansion nursing will have new accommodation. Additional space and facilities are needed for an increasing student enrolment and the corresponding increase in numbers of faculty. Seminar rooms and self instruction units will enable the faculty to put into effect the more recent beliefs about the teaching-learning process.

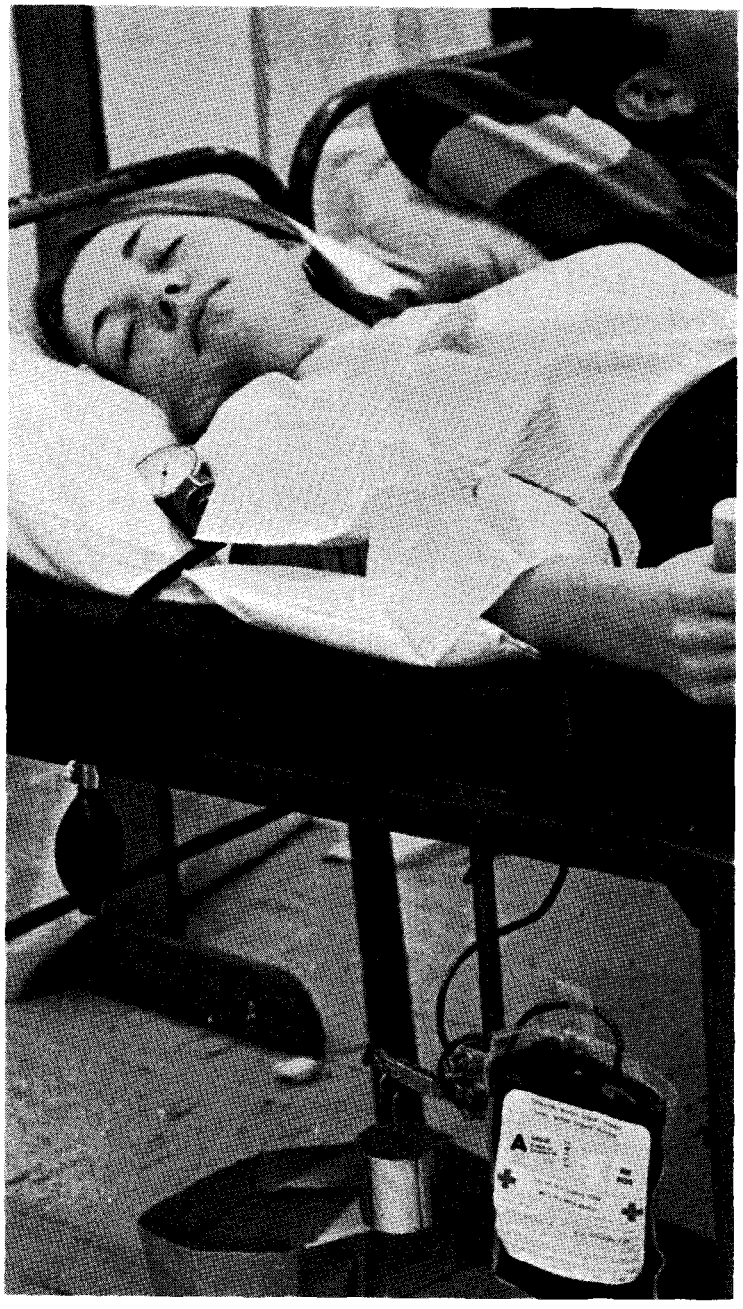
Major changes in the programs offered by the School of Nursing occurred during 1966 and 1967. All diploma programs were discontinued. A four-year basic program leading to the degree of Bachelor of Science in Nursing was inaugurated in September 1966, and replaced the five-year undergraduate program established in 1924. The Program for Registered Nurses was altered and expanded to correspond with the current requirements for a Bachelor of Science in Nursing awarded by this University. The Master of Science in Nursing program now offers a major in teaching as well as in administration.

In may, 1969, on the recommendation of the Senate, the Board of Governors changed the designation of "School of Nursing" to "Faculty of Nursing".

Continuing Education

The Continuing Education activities of the Faculty of Nursing have been increasing in number and scope during the past three years.

The Faculty emphasizes non-credit courses and our offerings have included courses for senior executives, teachers, community nurses, head nurses and general duty nurses. Nursing education, administration and community nursing are the major classification of courses offered.



Library Services

The Nursing Library is a fully integrated part of the Health Sciences Library serving Nursing, Dentistry, Medicine and associated basic Sciences.

Although located separately on the main floor of the Health Sciences Centre, the Health Sciences Library is part of the main University Library. An additional study room is located adjacent to the library.

The collection of the Health Sciences Library contains about 95,000 books. Approximately 1600 journals are currently received. The library also has a collection of several thousand volumes dealing with the history of the medical sciences.

Programs of the Faculty of Nursing

The Faculty of Nursing offers two programs leading to the degree Bachelor of Science in Nursing. The Basic Nursing Program extending over four years is designed for high school graduates. The Program for Registered Nurses is planned for graduates from diploma schools of nursing and extends over a period of three academic years. In both programs the nursing component gives focus to critical survey of the major concepts, assumptions and skills upon which professional nursing is based. The Faculty of Nursing reserves the right to limit the number of applicants admitted to either Bachelor of Science in Nursing program.

Two graduate programs in nursing are offered. One program leads to the degree Master of Science in Nursing (Administration), and the other leads to the degree Master of Science in Nursing (Education). Individual planning makes provision for study in the particular area of administration or teaching for which the candidate is preparing. Admission requirements are: a Bachelor's degree in Nursing or, a Bachelor's degree in Arts or Science in addition to graduation from an approved school of nursing and an academic year of post-basic study with a diploma in one of the nursing specialties at a university school of nursing. An overall B standing in undergraduate university courses is the minimum admission standard.

Further information concerning the Master of Science in Nursing programs may be obtained by writing to the Faculty of Nursing for the Announcement of the Faculty of Graduate Studies.

The Bachelor of Science in Nursing Programs

The purpose of the program is to prepare professional nurse practitioners who:

1. are capable of assuming beginning professional responsibilities in hospitals and other health agencies;
2. are capable of using further experience to proceed to the assumption of greater responsibility in the practice of nursing;
3. have a sound education foundation for proceeding to graduate studies preparing clinical specialists, teachers, administrators, consultants and researchers.

The major objectives of the programs are to assist the student to develop to the optimum:

1. as an individual participating in the process of higher education for a profession
   (a) inherent abilities
   (b) an understanding of self and others
   (c) an examined value system giving meaning and direction to life:
2. as a future professional nurse
   (a) the ability to apply basic nursing theories, concepts and principles in the practice of nursing
   (b) a scientific approach to the practice of nursing and basic skill in its implementation
   (c) an understanding of and commitment to the role of the nurse and the nursing profession in a dynamic society;
3. as an education citizen
   (a) appreciation of the privileges of citizenship
   (b) acceptance of the responsibilities pertaining thereto.

NURSING

THE BASIC NURSING PROGRAM

This is a four-year program leading to the degree of Bachelor of Science in Nursing (B.Sc.N.) and qualifies graduates to apply for registration with the College of Nurses of Ontario. The curriculum includes both general education in the arts and sciences and professional nursing education throughout the four years. The University provides and directs clinical nursing experiences essential for learning nursing. These are currently arranged in teaching hospitals and health agencies in the community. The facilities of the University Hospital will also be utilized on its completion.

ACADEMIC ADMISSION REQUIREMENTS

A. For Applicants With Ontario Grade 13 Standing

Completion of secondary school studies, including a full year of successful study to include at least six (6) credits. Nursing requires Grade 13 Chemistry and Biology with minimum science average of 60%.

B. For Applicants With High School Standing From Other Canadian Provinces

All Applicants with standing from high schools in jurisdictions outside of Ontario must write the tests offered by the College Entrance Examination Board (CEEB) or the tests of the Service for Admission to College and University (SACU).

Students from other provinces in Canada are eligible to apply for admission to the first year at this Faculty if their academic records meet in subject matter and standing obtained **both** the requirements for admission to this Faculty and the requirements for admission to a recognized university in their own province in a program similar to the one to which admission is being sought at this University.

C. For Applicants with High School Standing From Other Countries

All applicants from other countries interested in the Basic Nursing program are requested to write to the Dean, Faculty of Nursing, The University of Western Ontario, London 72, Ontario.

OTHER ADMISSION REQUIREMENTS

Prior to enrolling in the Faculty of Nursing all students are requested to submit proof of immunization against diphtheria, tetanus, poliomyelitis and smallpox. This immunity should be at a maximum level of protection through the administration of a booster or reinforcing dose where indicated. An Immunization Record form will accompany Forms of Application

SUBMISSION OF APPLICATIONS

Applications for admission to the Basic Nursing Program are to be submitted to the Registrar, The University of Western Ontario

LENGTH OF ACADEMIC YEARS

Each of the four years consists of two terms of the same length as those of the Faculties of Arts, Science, Social Science.

Year 1 is followed by an additional term of three weeks.
Year 2 is preceded by one week and followed by an additional three weeks.
Year 3 is preceded by one week and followed by an additional five weeks.
Year 4 is preceded by one week.
These additional periods provide an opportunity for concentrated emphasis on nursing.

REQUIRED COURSES

Approximately one half of the total program is planned for nursing courses; the other half is planned to include general education and health-related courses. The electives provide opportunity for progressive study in the sciences or humanities from which the student selects an area of concentration consisting of three courses. These electives are usually selected at the 20 or above level.

Year 1

Anatomy	206
Chemistry	25
Nursing	20
Psychology	20
Sociology	20

Year 2

Biochemistry	206b
Chemistry	33a
Nursing	230
Physiology	101

One elective from Sociology, Psychology or Anthropology.

Two additional electives.

Year 3

Medical Science	206
Microbiology	206
Nursing	330
Nursing	340
Pharmacology	206
Statistics	200

Year 4

Community Medicine	206
Nursing	450
Nursing	460
Nursing	470
Psychiatry	206

Two electives

THE PROGRAM FOR REGISTERED NURSES

This is a three-year program leading to the degree of Bachelor of Science in Nursing for registered nurses graduated from a diploma school of nursing. The nursing courses are designed to utilize the nursing knowledge that the student brings to university. Initially, the student considers the organization, development and delivery of health services which allows her to view nursing within a broad conceptual framework. Then, the more specific aspects of the professional nurse's role are examined in the light of a rapidly changing social and health milieu. In the final year, the student examines critically the purpose of nursing and applies the professional and general knowledge that bears on her practice. The electives provide opportunity for progressive study in the sciences, social sciences and humanities.

ACADEMIC ADMISSION REQUIREMENTS

A. For Applicants with Ontario Grade 13 Standing

Registered Nurses applicants who meet admission requirements of this University must have obtained Ontario Grade Chemistry with a 60% standing for admission to the Nursing Program.

B. For Applicants With High School Standing From Other Canadian Provinces

Students from other provinces in Canada are eligible to apply for admission to this Faculty if their academic records meet in subject matter and standing obtained **both** the requirements for admission to a recognized university in their own province in a program similar to the one to which admission is being sought at this University.

C. For Applicants With High School Standing From Other Countries

All applicants from other countries interested in the Program for Registered Nurses are requested to write to the Dean, Faculty of Nursing, The University of Western Ontario, London 72, Ontario.

OTHER ADMISSION REQUIREMENTS

A. All applicants to the Program for Registered Nurses must also meet the following qualifications:

1. Graduation from an approved diploma school of nursing
2. Registration as a nurse in good standing
3. Professional competence.

B. Prior to enrolling in the Faculty of Nursing, all students are requested to submit proof of immunization against diphtheria, tetanus, poliomyelitis and smallpox. This immunity should be at a maximum level of protection through the administration of a booster or reinforcing dose where indicated. An Immunization Record form will accompany Forms of Application.

SUBMISSION OF APPLICATIONS

Applications for admission to the Program for Registered Nurses are to be submitted to the Dean, Faculty of Nursing, The University of Western Ontario, London 72, Ontario.

LENGTH OF ACADEMIC YEARS

Each of the three years consists of two terms of the same length as those of the Faculties of Arts, Science, Social Science. A third term of a maximum of three weeks may be required at the end of Years 2 and 3.

REQUIRED COURSES

(a) Students are required to select an area of concentration consisting of three courses from one of Psychology, Sociology or Anthropology. These electives are usually selected at the 20 or above level.

(b) Among the electives, students are required to select a minimum of five courses from the Faculties of Arts and Social Science.

Year 2

Chemistry	25
Nursing	221

One elective from Psychology, Sociology or Anthropology.
Two additional electives

Year 3

Biochemistry	206b
Chemistry	33a
Nursing	371
Physiology	101
Statistics	200

One elective from Psychology, Sociology or Anthropology
One additional elective

Year 4

Microbiology	206
Nursing	471
Pharmacology	206

One elective from Psychology, Sociology or Anthropology
Two additional electives

GENERAL INFORMATION

EQUIVALENT CERTIFICATES

Provided that the subjects are acceptable for admission, the following certificates and/or academic standings are accepted as equivalent to Ontario Grade 13 standing:

BRITISH COLUMBIA: First year at U.B.C., Simon Fraser University, University of Victoria, Notre Dame; OR Grade 13 (prior to 1972).

ALBERTA, SASKATCHEWAN, MANITOBA: Grade 12.

QUEBEC: Grade 12 (fifth year high school) or its equivalent.*

PRINCE EDWARD ISLAND: First year at the University of Prince Edward Island.

NEW BRUNSWICK: Senior matriculation OR first year of a four-year General Program at New Brunswick universities.

NOVA SCOTIA: Grade 12 OR first year at Nova Scotia universities.

NEWFOUNDLAND: First year at Memorial University of Newfoundland.

The tests of the College Entrance Board (CEEB) or the tests of SACU must be written.

*NOTE: Applicants from Quebec

Applicants from the Province of Quebec who hold Provincial certificates attesting to the completion of Grade 12 are considered for admission. Applicants enrolled in the Collegial Programs at Bishop's, McGill or Sir George Williams Universities or at a C.E.G.E.P. will be considered of placement upon presentation of a transcript showing work completed.

MATURE APPLICANTS

An applicant who is at least 23 years of age during the calendar year of her application and who does not hold the required Grade 13 or equivalent standing normally necessary for admission may be considered for admission as a Mature Applicant if she has obtained the equivalent of Ontario Grade 13 Chemistry with a 60% standing.

PROFICIENCY IN ENGLISH

Lectures, seminars and examinations in this University are for the most part conducted in English and it is essential that all students have an adequate knowledge of written and of spoken English. An applicant for admission for whom English is a second language must submit with her application evidence acceptable to this University of her proficiency in English: The results of two tests are accepted as providing such competence: The Test of English as a Foreign Language OR The English Language Proficiency Test (University of Michigan).

The Admissions Committee reserves the right to deny admission to applicants who do not demonstrate satisfactory knowledge of English, by means of one of the tests mentioned above, regardless of academic qualifications.

NURSING

NURSING 200 - SEE STATISTICS 200

Course Descriptions

Anatomy 206. A course of lectures and lecture demonstrations which commences with the principal ultrastructural feature of cells. Subsequent histological classification leads through developmental phenomena to major concepts of functional, topographic and systematic anatomy. Participation of students is encouraged during all meetings of the class and emphasis is given to the "living" state rather than to cadaveric anatomy. This course is taught by the Department of Anatomy.
63 hours

Microbiology 206. Lectures, practical classes and demonstrations to illustrate the scope and principles of Microbiology and Immunology, and the application to nursing and to public health. The course involves a survey of microbial life, sterilization, desinfection, and antibiosis; the host-parasite relationship; immunity mechanisms and hypersensitivity; serological diagnosis; specific bacterial, viral and fungal infective processes and their prevention; sanitary and food microbiology, protozoon and animal parasites; the practice of immunization; the services and responsibilities of hospital, regional, provincial and government laboratories. This course is taught by the Department of Bacteriology.
80 hours

Biochemistry 206b. An introductory course of lectures in general biochemistry is presented to students enrolled in the nursing baccalaureate programs. This course is taught by the Department of Biochemistry.
25 hours—Term 2

Chemistry 25. General Chemistry. For students in Home Economics and Nursing programs only. This course is taught by the Department of Chemistry.
Prerequisite: Grade 13 Chemistry.
2 lectures, 3 laboratory hours—27

Chemistry 33a. Organic Chemistry. For students in Home Economics and Nursing programs only. This course is taught by the Department of Chemistry.
Prerequisite: Chemistry 25.
2 lectures, 3 lab. hours—Term 1—25.

Community Medicine 206. A course given mainly by seminar discussions of assigned reading on the comprehensive approach to the prevention, detection and control of health problems. Taught by the Faculty of Medicine.
52 hours

Nursing 20. Introduction to professional nursing. Some of the major concepts, assumptions and skills underlying professional nursing practice are considered. Attention is directed toward developing a beginning understanding of the nature of health and illness and the organization of resources for the practice of comprehensive health care. Study is made of the contribution of the individual nurse, organized nursing services, and the nursing profession in the local and wider community health service. Theory is supplemented by selected experiences in community agencies.
4 hours class—2 1/2 hrs Lab.—Term 1
2 hours class—4 1/2 hrs Lab.—Term 2
3 weeks laboratory—Term 3

Nursing 221. An historical approach to the study of current issues in health services; the organization, development and delivery of health services, concepts of health and illness trends are examined. This course is designed to promote an understanding of the nurse's role and responsibilities in relation to the individual, family and community. The nursing practicum will focus on an examination of the community structure.
4 hours—Terms 1 and 2.

Nursing 230. Nursing care of the family during the childbearing years focusing on normal growth and development. Experience is provided to develop increasing skill in the promotion and maintenance of maternal, child and family health. Theory is supplemented by selected experiences with families and community agencies.
1 week class preceding Term 1
4 hours class—4 hrs Lab.—Terms 1 and 2
3 weeks Lab—Term 3

Nursing 330. Nursing of the Child within the framework of the family dynamics with particular emphasis on the illness crisis in the family when the young members of the family are ill. Experience is provided in the nursing of selected children and families in hospital and community.
1 week class preceding Term 1
2 hrs class—4 hrs Lab.—Terms 1 and 2

Nursing 340. Consideration of the role of the professional nurse in the care of adults with primary focus on their needs in illness. Nursing practice in relation to early diagnosis and prompt treatment, disability limitation and rehabilitation, also health promotion and illness prevention. Experience is provided in the nursing of selected individuals to augment and facilitate theoretical learning and to develop increasing skill in nursing practice. Planned class discussion and clinical experience will be provided for the student to focus on management of patient care with emphasis on the leadership role.
1 week class preceding Term 1
2 hrs class—13 hrs Lab.—Terms 1 and 2
20 hrs class—160 hrs Lab.—Term 3

Nursing 371. The middle year considers the more specific aspects of the professional role with consideration of the developmental tasks of the individuals and families. Students are introduced to research methodology with beginning exploration of the contribution of research to the development of a nursing science and the furthering of professional goals. There is increasing emphasis on the nurse's leadership role in influencing the quality of care for patients and directing others; on her role as a teacher of patients and families; and on her professional interactions within the context of comprehensive patient care. A nursing practicum is included.
6 hrs—Terms 1 and 2.

Nursing 450. Nursing of the individual and his family with emotional health problems. Promotion of therapeutic nursing with emphasis upon the collaborative relationships with the health team. Experience is provided in the nursing of selected individuals and families in hospital and community.
1 week class preceding Term 1
1 hr class—7 hrs Lab.—Terms 1 and 2

Nursing 460. Nursing of the family within the community in complex situations. Promotion of family nursing with emphasis on community health services. Advanced experience is provided in the nursing of selected individuals and families in the community.
1 week class preceding Term 1
1 hr class—3 hrs Lab.—Terms 1 and 2.

Nursing 470. (a) Introduction to research in nursing: the methodology, critical evaluation and the contribution to date.
1 hour class—Term 1
(b) Developments in the delivery of health services with special emphasis on nursing and the role of the beginning professional nurse practitioner.
2 hrs class—Term 2

Nursing 471. This course is designed to allow the student to examine critically the purpose and practice of nursing in the light of her increased knowledge, both professional and general, acquired through the three years of the program. Specific nursing authors' views about the purpose and practice of nursing are considered. The practicum provides an opportunity for the student to evaluate such views. A choice of nursing electives are offered in second term for the student to examine in greater depth, aspects of her professional role, eg. leadership, and teaching-learning process, interviewing and counselling and research. The setting for the practicum may be in the hospital and/or the community.
6-8 hours—Terms 1 and 2

Medical Science 206. An introductory course including the study of general pathophysiological processes and the bio-psychosocial basis of signs, symptoms, medical diagnosis and therapy for selected disease conditions.
51 hours class

Pharmacology 206. Survey of Pharmacology and Drug Therapy—A course of lectures, demonstrations and tutorials dealing with the properties of drugs, their mechanisms of action, therapeutic uses, limitations and toxicity. This course is taught by the Department of Pharmacology.
52 hours

Physiology 101. Lectures, demonstrations and practical classes to illustrate the principles of human physiology and their application to nursing. The course involves the physiology of the cell; the internal environment, excitable tissue and muscle; the blood and immunity; the cardiovascular, respiratory and gastrointestinal systems; energy metabolism and nutrition; body water and the kidney; reproduction; the endocrine and nervous systems; controls, regulations and homeostatis. This course is taught by the Department of Physiology.
52 hours

Psychiatry 206. A lecture course with demonstration clinics covering the clinical syndromes of psychiatry. Emphasis is on the syndromes encountered in the practice of medicine. Taught by the Department of Medicine.
48 hours

Psychology 20. Introduction to Psychology; problems and methods; individual differences and their assessment; learning, memory, thinking, sensation and perception, motivation; emotion; personality. This course is taught by the Department of Psychology.
3 hours—Terms 1 and 2

Sociology 20. Introduction to Sociology: An examination of the major theoretical perspectives in the field of Sociology, methods of empirical investigation of social phenomena, socialization, group structure, principles of social organization, community structure, population and social change. This course is taught by the Department of Sociology.
3 hours—Terms 1 and 2

Statistics 200. Introduction to Statistics: basic concepts, sampling, measures of central tendency, variability, tests of probability, correlation, significance.
1 hour class—Terms 1 and 2

Examinations and Grades

The following policies for examination and grades obtain for the academic year 1972-73 in addition to regulations published in General Information section of the University Composite Calendar. The Faculty of Nursing reserves the right to alter these academic requirements in subsequent years.

Final Grade

The final grade for most courses is based upon individual assignments, group projects, satisfactory clinical performance and written examinations.

Mid-Term Examinations

Mid-term examinations are given in some courses. The purpose of these papers is to help students evaluate their progress and by subsequent conferences with members of the Faculty, afford an opportunity to discuss problems encountered.

Requirements to Sit For Examination

The right to sit for examinations is conditional upon regular attendance at classes, completion of assignments and satisfactory clinical performance.

Final Examinations

Final examinations for students registered in intramural courses are conducted in April, May and June.

A student may be refused permission to write the final examination for failure to maintain satisfactory academic standing throughout the year.

Final examination papers will not be returned to students.

Supplemental Examinations

Supplemental examinations are not offered by the Faculty of Nursing.

Nursing Courses

If a student has a second failure in nursing courses she may only proceed with special permission of the Dean, Faculty of Nursing.

Special Examination

A special examination is any examination other than the regular examination and it may be offered only with consent of the Dean of the Faculty of Nursing.

A special examination may be written only at this University.

Deferred Examination

Permission to defer an examination is given by the Dean of the Faculty of Nursing only on compassionate grounds. No examination fee is charged for deferred examinations.

A deferred examination may be written only at this University.

Aegrotat Standing

Aegrotat standing (academic standing without examination) may be given only to students in the final year of a Bachelor of Science in Nursing program. No aegrotat standing is given in the other years of either program. On compassionate grounds, and with supporting documents, a student may petition the Dean of the Faculty of Nursing for:

1. the privilege of writing deferred examinations
or
2. aegrotat standing which would be 50% in non-nursing courses and 60% in nursing courses.

Failure to Appear At Examination

A student who fails to appear for an examination at the time set in the timetable will not be allowed to write on the examination paper thus missed. The student may petition the Dean of the Faculty of Nursing for the privilege of writing a deferred examination or for aegrotat standing if she is in the final year of a program. Petitions will be entertained only when they are submitted on compassionate grounds with supporting documents.

Grading System

The following grading system is used:

80%—100%	A
70%— 79%	B
60%— 69%	C — passing grade in nursing courses
50%— 59%	D — passing grade in non-nursing courses

Passing Grade

Students may proceed to the next year of their respective programs if the following conditions are met:

1. Satisfactory clinical performance. A student must pass clinical performance before she can pass a nursing subject.
2. A grade of 60% and above in each nursing subject.
3. A grade of 50% and above in all non-nursing subjects.
4. An overall average of 60%.

When supplemental examinations are allowed, a student writing a supplemental examination will receive either a Pass or Fail grade for the course. A Pass will give the student credit for the course but will not change her average for the year.

Failed Course

If a student is given permission to repeat a failed course, she must, regardless of the timetable, satisfactorily complete that course during the next academic year or an adjacent summer session. Only one failed course may be carried in any one year.

Failed Year

A student who fails to complete a year may be permitted by the Dean of the Faculty of Nursing to repeat the year. Permission is given only under exceptional circumstances, and then only when a vacancy is available in that year. When a student is allowed to repeat a year, she must pass that year without conditions to be allowed to continue in the program.

FEES

Fees are due and payable in full on registration day but if necessary the fees may be divided into two instalments, the first payable on *registration day and the second on the first day of the second term.* The extra charge for this division is $5.00.

Students may not attend lectures or examinations, nor may they be recommended for any degree until their tuition fees, fines and other accounts owed to the University are paid, except by permission of the Dean, Faculty of Nursing and Comptroller.

The Board of Governors reserves the right to amend fees after the printing of this Announcement.

Students whose fees are to be paid wholly or in part by other organizations, by scholarships, bursaries or loans, must present written evidence of such assistance at time of registration. Provided such evidence is satisfactory, credit will be allowed the student for that portion of fees to be so covered. The student will therefore be required to pay only the remaining balance, if any.

The following amounts include for full-time students, Student Activity and Health Service fees, totalling $54.00;

Fees Schedule

Full-time students	$517.50
If paid in two instalments	
Registration day	$300.00
First day of Second Term	$222.50
Part-time Intramural Students	
per course	$105.00
Laboratory fee (extra)	$ 10.00
Late Registration Fee	$10.00 or $25.00
Examination Fee	
Special Examination, each paper	$15.00

Student Expenses

A statement of annual expenses can at best be approximate. In the summary below, personal items such as laundry, clothes, recreation and transportation are not included.

Tuition and incidental fees	$517.50
Board and room (terms 1 and 2)	800.00 to $1000.00
Books and supplies	$120.00 to $150.00

Additional expenses to be considered differ for each year of the program, e.g.: Approximately $25.00 to $32.00 is required for room and board for each week the course of studies precedes or extends beyond Term 1 and Term 2. Approximately $100.00 is required by students registered in the first year of the Basic Nursing Program for purchase of the Faculty of Nursing uniform. (Instructions for obtaining the Faculty of Nursing uniform will be provided upon enrollment.)

Registered nurses are expected to bring their own uniforms.

Cost of transportation related to required clinical experience and for laundering uniforms is an annual expense item for all students.

A survey conducted in 1971 revealed that total expenses vary from approximately $2000.00 to $2500.00 for each academic year.

LIVING ACCOMMODATION

Application forms for admission to women's residences of the Constituent University may be obtained from the Dean of Women. Acceptance is granted after a student has received an offer of admission to the University. Priority is given to undergraduate students.

Application forms for the men's residences may be obtained from the Residence Admissions Office, Saugeen Hall, 289 Windermere Road, London 72, Ontario.

The student housing complex, Windermere Road, has accommodation for married students, including 300 one-bedroom apartments and 100 two-bedroom apartments. For information and application forms write to: The Business Manager, Married Students' Apartments, The University of Western Ontario, London 72, Ontario.

The Off-Campus Housing and Student Placement Office has over 2000 listings of student accommodation within the London area. These listings include:

Apartments	—furnished and unfurnished
Houses	—furnished and unfurnished
Rooms	—with and without board and housekeeping

For further information, students should apply in person to the office in the University Community Centre.

REGULATIONS

1. Experience proves that success in nursing studies requires that students devote a substantial portion of their time to the requirements of the program. The Faculty advises all students to avoid outside employment *unless absolutely necessary. If a student* believes that outside employment is essential in order to remain at the University, she should discuss this with the Dean. Efforts will be made to secure financial assistance so that employment will not be necessary.

2. Students admitted to the Faculty of Nursing are not permitted to take additional course concurrently in other faculties of the University, or other educational institutions, without special permission from the Dean of the Faculty of Nursing.

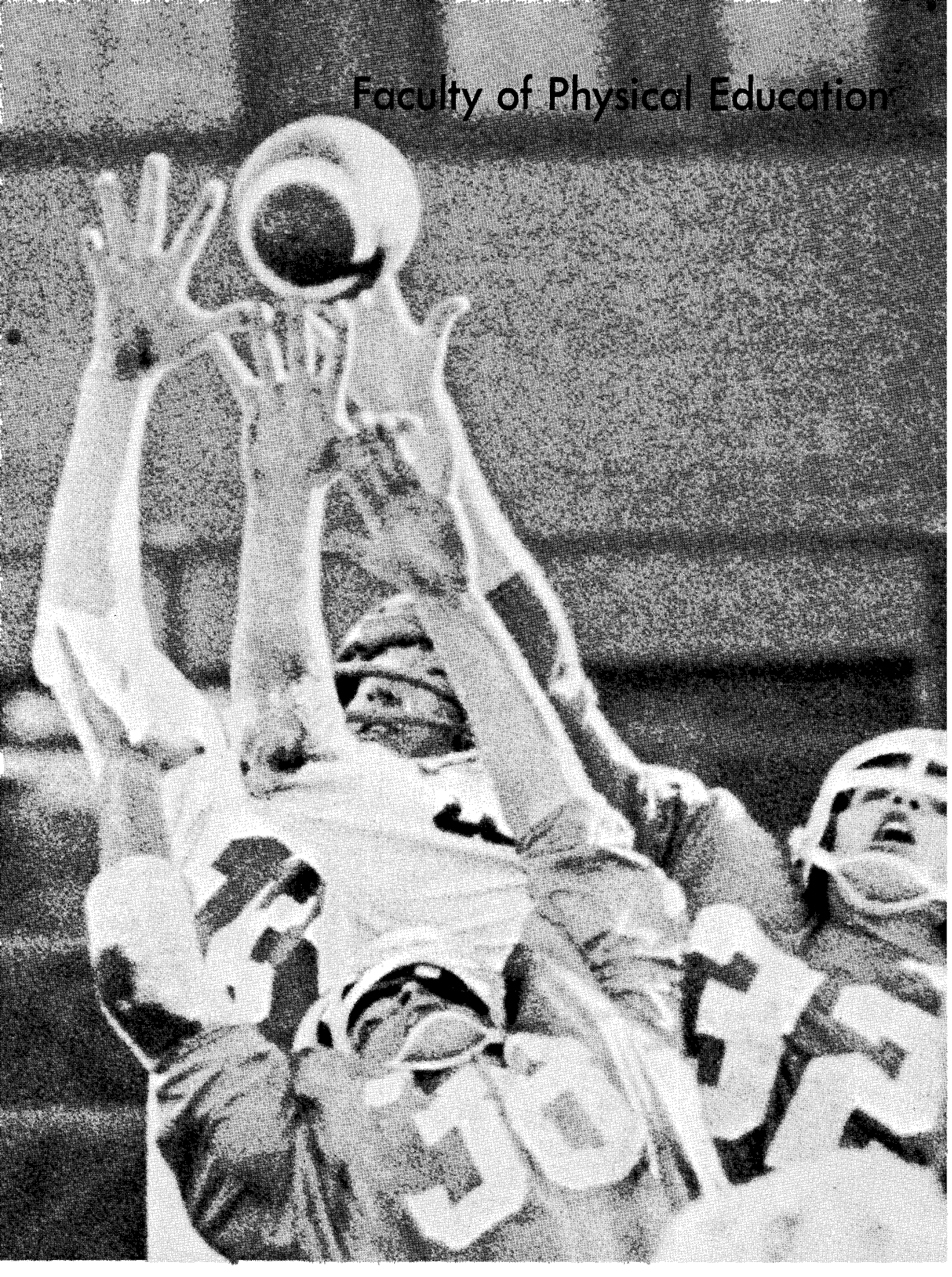
3. Regular attendance is expected of students in all courses. A student who because of illness or other valid reasons must be absent from a nursing laboratory or clinical experience should notify the instructor prior to the experience. Leave of absence is permitted in unusual circumstances after consultation with the Dean or a member of the Faculty of Nursing. Students in good standing who withdraw from the Faculty can only be readmitted subject to the regulations in force at the time they apply to re-enter.

4. The Faculty of Nursing is responsible for safety of nursing *practice and therefore reserves the right* to ask the student to seek medical assessment of physical and emotional health problems when a student demonstrates unsatisfactory clinical practice. The student's continuance in the program may be influenced by the medical assessment.

AWARDS

The Gold Medal of the Alumni Association of The University of Western Ontario is awarded each year. Selection is made by the Faculty of the Faculty of Nursing from among students with first class standing in the Bachelor of Science in Nursing programs.

Faculty of Physical Education



Faculty of Physical Education

Dean-elect

Zeigler, E.F., BA Bates College; MA, PhD Yale

Acting Chairman, Undergraduate - & Associate Professor

Wearring, G.A., BA UWO; MS Southern California; PhD Michigan

(The Department becomes a Faculty on May 1, 1972. For additional information, attention is directed to a special brochure obtainable from Room 116, Thames Hall).

Professors

Fairs, J.R., BSc UWO; MA Columbia

L'Heureux, W.J., BA UWO; MA Michigan; LLD New Brunswick

Yuhasz, M.S., BA UWO; MS, PhD Illinois

Associate Professors

Cunningham, D., BA UWO; MSc Alberta; PhD Michigan

Eynon, R.B., BA UWO; MS Illinois

Leyshon, G., BA UWO; MS Illinois; PhD Oregon

Paton, G.A., BA UWO; MA Michigan; PhD Illinois

Assistant Professors

Cosentino, F., BA UWO; BPE McMaster; MA Alberta

Gonser, G.I., BSc, MA Michigan

Hayes, D.L., BPE Alberta; MSc Oregon

Hill, J.S., DPE Jorden Hill College; MA UWO

Milne, D.C., BA, MPE McMaster; MA, PhD Michigan State

Petrie, B.M., DPE Sydney; BPE, MA Alberta; MA, PhD Michigan State

Reid, Elizabeth (Mrs.), BA UWO; MSc Illinois

Richardson, J.R., BPHE Toronto; MSc Alberta

Semotiuk, D.M., BPE, MA Alberta; PhD Ohio State

Singh, Baljeet (Mrs.), BA Lady Shri Ram College; MS Springfield

Smith, G.J., BPE Alberta; MA UWO

Taylor, M. Joy (Miss), BPHE, BA Toronto; MA North Carolina

Vigars, R.J., BSc Southern Illinois; MA California

Watson, R.C., BA, BPE McMaster; MSc Alberta

Lecturers

Funston, Gail (Mrs.), BA UWO

Lay, Marion (Miss), BS Cal Poly; MA Cal State (Hayward)

Peterson, Donna (Miss), BFA, MFA Utah

Ramsay, Janice (Miss), BPE UBC; MA UWO

HONORS PROGRAM

Requirements for Admission. First Year General Program (Arts, Science or Social Science) with Physical Education 20 and any three others as principal courses. Biology is required if Grade 13 Biology has not been successfully completed.

SECOND YEAR

Principal Courses

PHE 251 and three courses from the 200 and 300 PHE series. (Anatomy 264 and Physiology 342 are included in this series but are not required.)

Subsidiary Courses

Two options approved by the Department.

THIRD YEAR

Principal Courses

PHE 351 and three courses from the 200, 300 and 400 PHE series. (Anatomy 264, Physiology 342 and 442 are included in this series but are not required.) Permission of the instructor is required for entry into a 400 course.

Subsidiary Courses

Two options approved by the Department.

FOURTH YEAR

Principal Courses

PHE 451 and three courses from the 200, 300 and 400 PHE series. (Anatomy 264, Physiology 342 and 442 are included in this series but are not required.)

Subsidiary Courses

Two options approved by the Department.



PHYSICAL EDUCATION

GENERAL COURSES

20. Survey of Physical Education. Historical and scientific foundations; motor performance; selected health problems; physical fitness and recreation skills.
2 lectures and 2 laboratory hours — 2.

31. Advanced Theory and Practice of Activities.
Prerequisite: PHE 20.
1 lecture and 3 laboratory hours — 4.

HONORS COURSES

241. Biomechanics. An analysis of the mechanical principles under lying efficient movement and the application of the principles to motor skills.
Half course, 3 lecture hours — 2

251. Team Games and Individual Activities. The theory and mechanics of activities; the development of personal performance skills.
2 lectures and 4 laboratory hours

253. Scientific Foundations of Health Education. An approach to intelligent planning for healthful living. The study of personal and community health to equip students with a scientific background in health in order to understand and deal with current health areas.
1 lecture and 2 seminars — 21

255. Statistics. The methods of statistical analysis from the application of measures of central tendency to simple models of analysis of variance.
Half course, 3 lecture hours — 12

260. A History of Physical Education. A survey course in historical developments of Physical Education with special emphasis on Canadian content.
3 lecture hours — 34

270. A Survey of Dance. A course that provides an understanding of various dance forms and their ability to reflect various trends in history and modern day.
4 hours for one term (a half course). (2 lectures, 2 labs.)

340. Physical Growth and Development. The purpose of this course is to study the physical growth and motor development of the individual from conception through maturity. Attention will focus on normal patterns of physical growth; the sequential development of basic motor skills; methods of assessment and methods of classification for physical activity; learning disabilities and applications in physical education.
3 lecture hours — 13

351. Team Games and Individual Activities. The theory and mechanics of activities in addition to those studied in PHE 251.
1 lecture and 4 laboratory hours

352. Organization and Administration of Physical and Health Education. The function of administration with respect to curriculum planning, budget, finance, staff, public relations; principles and organization of intramural and interschool programs; scheduling and management of athletic contests.
Prerequisite: Completion of Second Year or permission of the instructor
1 lecture and 2 seminars — 8

358. Sociology of Leisure. The determinants of social attitudes and behavior toward leisure. The study of the variability in leisure patterns associated with members of particular age groups, social class groups, ethnic and racial groups, resident groups and sub-cultures.
3 lecture hours — 32

360. Historical-Cultural Foundations of Physical Education. An examination of philosophical, theological and scientific anthropologies with emphasis on their doctrines of the body and their respective influences on education and physical education: concepts of play in historical perspective; culture and the body.
3 lecture hours — 3

402(b). Physical Activity and Health. An examination of the effect of physical activity on selected aspects of health (obesity, longevity, the aging process, coronary heart disease, rehabilitation, mental health); a theoretical and practical approach to exercise prescription.
Half course, 3 lecture hours — 9

443. Scientific Training Techniques. The investigation of modern athletic training methods with emphasis on interval training, weight training, isometric exercises and nutrition.
Half course, 2 lectures, 2 laboratories — 5

451. Team Games and Individual Activities. The study of team games with particular reference to coaching responsibilities in planning, methodology, skill analysis, personnel management, etc.; care of athletic injuries.
Prerequisite: PHE 251, 351
6 hours (lecture or laboratory as required)

453. Motor Learning. First term — Descriptive systems of motor learning and skilled performance; principles of motivation and performance; component processes and performance capacities; information processes in motor learning; human capacities in perceptual-motor skills; measurement and prediction of learning and performance.
2 lectures, 2 laboratory hours
Second term — choice of: Applications and implications of the principles of motor learning or advanced topics in motor skill learning.
3 lectures (seminars) — 34

456. Seminar. The interpretation of physical education in its relationship to education; principles underlying programs; presentation of senior thesis.
3 hours — 14

457. Physical Fitness Appraisal and Guidance. The scientific basis of physical fitness appraisal; the construction and administration of fitness and sports skill tests; descriptive statistics in the handling of data for evaluation, grading, and classification.
2 lectures, 2 laboratory hours — 21

458. Sport and Culture. An analysis of the social and cultural nature of sport in contemporary society.
3 lecture hours — 27



Faculty of Science

Dean

A. E. Scott, BSc, PhD St. Andrews, Professor of Chemistry

Assistant Dean

W. C. Howell, BSc, MSc, PhD, *Associate Professor of Chemistry*

Administrative Offices: Room 108, 679-3781 Natural Sciences Centre

Faculty of Science

A description of the programs and courses offered in the Faculty of Science and a listing of its members of Faculty will be found on the following pages, organized under Departments and arranged *alphabetically. For further information, reference should be made to* the first section of the Calendar and to the booklet, "General Information"

A student in the Faculty of Science is governed by the academic regulations contained in this section and also in the general section of the Calendar. Regulations applicable to particular programs of study are published under the Departments offering the programs. In addition, certain courses are subject to individual prerequisites.

The student is advised to read and consider carefully all regulations and, in cases of doubt as to the precise meaning of any statement or regulation, to consult the Office of the Dean or the Department concerned.

PROGRAMS OF STUDY

The Faculty of Science offers:

Three-Year Programs leading to the degree, BA, General Program, with or without an approved area of concentration (major subject), in accordance with the revised regulations set forth below (see page 308). Approved areas of concentration are available only in:

Computer Science
Geology
Mathematics

Three-Year Programs leading to the BSc degree, and which require concentration in a Major subject, in accordance with the regulations described on page 309. Approved programs are now available in the following subject areas:

Applied Mathematics
Biology
Chemistry
Computer Science
Geophysics
Mathematics
Physics

Four-Year Honors Programs leading to an Honors BSc degree. These are available in the following disciplines:

Anatomy
Applied Mathematics
Astronomy
Bacteriology and Immunology
Biochemistry
Biology
Biophysics
Chemistry
Computer Science
Geology
Geophysics
Mathematics (Hons. BA and BSc)
Physics
Physiology
Physiology and Pharmacology
Plant Sciences
Zoology

Further details of the availability and nature of programs in specific subjects or disciplines will be found in the sections devoted to individual Departments which follow this one.

A student intending to enter Dentistry, Medicine, Physical Therapy, or Communication Disorders is advised to register initially in the Faculty of Science (Natural Sciences) and to consult the Calendar entries of the Faculty of Dentistry and the Faculty of Medicine for further guidance. Similarly a student in a Science program may be eligible for admission to programs in Business and Law.

Availability of Options. The student's choice of course options within any academic program is subject to the constraints both of the lecture and final examination time-tables.

Accuracy of Registration. It is the responsibility of the student to ensure the completeness and accuracy of his registration.

First Year

The purpose of the First Year General Program is to offer one year of basic general education and to postpone the selection of a specific program until the second year. Thus the student can make a final decision as to his future program on the basis of university work which will include subjects not available in the secondary school. On the successful completion of the First Year General Program, the student is eligible to register in the second year of one of the Three Year Programs or the second year of one of the Honors Programs.

The First Year General Program in the Natural Sciences is intended to lead primarily to senior Programs offered by the Departments within the Faculty of Science but does not preclude admission to programs in other Faculties (Arts, Engineering Science, Social Science) provided that the course prerequisites are fulfilled. Similarly, admission to senior programs in the Faculty of Science from First Year Programs in other Faculties is subject only to the fulfilment of specific requirements.

Admission Requirements. Full details of the academic requirements for admission in (1972-73) to the First Year General Program, Natural Sciences, are provided in the "General Information" publication. The basic requirement is successful completion of Ontario Grade XIII with standing in 6 credits. It will be noted that there are no longer any specific course requirements for initial admission to the Faculty of Science. Nevertheless students intending to enter Science programs are advised to include in their High School preparation at least two Science subjects to the Grade XIII level. In this regard, Mathematics is of special importance! It must be recognized clearly that although no longer required for admission to a First Year Program in the Faculty of Science, Mathematics A, or its equivalent, Mathematics 10, is a mandatory prerequisite for Mathematics 20, 24, 27, Applied Mathematics 20, and Physics 20, 22 and 26, and that one or more of these courses are required, or are prerequisites for further courses, in most senior programs in the Faculty of Science. It follows, therefore, that a student admitted to the Faculty of Science lacking standing in Mathematics A must pass both Mathematics 10 and one of Mathematics 20, 24, 27 or Applied Mathematics 20 prior to admission to many Second Year Programs and certainly before completing the requirements for graduation in most Science Programs. At the present time, the only exception to this general qualification is the unstructured General BA Program.

Election of First Year Courses. The courses open to a student in the First Year General Program are grouped into four divisions: Faculty of Arts, Faculty of Science, Faculty of Social Science and Electives. The student registering in the First Year General Program must elect 5 courses, with inclusion of at least one from each of two of the Faculties of Arts, Science and Social Science and no more than one in any given subject area. To be eligible for registration in the Faculty of Science the student must elect a number of Science courses greater or equal to the number of courses elected in either of the Faculties of Arts or Social Science. A sixth (i.e., one additional) course may be elected with the permission of the Dean. More complete details and a listing of the courses open to Freshmen are given in the General information Book.

It is the student's responsibility to include among the courses elected, those required to proceed to the Second Year of the programs and subjects in which he may wish to continue his studies.

Special prerequisites are stated in the listings of the individual Departments of the Faculty. If in doubt, students should seek appropriate counselling and consult directly with the Department concerned.

SCIENCE

THREE YEAR PROGRAMS

Following successful completion of the First Year General Program, a student may elect to continue his studies for a further two years in one of two programs leading to either a BA degree or a BSc degree respectively.

The General BA Program is relatively unstructured and is designed to permit a student wide latitude in determining a program of study to satisfy his personal interests. At the same time, the opportunity exists in a few instances to select an area of concentration within the program. For many purposes a major subject or area of concentration is desirable and the student is urged to consider this possibility and to seek counselling in establishing a suitable program.

The Three Year BSc Program is a more structured program requiring the student to establish a major subject or area of concentration in his studies and is intended for those students who have a committed interest in Science and a firm idea of the particular discipline in which they wish to proceed. It is designed to permit a modest degree of specialization in one or two subjects to meet the requirements for further study or employment in certain fields, while allowing considerable freedom of choice in selecting ancillary areas of interest.

Academic Counselling

The Faculty of Science has established a full-time Academic Counselling Office for all students registered (or intending to register) in the Faculty. This service is provided independently of the special Summer Academic Counselling Program for First Year students; nevertheless, incoming Freshmen making use of the Summer Program are invited to supplement that program by consulting directly with individual Departments through the Faculty Counselling Office. More complete details may be obtained by application to the Office of the Dean in person or in writing. While counselling is available on a year-round basis, it is important that students seeking either general guidance or solutions to particular problems do so prior to Registration in September. Only in this way can maximum benefit be achieved for all concerned and the confusion and frustration frequently encountered at Registration be held to a minimum. To this end, students are urged to communicate with the Office of the Dean immediately after the issuing of the Spring Examination Reports in person or by correspondence.

General Regulations for the BA Degree

The requirement for graduation in the General BA Program is completion of a program of fifteen courses subject to the following conditions:

(a) inclusion of at least one course each from any two of the Faculties of Arts, Science and Social Science;

(b) inclusion of at least seven senior courses (courses numbered 30 or higher);

(c) inclusion of not more than eight courses in any one subject;

(d) achievement of a D grade or higher in each course counted for graduation;

(e) achievement of an overall numerical average of 60% or higher, in the courses counted for graduation.

Note:
Optional areas of concentration are offered, at the discretion of each of the Departments of the Faculties concerned, subject to the following provisions:

(i) an area of concentration is defined as four senior courses specified by the Department concerned as meeting its requirements; additional courses offered by the Department may be taken subject to the General BA program regulations (see section (c) above);

(ii) declaration of an area of concentration in the General Program should be made by the student at the beginning of Year II;

(iii) the area of concentration will be designated on the official transcript upon graduation.

General Regulations for the BSc Degree

The student shall select on entering the Second Year a major subject or approved area of concentration in the Faculty of Science and include in this program at least FOUR senior courses in this particular subject or approved area of concentration. The major Department or the advisor for the approved area of concentration should be consulted in the choice of the Faculty of Science courses. The student's choice of program and any changes in that program must be approved by the Dean of the Faculty of Science.

The requirement for graduation in a Three Year BSc Program is completion of a program of fifteen courses subject to the following conditions:

(a) inclusion of at least ten courses from the offerings of the Faculty of Science;

(b) inclusion of at least two courses offered outside the Faculty of Science;

(c) inclusion of at least eight senior courses;

(d) achievement of a D grade or higher in each course counted for graduation;

(e) achievement of a minimum average of 60% in the courses counted for graduation and a minimum average of 60% in four senior courses of the major subject or approved area of concentration.

Maintenance of Academic Status

The minimum level of academic achievement acceptable for graduation from a Three Year Program is 60% over the fifteen courses counted for graduation. While a student is not required to pass all courses taken in any given academic session, he is expected to make reasonable progress in the accumulation of course credits toward eventual achievement of the graduation requirements. For details of the Grade Point Scale employed to determine the minimum level of satisfactory performance for progression in the program see page.

HONORS PROGRAMS

Subsequent to the First Year General Program, a student may elect to continue his studies for a further three years in one of the Honors Programs offered by the Departments of the Faculty. These programs, which lead to the Honors BSc Degree (or Honors BA, Mathematics), are intended for those students who wish to concentrate in depth in one or two subjects for the longer period. They are designed primarily as preparation for direct entry to graduate studies or meeting the requirements for certification or employment as specialists in these disciplines. As a consequence, the Honors Programs are usually more highly structured and heavier in load than the corresponding Three Year BSc Program.

In the case of the Biological Sciences and Geophysics it is possible to enter the Fourth Year of the Honors Program after successful completion of a Three Year BSc Program. For more complete details see the individual Department listings.

While students are not registered in specific Honors Programs during their first year at this University, there are specific requirements for admission to the Second Year of all Honors Programs which are based upon the courses selected and the standing obtained in First Year. In each of the four years of study, those courses considered to be core subjects and essential to the development of the specialization are designated as **Principal** Courses; peripheral or optional subjects are designated as **Subsidiary Courses.**

A student expecting to enter an Honors Program should review the requirements of the particular program(s) before selecting his options in First Year.

Admission to Second and Subsequent Year. A student qualifies for admission **automatically** if, for the previous year, he has obtained a grade average of at least 70%, with no grade less than 60%, **in the courses listed as principal courses** by the Department(s) of the discipline in which he is specializing and a passing grade in every subsidiary course.

A student who fails to qualify for automatic admission but has a grade average of at least 60% in the principal courses and a passing grade in every course, may be admitted at the discretion of the Department(s) concerned; students in this position are urged to consult with the Department(s) for consideration.

If, at the end of the Second or Third Years, a student fails to meet the requirements for continuance in the Honors Program, or decides not to continue in Honors, he may revert to one of the Three Year Programs but he must meet all the requirements of that program prior to graduation.

Honors Graduation Requirements. A student who has a grade average of at least 60% in the principal courses of the Fourth Year and a passing grade in every course will automatically graduate with an Honors degree.

A student who has a grade average below 60% in the principal courses of the Fourth Year but has a grade average of at least 60% in all the principal courses of the Third and Fourth Years, and a passing grade in every course, may graduate with an Honors degree only on the recommendation of the Department(s) concerned.

A student who passes all courses in the Fourth Year of an Honors Program for the degree of Bachelor of Arts or Bachelor of Science and satisfies all other requirements for graduation, but fails to qualify for an Honors degree, shall be awarded a BA or BSc degree without designation. Such a student may write a subsequent examination to qualify for an Honors degree. When these qualifications have been met he must return his original diploma to the Registrar in order that it may be replaced.

FACULTY OF SCIENCE COURSES

HISTORY OF SCIENCE COURSES

The following courses are presented by the Department of History of Medicine and Science (Faculty of Medicine) in cooperation with the Faculty of Science.

Science 200 (History 200). History of Scientific Thought. A survey of the development of scientific ideas and their impact on society from antiquity to the beginning of the 20th century. This course is intended primarily as an honours option for science or history majors, but is open to other interested students as well.
3 lecture/discussion hours. Full course.

Science 210. History of Astronomical Thought. An examination of the development of the major ideas of astronomy and cosmology from antiquity to modern times, with emphasis on the post-Copernican era. The course is intended primarily for undergraduates who have already taken an introductory course in astronomy, but is open to other interested students as well.
3 lecture/discussion hours (half course)
first term.

Science 440. History of Scientific Ideas. An examination of the historical growth of scientific thought, with particular attention given to the development of the biological sciences during the past two centuries. Note: This course, as in previous years, in intended primarily for fourth year honours students in the biosciences.
2 lecture/discussion hours (half course)
first term.

The Faculty of Science offers two courses of a general nature which are not associated with any individual Department of the Faculty.

Contemporary Science A.* This is a course in the general physical sciences primarily intended for students in the Social Sciences. Much of today's most productive research is interdisciplinary in nature and the treatment will reflect this approach by using guest lecturers to treat certain contemporary issues in science. No student may count for credit both this course and a "20-level" course in another physical science.
(This course has no prerequisites and will not be accepted as a prerequisite for other science courses.)
Enrolment may be limited.
3 lecture/demonstration/laboratory hours - 4

Contemporary Science B.* This is a course in the general Life Sciences which is designed for non-science students. It deals with topics related to the pollution of the natural environment and is intended to prepare the registrant to play a constructive and intelligent role in the programs which must be promoted to preserve the environment as the life supporting medium. Major biological principles, an understanding of which is essential, will be dealt with using visiting lecturers as required to present all facets of this interdisciplinary subject. Essays and seminars will provide for personal participation. No student may count for credit both this course and a "20-level" course in the biological sciences.
(This course has no prerequisites and will not be accepted as a prerequisite for other science courses).
Enrolment may be limited.
3 lectures/demonstration/laboratory hours. - 4

*NOTE: Contemporary Science A and Contemporary Science B cannot be used to fulfil the requirements for graduation for a BSc. degree or any honors degree program in the Faculty of Science.

Department of Anatomy

Departmental Office: MS472

Professors

Barr, M. L., SM, BA, MSc, MD UWO; LLD Queen's, Toronto, Alberta and Dalhousie; Dr med h c Basel; FRSC, FRCP(C), FACP

Buck, R. C., MSc, MD UWO; PhD London (Department Chairman)

Associate Professors

Gwinnett, A.J., BDS Birmingham; LDS, RCS (Eng.); PhD Bristol

Gwyn, D. G., MRCS (Eng); LRCP, MBBS London; PhD Birmingham

Montemurro, D. G., BA, MSc, PhD UWO

Wilson, A. S., MB, ChB, MD Glasgow

Associate Professor of Human Genetics

Soltan, H.C., BA, PhD Toronto; MD UWO

Altmann, G.G., BSc Dalhousie; MSc, PhD McGill

Donisch, E. W. K. F., MD Bonn; MSc UWO

Flumerfelt, B.A., BSc Sir George Williams; MSc McGill; PhD Cambridge

Gammal, E. B., MB, BcH Cairo; PhD UWO

Sergovich, F.R., BA McMaster; PhD UWO

Shaver, Everlyn L., BSc, MSc, PhD UWO

Singh, R.P. BA, MSc, PhD UWO

Todd, M. E., BA, MSc British Columbia; PhD Glasgow

Lecturer

Clattenburg, R.E., BSc, MSc Acadia

Honorary Lecturers

Robinow, C. F., MD Hamburg; FRSC

Walden, D. B., BA Wesleyan; MSc, PhD Cornell

Instructor

Leyshon, G. A., BA UWO; MS Illinois; PhD Oregon

PROGRAMS

This Department is participating in the introduction of a new Three Year BSc Biology Program which will be initiated in September 1972. *Concomitant with the introduction of this new program the* present Honors BSc Program will be phased out and replaced by a new *Fourth Year Honors Program.*

For the 1972-73 academic year students will continue to be admitted to a Third Year Honors Program on the same basis as in previous years; students registered in the Third Year Honors Program in 1971-72 may progress to the Fourth Year. In the program lisitings which follow, where certain courses have been redesignated or *modified* because of the new program, the new listing is given first followed by the former name in parentheses.

Requirements for Admission. The admission requirements are determined by the prerequisites of the program selected for the Second Year.

Second Year

One of

(a) Second Year of Program in Honors Biology. For prerequisite and courses see page 260 and 261

(b) Second Year of Program in Honors Chemistry. For prerequisite and courses see page 271

(c) Second Year of other Honors Programs

With permission of the Department of Anatomy, a student may petition the Vice President (Academic) for recognition of the Second Year of *such other Honors Programs* as permit inclusion of a course in Organic Chemistry.

Third Year

Principal Courses

Bilogy 309 (formerly Anatomy 300)

Two of: Bilogy 202 (formerly Bacteriology 300);
Biology 300 (formerly Biochemistry 300);
Biology 302 (formerly Biophysics 300);
Biology 310 (formerly Physiology 300).

One of: Biology 206 (formerly Zoology 270);
Biology 311 (formerly Physiology 301);
Plant Sciences 255;
Zoology 255, 352.

Subsidiary Courses

Two options

Mathematics 20, 24 or 27 or Applied Mathematics 20 is required as a subsidiary course of students who have not previously taken a university course in Mathematics.

Fourth Year

NOTE: Admission to the Fourth Year from 1974-75 onwards will be only by completion of a Three Year Biology BSc, including Biology 309, with the required academic standing.

Principal Courses

Anatomy 441, 460, 461, 462, 463, 464, 480; Science 440 (History of Scientific Ideas)

Subsidiary Courses

Two options selected with the advice of the Department of Anatomy. One of Mathematics 255, Botany 300, Psychology 255 or Zoology 465 is required if a course in statistics has not previously been taken.

COURSES

264. Functional Human Anatomy. For students in the Physical and Health Education Program.

3 hours — 29

300. Histology. Survey of mammalian cytology and microscopic anatomy for Honors students.
2 lectures, 3 laboratory hours — 1

Biology 309 (formerly Anatomy 300) **Mammalian Histology.** A survey of mammalian cytology, microscopic anatomy and neuroanatomy.
Prerequisite: Biology 20 and a two hundred level course.
2 lectures, 3 laboratory hours

441. Seminar. Presentation of assigned topics and discussion of current literature.
1 hour all year (half course)

460. Gross Anatomy. A survey of human anatomy, given only to Honors Anatomy students.
2 lectures — 7

461. Cell Structure. Cytology and histology with emphasis on techniques and recent developments, especially in electron microscopy.
Prerequisite: Anatomy 300 or equivalent.
2 lectures one term (half course) — 13

462. Cytogenetics. An examination of chromosome morphology and behavior, including chromosomal abnormalities in man as causes of diseases.
2 lectures one term (half course)

463. Embryology. The principles of mammalian development.
2 lectures one term (half course)

464. Neuroanatomy. A course in the anatomy of the mammalian central nervous system, especially the brain of man.
2 lectures one term (half course)

480. Laboratory. The major laboratory course in various aspects of anatomy for students in the fourth year of the program.
A minimum of 10 hours

Department of Applied Mathematics

Professors

Blackwell, J. H., ED; BSc Melbourne; MSc, PhD UWO (Head of Department)

Dennis, S. C. R., ARCS, DIC, BSc, PhD London

Ehrman, J. B., AB Pennsylvania; AM, PhD Princeton

Fraser, P.A., BSc UWO; MS Wisconsin; PhD UWO

Naylor, D., BSc, PhD London

Sakmar, I. A., MSc Istanbul; PhD California, Berkeley

Talman, J. D., BA, MSc UWO; PhD Princeton

Visiting Professor

Bessis, J. D., Doctorat es science Sorbonne. Directeur de Recherche, Centre d'Etudes Nucleaires, Saclay. (Joint appointment with the Department of Physics)

Associate Professors

Deakin, A. S., BSc Carleton; MA, PhD Toronto

Luke, T. M., BSc Queen's; MSc, PhD McGill

MacNeill, I. B., BA Saskatchewan; MA Queen's; PhD Stanford

Manuel, P. W., BSc, MSc, PhD UWO (Administrative Assistant)

Nerenberg, M. A. H., BSc, PhD McGill

Assistant Professors

Clements, D. L., BSc, MSc Canterbury; PhD Melbourne

Migneron, J. H. R., BA Montreal; BSc Ottawa; MSc Cornell; PhD London

Sullivan, P.J., BASc, MASc Waterloo; PhD Cantab (Joint appointment with the Faculty of Engineering Science)

Zamir, M., C Eng, AFRAeS, BSc, PhD London

Visiting Assistant Professors

Blackburn, J. A., BSc Manitoba; MSc, PhD Waterloo

Rogers, C. W., BA Oxon; MSc, PhD Nottingham

Lecturer

Collins, W. M., BSc Carleton; MSc, PhD UWO

Department Office

EB 3002; telephone extension 3655

SCIENCE

Programs

The Department of Applied Mathematics offers both an Honors Program leading to an Honors BSc degree after four years of study, and a three year program leading to a BSc degree. Students enter both programs at the Second Year level after the successful completion of a First Year in a General Program.

BSc Honors Program

Three options are open to students in the Honors Applied Mathematics Program, the second year being common to all three options.

Requirements for Admission. A First Year General Program with Applied Mathematics 20 or Mathematics 24 or Mathematics 27 and Physics 20 or Physics 26 as principal courses. For grades required for admission and progression see page 29 .

Students entering Third Year Applied Mathematics from Second Year Physics must take Mathematics 256 instead of one of their principal course options in Third Year. It may be possible for students to enter Third Year Applied Mathematics from Second Year Computer Science if they have the required prerequisites. They can obtain these requirements by consulting the Department of Applied Mathematics.

(1) Continuum Mechanics Option

Second Year*

Principal Courses

Applied Mathematics 200, 202
Mathematics 256
Physics 250, 264, 265

Subsidiary Course

One option

Third Year*

Principal Courses

Applied Mathematics 300, 350, 351a, 352b, 361b
Physics 365

One full course equivalent from: Applied Mathematics 302a, 303b, 403a **; Mathematics 350, 356; Physics 353, 357

Subsidiary Course

One option

Fourth Year*

Principal Courses

Applied Mathematics 400, 420a, 421b, 452

Two and one-half full course equivalents from: Applied Mathematics 302a, 303b, 403a**, 404b, 453, 454, 460; Physics 353, 468

(2) Theoretical Physics Option

Second Year*

Same as the Second Year of the Continuum Mechanics Option

Third Year*

Principal Courses

Applied Mathematics 300, 302a, 350, 351a, 361b
Physics 365

One full course from: Mathematics 350, 356; Physics 353, 357

Subsidiary Course

One option

Fourth Year*

Principal Courses

Applied Mathematics 400, 403a, 420a, 421b, 454

Two full course equivalents from: Applied Mathematics 303b, 404b, 452, 453, 460; Physics 353, 462, 464, 467, 468

(3) Applied Analysis Option

Second Year*

Same as the Second Year of the Continuum Mechanics Option

Third Year*

Principal Courses

Applied Mathematics 300, 350, 351a, 361b

One full course equivalent from: Applied Mathematics 302a, 303b; Physics 365

One full course from: Computer Science 304; Engineering Science 436; Mathematics 350, 356

Subsidiary Course

One option

Fourth Year*

Principal Courses

Applied Mathematics 400, 403a, 404b, 460
Mathematics 453

Two full courses from: Applied Mathematics 452, 453, 454; Computer Science 304, 405; Mathematics 460

* Students should consult the Department before choosing their principal or subsidiary course options. This is particularly important since there may be prerequisites to satisfy in later courses in their programs. Finally, with the approval of the Department, other principal course options may be substituted.

** Applied Mathematics 403a must be taken in either Third or Fourth Year.

Three Year BSc Program — Applied Mathematics Major

Requirements for Admission. A First Year General Program with Applied Mathematics 20 or Mathematics 24 or Mathematics 27 and Physics 20 or Physics 26 as principal courses. For general regulations for the Three Year BSc degree program see page

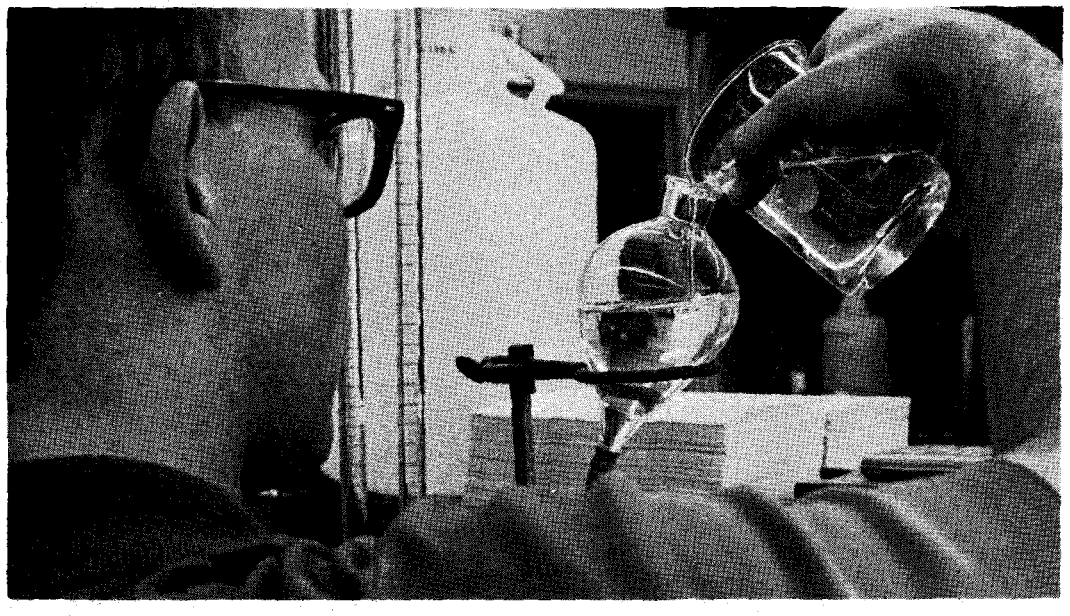
Second Year***

Applied Mathematics 200, 202
Physics 252, 256
One option

Third Year***

Applied Mathematics 300, 340
Three options

*** Students should consult the Department before choosing their options. The Department strongly recommends that Computer Science 37 or 200 and Physics 357 be included among the options selected. In consultation with the Department of Applied Mathematics, some substitutions may be made in this program.



COURSES

NOTE: (1) More detailed outlines of these courses can be found in the Department of Applied Mathematics Course Book, a copy of which may be consulted in the Department Office.

(2) In certain cases, the prerequisites and corequisites stated below may be modified but only with the approval of the Department.

20. Introduction to Calculus and its Applications. An extensive treatment of the calculus of functions of one variable is given with emphasis on applications in the Physical and Life Sciences, in Engineering Science, and in the Social Sciences. One of the four hours is devoted to a problems period during which time students receive individual attention.
Prerequisite: Grade 13 Mathematics A or Grade 13 "Calculus" and "Relations and Functions" or Mathematics 10.
3 lecture and 1 tutorial hour—29

22. Introductory Mathematics for Social Sciences. A problem centred course based upon basic algebra, linear algebra and calculus. The course is designed for students registered in the Social Sciences. Without the consent of the Department concerned, the only "Mathematics" courses which can be subsequently taken are Applied Mathematics 233, Mathematics 254, Mathematics 37a, Mathematics 38b, all intended for Social Science Students. This course may not be taken for credit by students who are eligible to take Mathematics 21.
3 lecture and 1 tutorial hour -

200. Advanced Calculus and Vector Analysis. Three dimensional analytic geometry, functions of several variables, partial derivatives, extrema including the use of Lagrange multipliers, Taylor's formula, Jacobians, multiple integrals, integral theorems, vector fields, sequences and series.
Prerequisite: A minimum grade of C in Applied Mathematics 20 or Mathematics 24 or Mathematics 27
3 hours - 30

202. Matrix Algebra and Linear Systems. This course is to develop both technical proficiency in handling matrices and determinants, and an understanding of the relations of matrices to linear vector spaces. Applications to linear equations, geometry, eigenvalue problems and vibrations of mechanical and electrical systems is emphasized. An introduction to ordinary differential equations is included.
Prerequisite: A minimum grade of C in Applied Mathematics 20 or Mathematics 24 or Mathematics 27
3 hours — 4

233. Statistics for Honors Social Sciences. Standard distributions, statistical inference, regression analysis, experimental design and other related topics are investigated. This course is designed primarily for Honors students in the Social Sciences and cannot be taken for credit by students in "Mathematics" programs.
Prerequisite: Applied Mathematics 22 or Mathematics 20 or Mathematics 21 or the consent of the Department.
3 hours -

270. Engineering Mathematics II. For Second Year Engineering Science students and for certain other Science students. Elementary differential equations and complex numbers, 2x2 and 3x3 determinants, vectors and an introduction to vector calculus, partial differentiation, multiple integrals, Taylor's theorem and an introduction to infinite series and power series.
Prerequisite: Applied Mathematics 20 or Mathematics 24 or Mathematics 27
3 hours — 20

300. Methods of Applied Mathematics I. Introduction to the theory of ordinary and partial differential equations, solutions of ordinary differential equations with variable coefficients and the special functions of mathematical physics, orthogonal function expansions, eigenvalue or boundary value problems, solutions of the partial differential equations of mathematical physics, functions of a complex variable stressing their application to the physical sciences. Two hours per week in first term are devoted to the complex variable portion of this course. The other topics are covered in three lecture hours per week throughout both terms.
Prerequisites: Applied Mathematics 200 and 202 or Mathematics 250 and 278
5 hours during first term and 3 hours during second term - 1

301a. Complex Variables with Applications. Functions of a complex variable; differentiation, integration and infinite series of a complex variable. Residue theory. Conformal mapping. Applications. Credit will not be given for both Applied Mathematics 300 and 301a.
Prerequisite: A senior course in calculus.
3 hours first term only (half course) — 1

302a. Linear Operators in Hilbert Space. Function spaces; norms; Hilbert Space; orthogonal systems of vectors; bounded linear operators; completely continuous operators; Fredholm theorems; self-adjoint operators; spectral theory for these.
Prerequisite: Mathematics 256
Corequisite: Applied Mathematics 300
Consent of the instructor is required if these conditions are not satisfied.
3 hours first term only (half course)

303b. Nonlinear Differential Equations. An introduction to the nonlinear differential equations of physical science and their methods of solution.
Prerequisite: Applied Mathematics 202 or 270 or Mathematics 278
3 hours second term only (half course) - 32

340. Numerical Analysis and Statistics. An introduction to numerical analysis and applied statistics. This course comprises the two half courses, Applied Mathematics 403a given in first term and Applied Mathematics 361b given in second term.
Prerequisites: Applied Mathematics 200 and 202 or Mathematics 250 and 278
3 hours - 14

350. Advanced Classical Mechanics. A logically connected development of classical mechanics including a thorough treatment of Lagrangian and Hamiltonian methods. Special Relativity may be included. Given in collaboration with the Department of Physics (Physics 350).
Prerequisites: Physics 250, Applied Mathematics 200 and 202, or equivalent.
3 hours - 12

351a. Introduction to Continuum Mechanics. The concept of a continuum. Derivation of the fundamental equations describing a continuum. Application to fluids and solids.
Prerequisite: Applied Mathematics 200 or 270
3 hours first term only (half course)

352b. Introductory Fluid Dynamics. An introduction to Fluid Dynamics, with principal emphasis on ideal fluid flow theory.
Prerequisite: Applied Mathematics 351a
Corequisite: Applied Mathematics 300
3 hours second term only (half course) - 7

360. Numerical Analysis. Numerical solution of algebraic and transcendental equations; numerical solution of simultaneous linear equations; matrix inversion; eigenvalues and eigenvectors of matrices; interpolation; numerical differentiation and integration, including Gaussian integration; numerical integration of ordinary differential equations; summation of series; approximation of functions and tabulated data. Students are encouraged to use the digital computer.
Prerequisites: Applied Mathematics 200 and 202 or Mathematics 250 and 278
3 hours - 14

361b. Numerical Analysis. Introduction to numerical analysis; solution of nonlinear equations; systems of linear equations; matrix inversion; interpolation; numerical differentiation; numerical integration; introduction to methods of integration of ordinary differential equations.
Prerequisites: Applied Mathematics 200 and 202 or Mathematics 250 and 278.
3 hours second term only (half course) - 14

370. Engineering Mathematics III. This is a general course in Applied Mathematics for Third Year Engineering Science students covering the following topics: an introduction to numerical methods including finite differences, difference tables, interpolation, numerical differentiation and integration, numerical solutions of differential equations, direct and iterative methods for solving linear algebraic equations; linear algebra; Fourier series and transform methods.
Prerequisite: Applied Mathematics 200 or 270
3 hours - 26

380. Applied Mathematics for Chemists. Vector calculus, infinite series and power series, solutions of ordinary differential equations including Bessel and Legendre functions, Fourier series and orthogonal function expansions, partial differential equations, linear algebra, and elementary probability theory.
Prerequisite: Applied Mathematics 200 or 270
3 hours - 1

For each of the following courses, unless the prerequisites are stated explicitly, the consent of the instructor is required.

400. Methods of Applied Mathematics II. This course is concerned with techniques of problem solution in Applied Mathematics, especially with boundary value problems of partial differential equations. Topics discussed vary from year to year but usually include the following: Green's functions, integral transforms, special topics in complex variable theory, an introduction to asymptotic expansions, tensor analysis.
3 hours - 19

403a. Applied Statistics. An introduction to statistics for application. Discrete and continuous probability distributions; sampling theory; principles of estimation; confidence intervals and F, t, X2 tests, regression analysis.
Prerequisite: A full course in calculus.
3 hours first term only (half course)

404b. Experimental Design. A discussion of many of the various statistical methods that can be employed to evaluate scientific experiments. Topics covered include the general linear model and multiple regression; analysis of variance and covariance including a discussion of basic complete and incomplete experimental designs. Other topics are selected from Sampling and Quality control; Monte Carlo methods; non parametric methods and decision theory. The specific selection is dependent on the interests of the students enrolled.
Prerequisite: A half or full course in statistics
3 hours second term only (half course) - 6.

420a. Electromagnetic Theory II. Review of Maxwell's equations; conservation laws; plane waves in a conducting medium; reflection, transmission, dispersion of plane waves; wave guides and cavities; radiating systems; diffraction.
Prerequisite: Physics 365b or Physics 465
3 hours first term only (half course) - 24

421b. Electromagnetic Theory III. Fields of moving charges; covariant and Hamiltonian formulations of Maxwell's equations; introduction to Plasma Physics and M.H.D.; advanced methods for electromagnetic field problems.
Prerequisite: Applied Mathematics 420a.
3 hours second term only (half course) - 24

452. Fluid Dynamics. An advanced course in Fluid Dynamics divided approximately equally between viscous fluid flow and gas dynamics.
3 hours - 28

453. Solid Mechanics. A first course in the theory of the mechanics of the solid continuum, including elasticity and plasticity.
3 hours -22

454. Quantum Mechanics. Wave mechanics, axioms of quantum mechanics, harmonic oscillator, angular momentum, hydrogen atom, perturbation theory, elementary atomic and molecular structure, elementary scattering theory.
3 hours - 3

460. Advanced Numerical Analysis. A sequel to Applied Mathematics 361b, with particular attention given to the techniques required for numerical solutions of ordinary and partial differential equations.
Prerequisite: Applied Mathematics 361b
3 hours - 9

470a. Engineering Mathematics IV. Vector calculus including the integral theorems, ordinary differential equations with variable coefficients, orthogonal function expansions, an introduction to partial differential equations.
Prerequisite: Applied Mathematics 270
3 hours first term only (half course) - 24

Department of Astronomy

Departmental Office:

1383-89 Western Road, G-15

Professor

Wehlau, W.H., AB, PhD California (Department Head, Director of the Observatories)

Associate Professors

Gray, D.F., BSc Wisconsin; MSc, PhD Michigan

Marlborough, J.M., BSc, MA Toronto; PhD Chicago

Assistant Professors

Landstreet, J.D., BA Reed; MSc, PhD Columbia

Mitalas, R., BA, MA Toronto; PhD Cornell

Moorhead, J.M., BSc California Institute of Technology; MA UCLA

Wehlau, Amelia, AB, PhD California (part time)

PROGRAMS

The Department of Astronomy offers an Honors Program leading to the Honors BSc degree. This program in astronomy prepares the student for work in astronomy and related physical sciences; it provides a suitable background for the teaching of the physical sciences at the high school level. Requirements for Admission: First Year General Program (Natural Sciences) with Astronomy 20, Applied Mathematics 20 or Mathematics 24 or 27 and Physics 20, as principal courses. For grades required for admission and progression see page 29

Students entering or continuing in the Honors Astronomy Program are required to consult with the Department for approval of their programs.

Students planning to enter a graduate school are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

Second Year

Principal Courses

Astronomy 220
Applied Mathematics 202 or Mathematics 250
Applied Mathematics 200 or Mathematics 278
Physics 250, 264, 265

Subsidiary Course

one option

Third Year

Principal Courses

Astronomy 320
Applied Mathematics 300
Applied Mathematics 350 or Physics 360
Physics 353, 357
Physics 365

One additional half course offered by the Faculty of Science

Subsidiary Course

One option

Fourth Year

Principal Courses

Astronomy 420

Four additional courses at the 300 or 400 level from Applied Mathematics, Geophysics, Mathematics or Physics or Science 210.

Applied Mathematics 420 and Applied Mathematics 454 or Physics 451 must be included in these courses. In addition the inclusion of Applied Mathematics 421 is strongly recommended.

Subsidiary Course

One course from Arts or Social Sciences

COURSES

20. Astronomy 1. An introduction to astronomy for students who are taking Applied Mathematics 20 or Mathematics 24 or 27 and Physics 20 or 22 concurrently, or who have completed these courses previously. The various fields of astronomy will be covered with an emphasis on the quantitative aspects. Selected topics of current interest will be treated in some detail.
3 hours — 13

21. General Astronomy. Astronomy as a science including its historical development. Topics to be covered include Newton's laws of inertia, force and gravitation and Kepler's laws of motion; the solar system: planets, earth, sun, moon, comets, meteors; light, spectra, and astronomical equipment including radio and optical telescopes; stars: their nature, distances, motions, size, composition and evolution; star systems — open and globular star clusters, the milky way, stellar populations, and galaxies; the interstellar material: its density, composition and structure including types of nebulae; the universe, cosmology; selected topics of current interest. Quantitative development of the topics required will be given. Occasional evening observations with the 6-inch refractor.
3 hours — 13

HONORS COURSES

220. Astronomy II. Fundamental astronomy; computing; elementary orbit theory; binary stars. Prerequisite: Astronomy 20 or permission of the instructor
2 hours — 1

320. Astrophysics I. Radio Astronomy and Interstellar Material — Maxwell's equations, wave motion, emission and absorption of radiation; Fourier transforms, antennas, interferometers and radiation coherence; gas and dust in interstellar space studied by optical and radio methods, diffuse and reflection nebulae, interstellar clouds and magnetic fields.
3 hours — 6

420. Astrophysics II. Atomic and stellar spectra, gaseous state of matter and radiation; introduction to the internal structure of stars, to stellar evolution and to stellar atmospheres; stellar motions, galactic structure and stellar populations.
3 hours — 11

Department of Bacteriology and Immunology

Departmental Office: MS 352

Professors:

Fitz-James, P.C., BSA British Columbia; MSA Toronto; MD, PhD, UWO

Murray, R.G.E., BA, MA Cantab; MD, CM McGill; FRSC (Head of the Department)

Robinow, C.F., MD Hamburg; FRSC

Whitby, J.L., BA, MA, MB, B Chir, Cambridge; FRC Path

Clinical Professor:

Hatch, L.A., MBBS, London; Dip Bact & Immun, London; FC Path

Associate Professors:

Ebisuzaki, K., BSc, UWO; MS, PhD, Wisconsin

Medzon, E.L., BSc, MSc, Manitoba; PhD, McGill

Robinson, J. B. S. A. British Columbia; MSc, PhD McGill

Zajic, J.E., BA Kansas; MS Wisconsin; PhD California; JD Oklahoma City

Clinical Associate Professor:

Bakerspigel, A., BA, MA, McMaster; PhD, UWO

Assistant Professors:

Cheevers, W.P., BA Colorado; PhD Mississippi

Percy, D., DVM, Toronto; MSc, Guelph; PhD, Cornell

Rozanis, J., MSc, Hebrew University, Jerusalem; PhD McGill

Sinclair, N.R.S., BSc, MD, PhD Dalhousie

Singhal, S.K., BSc Agra, India; PhD McGill

Strejan, G.H., MS Bucharest; PhD Hebrew University, Jerusalem

Wilkins, P.O.B., MS, Hawaii; PhD Pennsylvania

Clinical Assistant Professor:

Campsall, E.W.R., BA Queen's; MD, CM McGill

Clinical Lecturer:

Black, W.A., MB, ChB Glasgow, MRC Path

Honorary Lecturers:

Chodirker, W.B., BSc (Med), MD Manitoba

Hannay, C.L., BSA, Toronto; DIC, PhD London

Roslycky, E.B., BSc, MSc Manitoba; PhD Wisconsin

Toogood, J.H., MD Toronto; Diplint Med McGill; FRCP(C)

Instructor:

Galsworthy, Sara, B., BA Pomona, PhD Wisconsin

The Department of Bacteriology and Immunology offers courses in the Faculties of Dentistry, Engineering, Medicine and Nursing as well as those outlined below.

REQUIREMENTS FOR ADMISSION TO THE HONORS PROGRAM:

Entry into the third year honors program in 1972-73 may be accomplished by students who have completed:

(a) The second year of the program in Honors Biology. For prerequisites and courses see page 260

(b) Second year of other Honors Program. With permission of the Department of Bacteriology and Immunology a student who has completed the first year General Program (Arts or Social Sciences) may petition the Dean of Science for recognition of the second year of such other Honors Programs as permit inclusion of a course in Organic Chemistry.

For 1974-75 Fulfillment of the requirements for a BSc in Biology (3 year) Program with the standings and conditions described on page 261 admits a student into the Fourth Year Honors, Bacteriology and Immunology.

PROGRAMS

This Department is participating in the introduction of a new Three Year Bsc Biology Program which will be initiated in September 1972. Concomitant with the introduction of this new program the present Honors BSc Program will be phased out and replaced by a new Fourth Year Honors Program.

For the 1972-73 academic year students will continue to be admitted to a Third Year Honors Program on the same basis as in previous years; students registered in the Third Year Honors Program in 1971-72 may progress to the Fourth Year. In the program listings which follow, where certain courses have been redesignated or modified because of the new program, the new listing is given first followed by the former name in parentheses.

THIRD YEAR

Principal Courses:

Biology 202 (Bacteriology 300)
Biology 300 (Biochemistry 300)

Two courses from the following:

Biology 309 (Anatomy 300); Biology 307; Biology 302 (Biophysics 300);
Biology 310 (Physiology 300); Biology 308;
Biology 311 (Physiology and Pharmacology 301); Biology 207; Zoology 265; Chemistry 353, 354.

Subsidiary Courses:

Two options. Mathematics 20, 24, 27 or Applied Mathematics 20, is required for students who have not previously taken a university course in Mathematics.

FOURTH YEAR

Principal Courses:

For students completing the present fourth year honors BSc the following course program is required.

Bacteriology 441, 460, 461a, 462b, 467a, 470a and 480.

One of Bacteriology 465, 472b or an additional course at the honors level approved by the department.

Subsidiary Courses:

One of Biology 205 (Plant Sciences 300) Mathematics 255, or Psychology 255 if a suitable course in Statistics has not been taken.

Science 440 (Bacteriology 440) if a course in the History of Science has not been taken.

SPECIAL DEPARTMENT ADVICE:

a. Students should note the specific prerequisites for courses especially Biology 300 (Biochemistry 300).

b. Students who plan to continue into graduate studies are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

NEW PROGRAM

For the benefit of the student who will enter the fourth year honors program in 1974-75 the following is a listing of that program:

Principal Courses:

Bacteriology 460, 461a, 462b, 470a and 480. Three of Bacteriology 465, 467a, 472b, 468b or an additional course with the permission of the department.

SPECIAL DEPARTMENT ADVICE:

Students beginning in this program should carefully determine the prerequisites or corequisites necessary for courses in subsequent years. Of these Biology 202, 306 and 300 or 301 are of importance in this department. Students should also pay close attention to the mathematics and the statistics requirements.

Biology 202. (Bacteriology 300). (Given by the Departments of Bacteriology and Immunology and Plant Sciences).
A comparative study of the morphology, biology and relationship of algae, bacteria, fungi, protozoa and viruses. (Corequisite or prerequisite — Biology 200).
2 lectures, 3 laboratory hours

Biology 306. Bacteriology, Virology and Immunology. This course will consider the distinguishing features, the importance to man, and the interrelationships among the major groups of bacteria and viruses. It will also consider the basic concepts of immunology and its application to the biological sciences. (Prerequisite — Biology 200; Prerequisite or Corequisite Biology 300 or 301)
Not to be given in 1972-73.

Biology 307. Applied Microbiology. (Given by the Departments of Bacteriology and Immunology and Plant Sciences).
A survey of selected topics in agricultural and industrial microbiology with reference to food microbiology, fermentation reactions, single cell protein synthesis, the principles of plant disease control and applied immunological techniques. (Prerequisites or Corequisites Biology 200 and Biology 202 or 306, and Biology 300 or 301).
2 lectures, 3 laboratory tutorial or demonstration hours

Bacteriology 441. Seminar. The presentation of scientific reports and the writing of on essay on an assigned topic.
2 lectures (one term only). Half Course.

Bacteriology 460. Advanced Microbiology. An advanced treatment of the biology and physiology of microbes with particular emphasis on the bacteria and the viruses. (This course will become Biology 306 in 1973-74).
2 lectures

Bacteriology 461a. Microbial Anatomy. A survey of cytological methods and applications to the understanding of the structure of procaryotic organisms and fungi.
2 lectures (one term only). Half Course.

Bacteriology 462b. Advanced Virology. Current topics on the biochemistry of virus-cell interactions. (Prerequisite Biology 300 or Biology 301, Biochemistry 461 strongly recommended).
2 lectures (one term only). Half Course.

Bacteriology 465b. Microbial Biochemistry. Topics involving the biochemical activities and processes of microbes. (Prerequisites: Biology 300, 301 or Biochemistry 400).
2 lectures (one term only). Half Course.

Bacteriology 467a. Microbial Genetics. Aspects of genetics applying to micro-organisms. (Given in collaboration with the Department of Plant Sciences). (Prerequisites or corequisites Biology 308, Biology 300 or Biology 301).
2 lectures, 2 laboratory hours (one term only). Half Course.

Bacteriology 470a. Immunology. A course concerned with immunological theory and interpretation of basic and medically applied immune phenomena. (Given in collaboration with the Department of Medicine).
2 lectures (one term only). Half Course.

Bacteriology 472b. Immunochemistry. An advanced course on the properties of antigens and antibodies, on their chemical structure and on their interactions in vitro and in vivo. (Prequisite: Bacteriology and Immunology 470a or equivalent.
2 lectures, 2 laboratory hours (one term only). Half Course.

Bacteriology 480. Laboratory and Tutorial. To give training in the techniques employed in modern microbiology with emphasis upon individual effort and resourcefulness. The tutorial will provide an opportunity for staff-student discussion and supplementation of both laboratory and lecture topics. Designed to accompany the lectures of Bacteriology 460, 461a, 462b and 465b. Minimum of 10 hours.

Courses available in 1974:

Bacteriology 468b. Applied Microbiology: To include specific aspects of dairy food, soil and industrial microbiology.
2 lectures, 3 laboratory hours (one term only). Half Course.

Bacteriology 460. Advanced Microbiology: An advanced treatment of the biology and physiology of microbes with particular emphasis on the bacteria. (Prerequisite Biology 306, and Biology 300 or 301 strongly recommended).
2 lectures, 3 laboratory hours
(This course will supercede the present course 460).

Bacteriology 480. Laboratory and Tutorial: To give training in the techniques employed in modern microbiology with emphasis upon individual effort and resourcefulness. Designed expressly for fourth year honors students in the Department of Bacteriology and Immunology and to allow further elaboration of the technical content of the courses offered in the department. Tutorials would include a critical review of scientific papers, laboratory data and the presentation of scientific reports.
5 hours
(This course will supercede the current courses 441 and 480).

Department of Biochemistry

Departmental Office: MS 316

Professors

Bigelow, C. C. BASc Toronto; MSc, PhD McMaster

Carroll, K. K. BSc, Msc New Brunswick; MA Toronto; Phd UWO

Fitz-James, P. C., BSA British Columbia; MSA Toronto; MD, PhD UWO

McCarter, J.A., BA, MA British Columbia; PhD Toronto; FRSC

McMurray, W. C. BSc, PhD UWO

Rossiter, R. J. BSc W. Aust.; BA, MA, DPhil, BM, BCh, DM Oxon; FRIC (Eng); FRSC

Smith, D. B., BA, MA British Columbia; PhD Toronto

Stewart, H. B. MD, PhD Toronto, PhD Cantab (Head of Department)

Strickland, K. P. BSc, MSc, PhD UWO

Associate Professors

Ball, Judith K. BSc Mount Allison; MSc, PhD Dalhousie

Heagy, F. C. MD, MSc, PhD UWO

Magee, W. L., BSc, MSc, PhD UWO

Walker, I. G., BA Saskatchewan; MA, PhD Toronto

Webling, D. D., BSc, MB, BS, PhD Adelaide; DTM&H Sydney

Assistant Professors

Cook, R. A., BSc, MSc, PhD Manitoba

Donisch, Valentine, MD Bonn; PhD UWO

Galsworthy, P. R. BSc Queen's; PhD Wisconsin

Gatfield, P. D., MD Queen's

Gordon, B. A. MDCM, MSc, PhD Queen's

Guthrie, J. P., BSc, UWO; PhD Toronto

Haines, D. S. M., BA, MD, PhD Toronto

McDonald, J. W. D., MD, PhD, UWO

Possmayer, F., BSc, Toronto, PhD, UWO

Trevithick, J. R., BSc Queen's; PhD Wisconsin

Honorary Lecturers

Chefurka, W., BSc Manitoba; MSc Montana State; PhD Harvard

Hudson, A. J., MD, BSc Toronto; FRCP (C)

Krupka, R. M. MA Saskatchewan; PhD McGill

Spencer, E. Y., BSc, MSc Alberta; PhD Toronto; FCIC

The Department of Biochemistry offers undergraduate programs in the Faculties of Medicine, Dentistry and Nursing as well as those outlined below.

The Department participates in the Biology BSc Three Year Program. Details of this Program are on p 260 of this Calendar.
An Honors Program leading to the BSc degree is also offered.

REQUIREMENTS FOR ADMISSION TO HONORS PROGRAM

Students who plan to continue into graduate studies are advised to select options which will satisfy the foreign language credit required by many graduate schools.
Fulfilment of the requirements for a BSc. Biology Three Year Program with the standings and conditions described on page admits a student to Fourth Year Biochemistry Honors.
Alternative entry into Third Year Biochemistry Honors are one of:

(a) Second Year of Program in Honors Biology.* For prerequisites and courses see page 260 and 261 Note that one of Applied Mathematics 20, Mathematics 20, 24 or 27 will be required.

* This mode of entry will be available for the 1972-73 year only and will be replaced thereafter by the Three Year Biology BSc.

(b) Second Year of Program in Honors Chemistry. For prerequisites and courses see page 271

(c) Second Year of other Honors Program. With permission of the Department of Biochemistry, a student may petition the Dean of Science for recognition of the Second Year of such other Honors Programs as permit inclusion of a course in Organic Chemistry.

THIRD YEAR

PRINCIPAL COURSES

Biology 300 (Biochemistry 300)
Three of:
Biology 202 (Bacteriology 300, Plant Sciences 351)
Biology 302 (Biophysics 300)
Biology 309 (Anatomy 300)
Biology 310 (Physiology 300)
Biology 311 (Physiology 301, Pharmacology 301)
Chemistry 353*
Chemistry 354*
Plant Sciences 255 (Zoology 255)

SUBSIDIARY COURSES

Two options:

Mathematics 20, 24, 27 or Applied Mathematics 20 is required for students who have not had a University course in Mathematics; Chemistry 204 or 254 is required for students who have not had a University course in Physical Chemistry.

* Accompanied by the appropriate laboratory course, Chemistry 363 and/or 364, which will be accepted as a Subsidiary Course option.

FOURTH YEAR

Principal Courses

Science 440
Biochemistry 460
Biochemistry 461
Biochemistry 464
Biochemistry 468
Biochemistry 480

Any two half courses or one full course from Biochemistry, Biology, Chemistry or the Health Sciences at the 300 or 400 level with the approval of the Department of Biochemistry.

Subsidiary Courses

Mathematics 255 or equivalent (if not already taken).

One additional option may be elected with the permission of the Department of Biochemistry.

Biology Options

For a complete list of optional Biology courses please refer to Biology program p. 260

The prerequisites are such that courses numbered 202 and above can be taken in second or third year, and 300 level courses would normally be taken in third year.

COURSES

In any one program, credit towards a degree can be obtained for only one of Biochemistry 36, 400, Biology 300, 301.

Biochemistry 36. Biochemistry and Nutrition. A survey course for Home Economics and General Program students.
Prerequisites: Chemistry 33 or 203.
3 lectures — 9

Biology 300 (Biochemistry 300). General Biochemistry. A survey for Honors students.
Prerequisite: Chemistry 203, 250 or 313, Prerequisite or Co-requisite: Chemistry 204, 254 or 214.
3 lectures, 2 laboratory hours — 28

Biochemistry 400b. Biochemistry. A survey of primarily metabolism aspects of biochemistry for students in Honors Chemistry (Given in conjunction with the Department of Chemistry).
Prerequisite: Chemistry 456
3 lectures one term only (half course) — 28

Biology 301 (Biochemistry 406). General Biochemistry. A survey for students in Honors Biology.
Prerequisite: Chemistry 33 or 203
2 lectures, 3 laboratory hours — 9

Biochemistry 460. Metabolism. An advanced treatment of intermediary metabolism.
Prerequisite: Biochemistry 400 or Biology 300 or 301
2 lectures — 14

Biochemistry 461. Structure and Metabolism of Nucleic Acids. A discussion of the role of the nucleic acids in protein synthesis.
Prerequisite: Biochemistry 400 or Biology 300 or 301
2 lectures — 9

Biochemistry 463b. Current Topics. A discussion of contemporary topics in the field of biochemistry.
Prerequisite: Biochemistry 400 or Biology 300 or 301
2 lectures one term only (half course) — 20

Biochemistry 464b. Enzymology. A survey of the principles of mechanism and function of enzymes.
Prerequisites: Biochemistry 400 or Biology 300 or 301
2 lectures one term only (half course) — 17

Biochemistry 468a. Physical Biochemistry. A discussion of the Physicochemical properties of macromolecules of biological interest.
Prerequisite: Biochemistry 400 or Biology 300
2 lectures one term only (half course) — 36

Biochemistry 480. Research and Seminar. Designed to give training in techniques and methods at the advanced level; emphasis is laid upon individuality of work and resourcefulness. Included in the sessions is a review and evaluation of current literature in a series of seminars involving student participation. 10 hours.

Biology

PROGRAMS (to commence September, 1972)

The seven Biological Science Departments within the Faculty of Science jointly offer a B.Sc. degree with an area of concentration in Biology after three years of study. Three Year B.Sc. Biology students who have fulfilled the necessary requirements (see below) may progress to a Fourth Year Honors Program in one of the following disciplines:

Anatomy
Bacteriology and Immunology
Biochemistry
Biology
Biophysics
Physiology
Physiology and Pharmacology
Plant Sciences
Zoology

The Biology BSc. Three Year Program, which will commence in September, 1972, is designed to provide the student with a basic background in Biology (through three core courses) and in other sciences such as Mathematics, Chemistry, Physics. In addition, the Program offers considerable flexibility in the choice of optional Biology courses, so that a student may sample many of the disciplines of biology or may begin to specialize. Further opportunities for specialisation are available in the Fourth Year Honors Programs.

The Three Year B.Sc. Biology Program offers the students several possible career alternatives. The basic program would be adequate training for certain careers (high school teaching*, public school teaching*, technical work in industry, and in public health, etc.) or for entry into professional Health Programs (Medicine—see 175 of the Calendar, and Dentistry—see p 53 of the Calendar). Alternatively, it could lead to Honors Programs or to a qualifying year in graduate school.

The Honors Programs provide a basis for professional work in academic, government or industrial fields. From an Honors Program a student could progress to an Interim High School Assistants' Certificate Type—A*.

*Anyone intending to apply to a College of Education should consult with the Assistant Registrar, Althouse College of Education, before registration in Second Year in order to plan an undergraduate program which will be suitable.

B.Sc. BIOLOGY (Three Year Program)

THE REQUIREMENT FOR GRADUATION is completion of a program of fifteen courses subject to the following conditions:

i) of the fifteen courses, at least 10 courses must be from the Faculty of Science and include the following:
   Biology 20
   Chemistry 20
   A mathematics course at the twenty level (one of Mathematics 20*, 24, 27, or Applied Mathematics 20) which is recommended in First Year and must be completed by the end of Second Year.
   Five senior courses in Biology, including Biology 200 and 201 which must be taken in Second Year.
   Chemistry 203, or, 250 and 252;

ii) of the fifteen courses, at least two must be from outside the Faculty of Science;

iii) of the fifteen courses, eight must be senior courses;

iv) achievement of a minimum average of 60% in the courses counted for graduation and a minimum average of 60% in five senior courses in Biology.

*NOTE: Mathematics 20 will not fulfill the mathematics requirements for all Honors Programs. (Please consult the Calendar listing(s) of the departments concerned.

The student should consult the general section of this Calendar for details of academic regulations, grades required for admission and progression, which pertain to this program of study in the Faculty of Science. The specific course requirements are outlined below.

REQUIREMENTS FOR ADMISSION. If a student proposes to register in the Three Year Biology B.Sc., his program in First Year must include Biology 20 and Chemistry 20. Training in other sciences such as mathematics, physics and chemistry is essential for an appreciation of modern biology, therefore it is recommended that students consider including at least one Physics (Physics 20 or 22) or one Mathematics course at the 20 level (Mathematics 20*, 24 or 27 or Applied Mathematics 20), with due regard to the prerequisites for courses they expect to take in subsequent years. At least one course from the Faculties of Arts or Social Science must be included.

Students who registered before 1972 in programs previously offered by any of the Biological Sciences Departments may either complete their original program (this may require substitution of some courses by the equivalent courses in the new program—see departmental listing) or they may transfer to the Biology B.Sc. Three Year Program provided they fulfill the requirements of that program.

Students who have satisfactorily completed a First Year General Program which included Biology 22 and Chemistry 20 may register in the Second Year of the Biology B.Sc. Three Year Program.

CAUTION: ALL STUDENTS SHOULD EXAMINE THE PREREQUISITES FOR COURSES THEY EXPECT TO TAKE IN SUBSEQUENT YEARS. A COUNSELLING SERVICE IS PROVIDED IN THE FACULTY OF SCIENCE TO ASSIST STUDENTS IN SELECTING A PROGRAM

SECOND YEAR

Biology 200
Biology 201

A mathematics course at the 20 level, if not already taken.
Options: a number elected to attain a total of five full courses. It is recommended that students consider including Chemistry 203, or 250 and 252; and at least one Biology option (full course).

THIRD YEAR

Chemistry 203, or 250 and 252, if not already taken.
Biology optional courses (202-318): a number elected to attain at least a total of five full Biology courses in Years Two and Three.
Options: a number elected to attain a total of five full courses in Third Year. Other Biology optional courses may be included, if desired.

B.Sc. HONORS PROGRAMS (FOURTH YEAR)
REQUIREMENTS FOR ADMISSION TO HONORS PROGRAMS IN THE BIOLOGICAL SCIENCES

Prerequisites for Honors Programs in the Biological Sciences

A student who has fulfilled the requirements for a B.Sc. Biology Three Year Program and has an overall average of 70% in the last two years and at least 70% average in five senior biology courses with no mark less than 60% in those five, can proceed to one of the Honors Programs in the Biological Sciences provided the necessary prerequisites for that program have been completed at a B level. (see listing below)

A student who has fulfilled the requirements for a three-year B.Sc. Biology Program and has an overall average of 60% and an average of at least 60% in five senior Biology Courses, and who does not fulfill the requirements specified for automatic admission, may be allowed to proceed to an Honors degree in one of the disciplines of Biology only with the special permission of the Department. In the case of a student progressing to the fourth year Honors Biology program, permission of the Dean, Faculty of Science, is required.

Certain additional prerequisites are required for entry into some Honors programs; these courses should be included in the student's choice of optional courses in the Three Year B.Sc. Program. The specific additional prerequisites for entry into each Honors program are listed below:

Honors Biology
None.

Honors Anatomy
Biology 309

Honors Bacteriology and Immunology
Biology 202 or Biology 306
Biology 300 or 301

Honors Biochemistry*
Chemistry 204, or 254
Biology 300
One of Mathematics 24, 27, Applied Mathematics 20 is recommended.
The program of the fourth year student should be prepared in consultation with the department.

Honors Biophysics*
Mathematics 24 or 27, or Applied Mathematics 20.
Applied Mathematics 270 or Mathematics 278.
Physics 20
Biology 302
(It is advantageous to the student if he can also take Biology 303 and a Second Year Physics course (256 or 253) before entering the Fourth Year.)

Honors Plant Sciences
None

Honors Physiology and Honors Physiology and Pharmacology
Physics 20 or 22
Biology 310
Biology 311
Two of Biology 202, 300 or 301, 302, 309.

Honors Zoology
Biology 206
Biology 207
Biology 312. Students may be permitted to defer this course until Fourth Year in special cases.

*NOTE: Alternate prerequisites for entry into these programs are given under the departmental entry of the Calendar.

REQUIREMENTS FOR FOURTH YEAR HONORS B.Sc. IN BIOLOGY OR ONE OF THE DISCIPLINES OF BIOLOGY

At least five Honors level courses in the Biological Sciences as designated in each program must be completed.

A student who has a grade average of at least 60% in the principal courses of the Fourth Year and a passing grade in every course will automatically graduate with an Honors degree.

A student who has a grade average below 60% in the principal courses in Fourth Year but has a grade average of at least 60% in all the principal courses in the Third and Fourth Years and a passing grade in every course, may graduate with an Honors degree only on the recommendation of the department(s) concerned.

COURSES
B.Sc. BIOLOGY (Three Year Program)

Although some of the courses in this program are open to students from other programs, if space and facilities become limiting in courses at the two hundred level or higher, preference will be given to Three Year B.Sc. Biology students.
Core Courses

Biology 20—Biology of Organisms*

Growth, development, integration, organization, reproduction and heredity of unicellular, colonial and multicellular organisms.
2 lectures, 3 laboratory hours

Biology 200—Biology of Cells

The organization and the physiological, genetical and biochemical processes occurring in cells.
Prerequisite: Biology 20 and Chemistry 20
2 lectures, 3 laboratory hours

Biology 201—Biology of Populations

The distribution, genetics and evolution of populations and their growth, regulations and interactions with other populations and their environment. Prerequisite: Biology 20 or Biology 21. A student may be permitted to take this course at the discretion of the Dean of the Faculty of Science on evidence of satisfactory standing in Biology.
2 lectures, 3 laboratory hours
*Students who have done well in Biology 21 and wish to transfer to the Three Year B.Sc. program, may, with the permission of the Dean of the Faculty of Science, substitute Biology 21 for Biology 20.

Biology Options

The prerequisites are such that courses numbered 202 and above can be taken in Second or Third Year, and 300 level courses would normally be taken in Third year. Students intending to take courses offered by the Department of Zoology must consult with the Department prior to registration because of anticipated changes in course offerings.

Biology 202—Microbiology

(given by the Departments of Bacteriology and Immunology and Plant Sciences)
A comparative study of the morphology, biology, and relationships of algae, bacteria, fungi, protozoa and viruses.
Corequisite or prerequisite: Biology 200
2 lectures, 3 laboratory hours

Biology 203—Plants and Our Environment

(given by the Department of Plant Sciences)
A study of the ecosystem with emphasis on primary production, the degrading influences of pollution and the necessity of conservation practice.
Prerequisite: Biology 20
2 lectures, 3 laboratory hours

Biology 204—Plant Cybernetics

(given by the Department of Plant Sciences)
Communication and control in movement, growth and development.
Corequisite or prerequisite: Biology 200
A knowledge of elementary calculus is desirable.
2 lectures, 3 laboratory hours

Biology 205—Biometry

(given by the Department of Plant Sciences)
A course in applied statistics directed to the beginner with an interest in the study of elementary statistical methods and the application of these to biological data.
Prerequisite: Mathematics 20, 24, 27 or Applied Mathematics 20 or equivalent standing in Mathematics
2 lectures, 3 laboratory hours

Biology 206—Comparative Vertebrate Zoology

(given by the Department of Zoology)*
The biology and origins of the classes of vertebrates. The adaptations of vertebrates for life in water and on land are emphasized.
Prerequisite: Biology 20.
2 lectures, 3 laboratory hours

*Note: Normally taken in Second Year, otherwise the permission of the instructor is required.

Biology 207—Invertebrate Zoology

(given by the Department of Zoology)
The anatomy and biology of representative invertebrates.
Prerequisite: Biology 20.
2 lectures, 3 laboratory hours

Biology 208—Mammalian Zoology

(given by the Department of Zoology)
The biology of mammals with emphasis upon structure and function, and their adaptive significance.
Prerequisite: Biology 20.
2 lectures, 3 laboratory hours

***Biology 300—Biochemistry**

(for students intending to progress to an Honors Program)
(given by the Department of Biochemistry)
A survey of biochemistry with emphasis on protein structure and function (including enzymology), intermediary metabolism and nucleic acid structure and function.
Prerequisites: A Mathematics or Applied Mathematics course at the 20 level; one of Chemistry 203; 250 plus 252. Corequisite or prerequisite: one of Chemistry 204; 214; 254.
3 lectures, 2 laboratory hours

***Biology 301—General Biochemistry**

(given by the Department of Biochemistry)
An introduction to the chemistry of cellular constituents with emphasis on mammalian metabolism.
Prerequisites: One of Chemistry 203, 250 plus 252.
2 lectures, 3 laboratory hours

Note: A student cannot obtain credit for both Biology 300 and 301.

Biology 302—General Biophysics

(given by the Department of Biophysics)
A survey of the physics of living things.
Prerequisites: Physics 20 or 22.
2 lectures, 3 laboratory hours

Biology 303—Biophysical Analysis

(given by the Department of Biophysics)
The application of mathematics to the functional behaviour of living things. A knowledge of first year calculus is assumed.
Prerequisite: Physics 20 or 22.
2 lectures

Biology 304—Systematics

(given by the Department of Plant Sciences and Bacteriology and Immunology)
An examination of the place of systematics in modern biology, with emphasis on logical questions, the relevance of different kinds of data, particularly molecular; the species concept in sexual and asexual organisms and a brief account of the classification of the living world.
Prerequisites: Biology 200 and Biology 201.
2 lectures, 3 laboratory hours

Biology 305—Plant Pathogens and Plant Pathology

(given by the Department of Plant Sciences)
Study of plant diseases, and their causes, non-parasitic and parasitic. Nature of pathogens involved—bacteria, fungi, viruses, mycoplasmas, nematodes and their biology in relation to host plants. Methods of control.
Prerequisite: Biology 202.
2 lectures, 3 laboratory hours

Biology 306 — Bacteriology, Virology and Immunology

(given by the Department of Bacteriology and Immunology)
This course will consider the distinguishing features, the importance to man, and the inter-relationships between the major groups of bacteria and viruses. It will also consider the basic concepts of immunology and its application to the biological sciences.
Prerequisite: Biology 200.
Prerequisite or Corequisite: Biology 300 or 301.
2 lectures, 3 laboratory hours

Biology 307 — Applied Microbiology

(given by the Departments of Bacteriology and Immunology and Plant Sciences)
A survey of selected topics in agricultural and industrial microbiology with reference to food microbiology, fermentation reactions, single cell protein synthesis, the principles of plant disease control and applied immunological techniques.
Prerequisites or corequisites: Biology 200 and Biology 202 or 306, and Biology 300 or 301.
2 lectures, 3 laboratory or tutorial or demonstration hours

Biology 308 — Advanced Genetics

(given by the Departments of Plant Sciences and Zoology)
Critical analyses of recent concepts of the gene and chromosomes.
Prerequisites: Biology 200 and Biology 201.
2 lectures, 3 laboratory hours

***Biology 309 — Mammalian Histology**

(given by the Department of Anatomy)
A survey of mammalian cytology, microscopic anatomy and neuroanatomy.
Prerequisite: Biology 20 and a two hundred level course.
2 lectures, 3 laboratory hours.

*Note: A student will not normally obtain credit for both Biology 309 and Biology 314.

Biology 310 — Mammalian Physiology

(given by the Department of Physiology)
A survey of the physiology of various systems (e.g. cardiovascular, digestive, respiratory) of the mammal.
Prerequisites: Chemistry 203, Physics 20 or 22; one of Mathematics 20, 24, 27 or Applied Mathematics 20; Biology 20; or by permission of the Department.
2 lectures, 3 laboratory hours.

Biology 311 — General Physiology and Pharmacology

(given by the Department of Physiology and Pharmacology)
A survey of cellular and general physiology and general pharmacology.
Prerequisites: Chemistry 203; Physics 20 or 22; one of Mathematics 20, 24, 27 or Applied Mathematics 20; Biology 20; or by permission of the Department.
2 lectures.

Biology 312 — Biometry

(given by the Department of Zoology)
Methods of measurement and sampling and the application of statistical methods to zoological data. In special cases, with permission of the instructor, this course may be taken in the second year.
Prerequisite: A Mathematics course at the 20 level. Biology 312 is prerequisite for a number of courses given by the Department of Zoology.
2 lectures, 3 laboratory hours.

Biology 313 — Comparative Physiology

(given by the Department of Zoology)
A study of cell function, homeostatic mechanisms, and the integration of organ systems in selected invertebrate and vertebrate types.
Prerequisites: Biology 200 and Chemistry 20.
2 lectures, 3 laboratory hours.

*Biology 314 — Comparative Vertebrate Histology

(given by the Department of Zoology)
The microscopic structure and development of vertebrate tissues and organs.
Prerequisite: one of Biology 200, 206, or 208.
2 lectures, 3 laboratory hours.

*Note: A student cannot obtain credit for both Biology 309 and 314.

Biology 315 — Embryology

(given by the Department of Zoology)
Principles of development and differentiation, including the experimental aspects, as illustrated by selected invertebrate and vertebrate types.
Prerequisite: Biology 200.
2 lectures, 3 laboratory hours.

Biology 316 — Parasitology

(given by the Department of Zoology)
A study of parasitism as a way of life, representative animal parasites, host-parasite relationships and parasitological techniques.
Prerequisites: Biology 200 and 201 or equivalent.
2 lectures, 3 laboratory hours.

Biology 317 — Entomology

(given by the Department of Zoology)
The biology of insects. Classification, physiology, ecology, insect control and collecting techniques will be among the topics studied.
Prerequisite: Biology 20 or 21.
2 lectures, 3 laboratory hours.

Biology 318 — Comparative Ethology

(given by the Department of Zoology)
An introduction to the study of animal behaviour with emphasis on the adaptive nature of behaviour.
Prerequisites: Biology 200 and 201; Biology 206 is recommended.
2 lectures, 3 laboratory or tutorial hours

B. Sc. HONORS (FOURTH YEAR) TO COMMENCE SEPTEMBER, 1974

BIOLOGY

Structure

Principal Courses

Five full courses from offerings of the Biological Science Departments at the two hundred level or higher. At least one of these courses must include laboratory work. No more than two courses to be taken in one Department.

Subsidiary Courses

One option.

Courses

— see departmental listings

ANATOMY

Structure

Principal Courses

Anatomy 441, 460, 461, 462, 463, 480.
Science 440.

Subsidiary Courses

Two options selected with the advice of the Department of Anatomy. One of Mathematics 255, Biology 205, Psychology 255 or Biology 312 is required if a course in statistics has not previously been taken.

Courses

441. Seminar: Presentation of assigned topics and discussion of current literature.
1 hour all year (half course)

460. Gross Anatomy: A study of human gross anatomy, including the dissection of the body.
2 lectures

461. Cell Structure: A seminar course (or practical course, when only a small number of students are registered) in cytology with special emphasis on recent developments. Theoretical and practical aspects of electron microscopy are discussed.
Prerequisite: Biology 309 or equivalent.
2 lectures one term only (half course)

462. Cytogenetics: A survey of the principles and research trends in human cytogenetics as applied to somatic and hereditary diseases.
2 lectures one term only (half course)

463. Embryology: The principles of mammalian embryology with a consideration of the effects of various teratological factors on the developing embryo.
2 lectures one term only (half course)

464. Neuroanatomy: A course in the anatomy and functions of the mammalian brain and spinal cord. The first half will comprise a series of 16 lectures (core course). The second half will be composed of small group seminars and supervised dissections of a variety of mammalian brains. Opportunities will be available for interested students to construct models of various parts of the central nervous system.
2 lectures (half course)

480. Laboratory: The major laboratory course in various aspects of anatomy for students in the Fourth Year of the program.
A minimum of 10 hours.

BACTERIOLOGY AND IMMUNOLOGY

Structure

Principal Courses

Bacteriology 460, 461a, 462b, 470a, and 480.

Three of Bacteriology 465, 467a, 472b, 468b. Another course at the honors level, approved by the Department may be substituted.

Subsidiary Courses

One of Science 440 (if a course in History of Science has not been taken previously), or Biology 205, Psychology 255 (if a suitable course in Statistics has not been taken previously), or another half course in the Faculty of Science.

Courses

With the exception of Bacteriology and Immunology 480, registration in the following courses is limited only by the prerequisites listed.

460. Advanced Microbiology: An advanced treatment of the biology and physiology of microbes with particular emphasis on the bacteria. Prerequisites: Biology 306 and Biology 300 or 301.
2 lectures, 3 laboratory hours

461a. Microbial Anatomy: A survey of cytological methods and applications to the understanding of the structure of procaryotic organisms and fungi. Prerequisite: Biology 202 or Biology 306.
2 lectures, 3 laboratory hours one term only (half course)

462b. Advanced Virology: Current topics on the biochemistry of virus-cell interactions.
Prerequisites: Biology 300 or Biology 301, Biochemistry 461 strongly recommended.
2 lectures one term only (half course)

465a. Microbial Biochemistry: Topics involving the biochemical activities and processes of microbes.
Prerequisite: Biology 300, 301, or Biochemistry 400.
2 lectures one term only (half course)

467a. Microbial Genetics: Aspects of genetics applying to micro-organisms. (Given in collaboration with the Department of Plant Sciences). Available to Third Year Biology or Fourth Year Honors students.
Prerequisites or Corequisites: Biology 308; Biology 300 or Biology 301.
2 lectures, 2 laboratory hours one term only (half course)

468b. Applied Microbiology: To include specific aspects of dairy, food, soil and industrial microbiology.
2 lectures, 3 laboratory hours one term only (half course)

470a. Immunology: An introductory lecture course concerned with immunological theory and interpretation of basic and medically applied immune phenomena. (Given in collaboration with the Department of Medicine). Prerequisite: Biology 200 or equivalent.
2 lectures one term only (half course)

472b. Immunochemistry: An advanced course dealing with the chemical structure of antigens and antibodies, with the molecular aspects of antigenantibody reactions in vitro and in vivo and with modern techniques of immunochemical purification.
Prerequisite: 470a.
2 lectures, 3 laboratory hours one term only (half course)

480. Laboratory and Tutorial: To give training in the techniques employed in modern microbiology with emphasis upon individual effort and resourcefulness. Designed expressly for Fourth Year Honors students in the Department of Bacteriology and Immunology and to allow further elaboration of the technical content of the courses offered by the department. Tutorials would include a critical review of scientific papers, laboratory data and the presentation of scientific reports.
5 hours.

BIOCHEMISTRY

Structure

Principal Courses

Biochemistry 460, 461, 464, 468, 480.
Science 440.
Any two half courses or one full course from Biochemistry, Biology, Chemistry, and the Health Sciences at the 300 or 400 level with the approval of the Department of Biochemistry.

Subsidiary Courses

Mathematics 255 or equivalent (if not already taken). One additional option with the permission of the Department of Biochemistry.

Courses

460. Metabolism: An advanced treatment of intermediary metabolism.
Prerequisite: Biology 300 or 301 or Biochemistry 400.
2 lectures.

461. Structure and Metabolism of Nucleic Acids: A discussion of the role of the nucleic acids in protein synthesis.
Prerequisite: Biology 300 or 301 or Biochemistry 400.
2 lectures.

463b. Current Topics: A discussion of contemporary topics in the field of Biochemistry.
Prerequisite: Biology 300 or 301 or Biochemistry 400.
2 lectures one term only (half course)

464b. Enzymology: A survey of the principles of mechanism and function of enzymes.
Prerequisite: Biology 300 or 301 or Biochemistry 400.
2 lectures one term only (half course)

468a. Physical Biochemistry: A discussion of the physiochemical properties of macro-molecules of biological interest.
Prerequisite: Biology 300 or Biochemistry 400.
2 lectures one term only (half course)

480. Research Seminar: Designed to give training in techniques and methods at the advanced level; emphasis is laid upon individuality of work and resourcefulness. Included in the sessions is a review and evaluation of current literature in a series of seminars involving student participation.
10 hours

BIOPHYSICS

Structure

Principal Courses

Biophysics 460, 461a, 462b, 463a, 464b, 480
Science 440

Subsidiary Courses

Mathematics 255 (unless an approved course in Statistics already taken).
One course in Physics, Applied Mathematics, Mathematics or Physical Chemistry at the two hundred level or above, except that if Biology 303 has not already been taken it must be taken instead.

Courses

460*. Cellular Biophysics: The physics of cell shape, size, surface properties, membrane diffusion and transport. Elasticity and viscosity of cells and body fluids: contraction of the muscle cell.
2 lectures

461*. Bioelectrical Phenomena: Bioelectric potentials, excitability and conduction, mechanism of biological transducers and cybernetics.
2 lectures one term only (half course)

462b*. Radiobiology and Molecular Biophysics: (Given in collaboration with the Department of Plant Sciences). Nature and effects of electromagnetic radiations on biomolecular structure on living cells. Applied radiobiology and radioecology.
2 lectures, 1 hour laboratory (optional) one term only (half course)

463a*. Environmental Biophysics: The physical environment of life: The effects, on living things, of environmental factors such as temperature, solar radiation, pressure, gaseous atmosphere, water and solutes, gravity, sound and vibration, electric and magnetic fields.
2 lectures one term only (half course)

464b. Bio-thermodynamics: Study of the transformations of energy in living things, applications of the laws of thermodynamics, energy exchanges with the environment, irreversible thermodynamics and the steady state.
2 lectures one term only (half course)

480. Laboratory: This is the major laboratory course in experimental Biophysics for the Fourth Year student. Students are expected to spend as much time as possible in laboratory work.

* Courses that would be particularly suitable options to students in other honors programs.

PLANT SCIENCES

Structure

Principal Courses

Plant Sciences 401a, 402b, 403a, and 404b.
Two courses at the 200 level or higher in the Biological disciplines.

A course in the Faculty of Science may be substituted for one biological option with the permission of the Department of Plant Sciences. Students who have already specialized in a particular aspect of biology in the Three Year B. Sc. Program may, with the permission of the Plant Sciences Department, take other Plant Sciences courses (except Plant Sciences 405) provided the necessary prerequisites for the courses have been met. The principal courses in the Honors Plant Sciences Program form an integrated program in which recent advances in the study of Plant Sciences are reviewed, current literature evaluated and selected problems are investigated in the laboratory. Emphasis will be placed upon individuality of work and resourcefulness.

Courses

401a*. Plant Communities: Their structure, dynamics and distribution as related to intraspecific and interspecific interactions, inbreeding and outbreeding mechanisms and environmental stress.
3 lectures one term only (half course)

402b*. Growth and Metabolism of Plants: Structural and physiological changes occurring during germination, vegatitive growth, reproductive development, aging and scenescence in fungi, algae, lower and higher plants. The genetic and environmental control of growth, the role of dormancy and regeneration in plant survival.
3 lectures one term only (half course)

403a. Analysis of Structure Dynamics and Distribution Patterns in Plant Populations and Communities: This course includes field and laboratory exercises emphasizing modern techniques in design and analysis of field surveys and controlled experiments. (Corequisite Plant Sciences 401a, except with permission of the Plant Sciences Program Co-ordinator)
2 tutorial/discussion, 10 laboratory hours one term only (full course)

404b. Analysis of Growth and Metabolism of Plants: An investigative laboratory focusing on the regulation of growth and metabolism.
(Corequisite Plant Sciences 402b, except with permission of the Plant Sciences Program Co-ordinator)
2 tutorial/discussion, 10 laboratory hours one term only (full course)

405a*. Selected Topics: Available by prior arrangement with Plant Sciences Program Co-ordinator.
5 lecture/laboratory/discussion hours one term only (half course)

406b*. Selected Topics: Available by prior arrangement with Plant Sciences Program Co-ordinator.
5 lecture/laboratory/discussion hours one term only (half course)

462b*. Radiobiology and Molecular Biophysics: (Given in collaboration with the Department of Biophysics). Nature and effects of electro-magnetic radiations and biomolecular structure on living cells. Applied radiobiology and radioecology.
2 lectures, 1 laboratory hour one term only (half course)

467a*. Microbial Genetics: (Given in collaboration with the Department of Bacteriology and Immunology). Aspects of genetics applying to micro-organisms. Available to Third Year Biology or Fourth Year Honors students.
Prerequisites or corequisites: Biology 308 and 300 or 301.
2 lectures, 2 laboratory hours one term only (half course)

* Courses that would be particularly suitable options to students in other honors programs.

PHYSIOLOGY

Structure

Principal Courses

Science 440
Physiology and Pharmacology 460
Physiology 441, 461, 462, 480

Subsidiary Courses

One option from: Biology 205, Psychology 255, Biology 312 (only if Statistics not previously taken).
One additional option with permission of the Department of Physiology.

PHYSIOLOGY AND PHARMACOLOGY

Structure

Principal Courses

Science 440
Physiology and Pharmacology 460
Pharmacology 441, 461, 462, 480
Two of Physiology 461, 462, 463, 464

Subsidiary Courses

One option from: Biology 205, Psychology 255, Biology 312 (only if Statistics not previously taken).
One additional option.

Courses

441. Seminar: The presentation of scientific papers and reports and the writing of essays on assigned topics.
2 hours (half course)

460. Advanced General Physiology and Pharmacology: Principles of general physiology and pharmacology at an advanced level. (Given in collaboration with the Department of Pharmacology).
2 lectures one term only (half course)

461. Systematic Mammalian Physiology: Special physiology of the blood and other fluids, the cardiovascular, respiratory and gastrointestinal systems.
2 lectures one term only (half course)

462. Metabolic and Reproductive Physiology: Role of the endocrine system in regulation of metabolism and reproduction in mammals.
2 lectures one term only (half course)

463. Neurophysiology: The central and peripheral nervous systems and the special senses.
1 lecture (half course)

464. System Analysis in Physiology: The role of various systems and control mechanisms in the maintenance of homeostasis and the regulation of behavior.
1 lecture (half course)

465. Physiological Regulation and Behavior: Observation and measurement of external behavior and the role of the integrative systems in the control of external behavior.
2 lectures one term only (half course)

466. Body Water and Renal Physiology: Body fluid compartments and kidney function.
2 lectures one term only (half course)

467. Selected Advanced Topics in Physiology:
A seminar course (half course)

480. Laboratory and Tutorial: Instrumentation in physiology and laboratory research projects. Open only to honors students in physiology.
Minimum 10 hours

481. Instrumentation in Physiology: Principles of measurement and instrumentation in physiology. Open only to students not in honors physiology.
2 lectures one term only (half course)

ZOOLOGY

Structure

Principal Courses

Five full courses or equivalent at the 200 level or higher in the Biological Sciences, at least three of which must be courses offered by the Zoology Department (if not previously taken, Biology 312 — Biometry — must be taken in addition to the three aforementioned courses). The selection of courses must be approved by the Department. A course in the Faculty of Science may be substituted for a biological option with the permission of the Department. Students who plan to continue into Graduate Studies are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

Courses

437. History of Biology: The history of discoveries in biology and the development of biological thought.
2 lectures

453. Animal Ecology: Population biology. Dynamics of single and multiple species systems. Population structure. Strategies of reproduction and interaction. Diversity and stability in real ecosystems. Emphasis will be placed on the evolution of regulation mechanisms at the population level.
Prerequisite: Biology 312.
2 lectures, 3 laboratory hours



Department of Biophysics

Departmental Office: MS 122

Professors:

Burton, A. C., MBE, BSc London; MAA, PhD Toronto; LLD Alberta; FRSC, FRSA (Part-time)

Roach, Margot, R., BSc New Brunswick; MD, CM McGill; PhD UWO; FRCP (C) (Department Chairman).

Associate Professors:

Groom, A. C., BSc, PhD London; FInstP

Inch, W. R., BSc Queen's PhD UWO

Taylor, C. P. S., BA British Columbia; BA, MA Oxon; PhD Pennsylvania

Assistant Professors:

Canham, P. B., BASc Toronto; MSc Waterloo; PhD UWO

Duncan, R. I., BS, MS, PhD Oklahoma

Sherebrin, M. H., BSc Manitoba; MSc, PhD, PEng UWO

Sutherland, R. M., BSc Acadia; PhD Rochester

Honorary Lecturers:

Johnson, L. N., BS Pacific; MS Oregon; PhD Michigan

Miller, D. M., BSc Alberta; PhD McGill

Nagai, T., MEng; MSc; DSc Tokyo

Programs

The Department of Biophysics offers an Honors Program leading to an Honors B. Sc. degree after four years of study.
Students who might wish to take Honors Biophysics are advised to consult the Department as soon as possible, preferably during first year. They can thus receive maximum benefit from counselling.

Admission

There are two routes to the B.Sc. in Honors Biophysics:
(a) Admission into the Honors Program (fourth year) of students who have completed the 3-year B.Sc. Program in Biology with an adequate standing (see regulations of the Biology Program) and who have the appropriate prerequisites (see below);
(b) Admission into the Honors Program (third year) from the second-year Program in Honors Physics or Chemistry of students with a satisfactorily high standing. (With permission of the Department of Biophysics, students may petition the Dean of the Faculty of Science for recognition of other second-year Honors Programs).

N.B. FOR 1972-73 ONLY. The Second Year Honors Biology will be accepted for admission.

Prerequisites

(a) Entry into Honors Biophysics (fourth-year) from the Biology Program:
Mathematics 24 or 27, or Applied Mathematics 20
Applied Mathematics 270 or Mathematics 278
Physics 20
Biology 302
(It is advantageous to the student if he can also take Biology 303 and a second-year Physics course (256 or 253) before entering fourth year).
(b) Entry into Honors Biophysics (third-year): The second-year Honors Program in Physics
Biology 20
Chemistry 20
(Students are advised to include a physical chemistry course and as much mathematics and physics as possible among their options).

HONORS BIOPHYSICS

All course selections must be made with the approval of the Chairman of the Department.

Third Year:

Principal Courses

Biology 302
Biology 303*
One course from list A, and two from the combined lists A & B.
A: Biology 200 - Biology of cells
202 - Microbiology
300 - Biochemistry
309 - Mammalian Histology
310 - Mammalian Physiology
313 - Comparative Physiology
314 - Comparative Vertebrate Histology
B: Applied Mathematics 270 or Mathematics 278
Physics 256 or 253
Chemistry 254 or 204
Other Honors Science courses at the 200 or higher level if approved by the Department.

Subsidiary Course - One option

In connection with choosing an option students who plan to continue into graduate study are reminded that many graduate schools require some knowledge of a language other than English.

Students may be permitted, in special cases, to defer this course until 4th year and to substitute another course from Lists A and B.

Fourth Year:

Principal Courses

Biophysics 460, 461a, 462b, 463a, 464b, 480, Science 440

Subsidiary Courses

Mathematics 255 (unless approved course in statistics already taken). One course in Physics, Applied Mathematics, Mathematics, or Physical Chemistry at the 200 level or above, except that if Biology 303 has not already been taken it must be taken instead.



COURSES

Biology 302 - General Biophysics (formerly Biophysics 300)
A survey of the physics of living things.
(Pre-requisites - Physics 20 or 22).
2 lectures, 3 laboratory hours. Full Course.

Biology 303 - Biophysical Analysis (formerly Biophysics 301)
The application of mathematics to the functional behavior of living things. A knowledge of first year calculus is assumed.
(Pre-requisites - Physics 20 or 22).
2 lectures. Full Course.

460.* Cellular Biophysics. The Physics of cell shape and size, membrane structure and function, the role of cell water. Cells as chemical and mechanical machines and as control systems. Investigative tools and techniques.
2 lectures — 10

461a.* Bioelectrical Phenomena. Bioelectric potentials, excitability and conduction, mechanism of biological transducers, and cybernetics.
2 lectures (half course) — 15

462b.* Radiobiology and Molecular Biophysics. (Given in collaboration with the Department of Botany (459b): Nature and effects of electromagnetic radiations on biomolecular structure and on living cells. Applied radiobiology and radioecology.
2 lectures, 1 laboratory hour — 6

463a.* Environmental Biophysics. The physical environment of life: the effects, on living things, of environmental factors such as temperature, solar radiation, pressure, gaseous atmosphere, water and solutes, gravity, sound and vibration, electric and magnetic fields.
2 lectures (half course) — 30

464b.* Biothermodynamics. The first and second laws of thermodynamics and their application in biology. Topics include open systems — properties of solutions, chemical and membrane equilibria, whole cells — radiation and photosynthesis, information and entropy, irreversible thermodynamics.
2 lectures (half course) — 20

480. Laboratory. This is the major laboratory course in experimental Biophysics for the 4th year students. Students are expected to spend as much time as possible in laboratory work.
Minimum 10 hours weekly

*Courses that would be particularly suitable as options for students in other Honors Programs.

Department of Chemistry

Departmental Office: CB 119

Professors

Allnatt, A.R., BSc, PhD London

Arnold, D.R., BS Bethany; PhD Rochester (Member of the Photochemistry Unit)

Bolton, J.R., BA, MA Saskatchewan; PhD Cantab (Member of the Photochemistry Unit)

Brand, J.C.D., BSc, MSc, PhD, DSc London (Member of the Photochemistry Unit)

Clark, H.C., BSc, MSc, PhD Auckland; PhD, ScD Cantab (Head of Department)

Jacobs, P.W.M., BSc, MSc Natal; PhD, DSc London (Member of the Photochemistry Unit)

King, J.F., BSc, PhD New Brunswick

de Mayo, P., BSc, MSc, PhD London; Des-Sc Orsay; FRSC (Director, Photochemistry Unit)

Scott, A.E., BSc, PhD St. Andrews; (Dean of Science)

Stothers, J.B., BSc, MSc UWO; PhD McMaster

Ware, W.R., BA Reed College; PhD Rochester (Member of the Photochemistry Unit)

Warnhoff, E.W., AB Washington; PhD Wisconsin

Associate Professors

Baird, N.C., BSc, PhD McGill (Member of the Photochemistry Unit)

Baldwin, H.W., BA, MA Saskatchewan; PhD Chicago; University Research Officer

Bancroft, G.M., BSc, MSc Manitoba, PhD Cantab

Bidinosti, D.R., BSc, MSc Manitoba; PhD McMaster

Chan, R.K.C., BA, PhD Toronto

Graham, D.M., BSc, MSc Manitoba; PhD Brooklyn Poly. Inst.

Haines, R.A., BSc, MSc Dalhousie, PhD Pittsburgh

Howell, W.C., BSc, MSc, PhD UWO; (Assistant Dean of Science)

Kidd, R.G., BSc, MSc Manitoba; PhD London (Assistant Dean of Graduate Studies)

Lorimer, J.W., BA, MA, PhD Toronto

Meath, W.J., BSc Carleton; PhD Wisconsin

Sukava, A.J., BSc, MSc Manitoba; PhD McGill

Willis, C.J., MA, PhD Cantab

Assistant Professors

Dean, P.A.W., BSc PhD Imperial College, London

Demas, C.P., BSc Alexandria; PhD London

Guthrie, J.P., BSc UWO; PhD Harvard

Hunter, D.H., BSc Alberta; PhD UCLA

Payne, N.C., BSc London; PhD Sheffield

Warnhoff, P.R., AB Trinity, Washington; MSc MIT; PhD Southern California

Honorary Professors

Burns, J.W., BASc New Brunswick; MSc Queen's; LLD UWO

Spencer, E.Y., MSc Alberta; PhD Toronto

Watson, J.K., BA, MA McMaster; MA, PhD Toronto (University Registrar)

Honorary Lecturers

Robinson, J.R., BSA, MSA Toronto; PhD UWO

Starratt, A.N., BSc, PhD UWO

Stoessl, A., BSc, PhD London

PROGRAMS

The Department of Chemistry provides both an Honors Program, leading to an Honors BSc degree after four years of study, and a Program leading to a BSc degree after three years of study. In either case the concentration in chemistry begins in the Second Year on successful completion of a First Year in a General Program.

The student should consult the general section of this Calendar for details of academic regulations, grades required for admission and progression, and the requirements for graduation which pertain to these programs of study in the Faculty of Science.

The Departmental requirements are outlined below.

BSc Degree (Three Year Program)

Requirements for Admission. A First Year General Program which includes Chemistry 20, Physics 20, and one of Applied Mathematics 20, Mathematics 24 or Mathematics 27. In some instances admission may be granted to a student lacking either Physics or Mathematics; however, in such instances the missing prerequisite must be included in the Second Year of study.

Admission to this program will be granted **only after consultation** with the Department **prior** to registration.

Courses offered by the Department usually follow a sequential form and often require some background in Mathematics and Physics. For these reasons, many senior courses have definite prerequisites and corequisites. Students are advised to study these carefully. To fulfil, in part, the requirements for a BSc in this Program, a student must complete a minimum of **four** senior courses in Chemistry but may include additional ones. In any event, the Program must include Chemistry 250, 252, and 254, all to be taken in the Second Year, and Physics 253. In addition the inclusion of Applied Mathematics 270, or its equivalent is strongly recommended.

A typical selection of courses is outlined below:

Second Year

Chemistry 250, 252, and 254
Applied Mathematics 270 or Mathematics 34 Option

Third Year

At least one full lectue and laboratory course at the Third Year Level, i.e. at least one of
Chemistry 351 with Chemistry 361
Chemistry 353 with Chemistry 363
Chemistry 354
Physics 253 (if not previously elected)

Options: a number elected to attain a total of five full courses. Other Third Year Chemistry courses may be included if desired.

BSc Honors

Requirements for Admission: A First Year General Program with Chemistry 20 or 23, Physics 20 and one of Applied Mathematics 20, Mathematics 24 or Mathematics 27 as principal courses. Engineering Science I will be accepted as an equivalent First Year Program.

For grades required for admission and progression see page 5. Admission is granted automatically to those completing first year with a grade average of 70% with no course grade below 60%. Students who fail to qualify for automatic admission but who complete the first year with a grade average of 60% or greater **should apply** to the Department for consideration.

Students who fail to obtain the standing necessary for continuance in Honors, or decide not to continue in Honors, may transfer to the Three Year Program, but must meet all requirements of that program.

Students who plan to continue into graduate studies are advised to select options which will satisfy the foreign language credit required by many graduate schools.

Second Year

Principal Courses

Chemistry 250, 252, 254
Applied Mathematics 270
Physics 253

Subsidiary Course

One option

(Physics 250 and 256 may be elected instead of Physics 253 and an option)

Third Year

Principal Courses

Chemistry 351,352, 353, 354, 374
Two of: Chemistry 361, 363, 364

Subsidiary Courses

Two options

(These are free options but may include any of Chemistry 355, 358, 362 and 384. For those electing Chemistry 454 or Chemistry 474 in the Fourth Year, Applied Mathematics 380 must be taken in the Third Year, in which case the Fourth Year Program will consist of Chemistry 459, three full courses from the Fourth Year, plus two options.)

Fourth Year

Principal Courses

Chemistry 459

The equivalent of FOUR FULL courses from:
Chemistry 355, 358, 362, 384, 451, 453, 454, 456, 474
Biochemistry 400b
Applied Mathematics 380
Physics 366
Physics 465 (if Applied Mathematics 380 has been taken)
Physics 360 (if Physics 250 has been taken)
A full Biochemistry course (if Biochemistry 300 was taken in Third Year)

Subsidiary Course

One Option

COURSES

20. General Chemistry. Primarily for students in First Year General Program (Natural Sciences) or First Year Engineering Science. Prerequisite: Grade XIII Chemistry.
2 lectures, 3 laboratory hours — 25

21. General Chemistry. A terminal course for students not intending to specialize in Science.
2 lectures, 1 1/2 tutorial and laboratory demonstration hours — 25

23. General Chemistry. Primarily for students in First Year General Program (Natural Sciences) who have not had Grade XIII chemistry.
3 lectures, 3 laboratory hours — 25.

25. General Chemistry. For students in Home Economics and Nursing Programs only.
Prerequisite: Grade 13 Chemistry
2 lectures, 3 laboratory hours — 27

33. Organic Chemistry. For students in Home Economics and Nursing Programs only.
Prerequisite: Chemistry 25
2 lectures, 3 laboratory hours first term (half course) — 25

203. Organic Chemistry. Intended primarily for students in Honors Biology and students interested in programs in the Health Sciences.
Prerequisite: Chemistry 20
2 lectures, 3 laboratory/tutorial hours — 23

204. Physical Chemistry. For students in Honors Biology. (Familiarity with calculus is desirable for this course.)
Prerequisite: Chemistry 20
2 lectures, 1 1/2 laboratory hours — 2

211. Principles of Inorganic Chemistry. The application of current structural ideas and valence theory to inorganic systems. The laboratory work will involve the preparation and characterization of inorganic compounds. For students in Chemical Engineering Science.
Prerequisite: Chemistry 20
2 lectures, 3 laboratory hours — 6

214. Elementary Physical Chemistry. An introduction to the laws of thermodynamics and their applications to chemical systems. For students in Engineering Science, Geology and Geophysics.
Prerequisite: Chemistry 20 and a full course in calculus
3 lecture hours — 12

250. Structure and Mechanism. For students primarily in Chemistry Programs. A study of atomic and molecular properties in terms of the principles of bonding. Reactions and an introduction to mechanisms of the compounds of the main group elements with emphasis on carbon. This course also fulfils the organic chemistry requirements for professioal programs.
Corequisite: Chemistry 252
4 lecture hours, 1 tutorial hour — 13

252. Experimental Chemistry. For students primiarily in Chemistry Programs.
Corequisite: Chemistry 250
8 laboratory hours — 2

254. Elementary Physical Chemistry. An introduction to kinetic theory and thermodynamics. For students in Chemistry Programs.
Prerequisite: Chemistry 20 or 23 and a full course in calculus
3 lecture hours — 8

314. Intermediate Physical Chemistry. For Chemical Engineering students. Content similar to Chemistry 354.
2 lectures first term, 3 lectures second term, 1½ *laboratory hours*

351. Intermediate Inorganic Chemistry. Chemistry of the transition metals and their complexes; elementary ligand field and molecular orbital theory. For students in Chemistry Programs.
Prerequisites: Chemistry 250 and 252
half course 1 lecture first term, 2 lectures second term — 4

352. Chemical Spectroscopy. Fundamental features of molecular spectroscopic methods including ultraviolet, visible and infrared spectroscopy, magnetic resonance and mass spectroscopy.
Prerequisite: Chemistry 250 and 252, or 203.
half course 2 lecture hours first term

353. Intermediate Organic Chemistry. For students in Chemistry Programs.
Prerequisites: Chemistry 250 and 252
2 lectures

354. Intermediate Physical Chemistry. Chemical thermodynamics, phase equilibria and electrochemistry. For students in Chemistry Programs.
Prerequisites: Chemistry 254 and Applied Mathematics 270 or equivalent
Prerequisite or corequisite: Physics 253
2 lectures first term, 3 lectures second term
1½ laboratory hours — 7

355. Isotope Chemistry. Radioactivity, Nuclear Reactions. Uses of isotopes as tracers. Neutron activation. Szilard Chalmers reactions. The Mossbauer effect and applications in chemistry.
Prerequisite: Chemistry 250, 211 or 203
2 lectures one term only (half course) — 10

358. Industrial Chemistry. Industrial applications of chemistry with emphasis on heat and mass transfer aspects. For students in Chemistry Programs.
Prerequisite: Chemistry 250, 211 or 203
2 lectures one term only (half course) — 22

361. Inorganic Chemistry Laboratroy. For students in Chemistry Programs.
Corequisite: Chemistry 351
4 laboratory hours (half course)

362. Instrumental Methods of Analysis. An introduction to instrumental methods of quantitative analysis, including potentiometric, polarographic, and spectroscopic methods.
Prerequisite: Chemistry 250, 211 or 203.
2 lectures second term only (half course).

363. Organic Chemistry Laboratory. For students in Chemistry Programs.
Corequisite: Chemistry 353
4 laboratory hours (half course)

364. Physical Chemistry Laboratory. For students in Chemistry Programs.
4 laboratory hours (half course)

374. Quantum Chemistry 1. An introduction to the theory of atomic and molecular structure.
Prerequisite: Applied Mathematics 270, or equivalent
2 lecture hours — 20

384. Chemical Kinetics. Modern theories and techniques; elementary processes; fast reactions; reactions in solution and at electrodes.
Prerequisite: Chemistry 254
1 lecture (half course) — 14

451. Advanced Inorganic Chemistry. Selected topics.
Prerequsiite: Chemistry 351.
3 lecture hours — 3

453. Advanced Organic Chemistry. Selected topics.
Prerequisites or corequisites: Chemistry 353 and 363
3 lecture hours — 16

454. Advanced Physical Chemistry. Statistical thermodynamics.
Prerequisite: Applied mathematics 380, or equivalent.
2 lecture hours — 19

456. Bio-organic Chemistry. Organic Chemistry of biological molecules; mechanisms of enzyme catalyzed reactions; chemical basis of enzyme actions.
2 lectures one term only (half course)

459. Experimental Chemistry and Seminar.
12 laboratory hours

474, Quantum Chemistry II. A continuation of Chemistry 374.
2 lecture hours — 31

Department of Computer Science

Department Office: 2036 Engineering and Mathematical Sciences Building

Professor

Hart, J.F., BA, PhD Toronto (Department Chairman)

Vising Professor

Salomaa, A., BA, MA Turku; PhLic Helsinki; PhD Turku

Associate Professors

Beckhoff, G. F., Dipl Ing Aachen; MSc Southern Methodist, Dallas; DSc Laval

Carroll, J. M., BSc Lehigh; MA Hofstra; PhD New York

Gargantini, Irene, BA, PhD Milan

Pylyshyn, Z.W., BEng McGill; MSc, PhD Saskatchewan (joint appointment with Psychology)

Assistant Professors

Bennett, J.M., BSc Queen's; MA UWO

Dunham, C.B., BA, MA British Columbia, PhD UWO

Kuehner, D.G., BSc Bishops, MSc Queen's, PhD Edinburgh

Mullin, J.K., BS, MS, PhD Carnegie Mellon, Pittsburgh

Steinby, M., BSc, MSc, PhD Turku

Lecturers

Colpitts, B.A. (Mrs..), BSc New Brunswick; MSc UWO

Dewdney, A.K., BSc, MA Waterloo

Langland, K. G., BA Saskatchewan

Martin, R. J., BSc, MSc UWO

MacRae, D.A., BSc British Columbia

Newkirk, R., (Mrs.), BSc, MSc UWO

Paloian, A. Y., MSc Alberta, BSc U. of Illinois

Szilard, A.L., BA, MA UWO

Honorary Lecturers

Lake, G., BSc Queen's (Director of the Computing Centre)

Thierrin, G., Licence Math; Doctorat Math. Fribourg (Switzerland); Doctorat Math (State Doctorat) Paris

Slemon, A. G., BA Manitoba; MA, PhD Toronto; (Professor of Psychology and Sociology, Althouse College of Education)

Instructor

Beresford, R.A., BA Waterloo Lutheran

PROGRAMS

Note: Students proceeding with a major in Computer Science are required to consult the Department in their choice of courses. Tehy are advised tha, in courses with scheduled laboratory periods, additional time will be needed to complete the laboratory assignnments.

General BA

There are no restrictions other than those imposed by the requirements for the BA Degree. Note however, that there are prerequisites for most senior Computer Science Courses.

Three Year BSc

(a) Requirements for Admission. Computer Science 20* and one of Mathematics 20, 24, 27, Applied Mathematics 20.

(b) Program Structure

Second Year

Computer Science 31, 34 and a Senior Mathematics Course.
Two other courses

*While Computer Science 20 is the normal prerequisite, Computer Science 21 may be substituted. In some instances the Department will permit registration without Computer Science 20 or 21 but only after satisfactory completion of a two-week non-credit course prior to registration.

Third Year

Two of Computer Science 41, 42, 43, 44, (304 or 313 may be taken by consent of Department) and a senior Mathematics Course.

Two other courses

Note: It is strongly recommended that Mathematics 35 be included among the senior Mathematics courses selected. (Economics 35 may be substituted for Mathematics 35).

(c) Computer Science students in the General BA or Three Year BSc are advised to follow one of the three thematc directons: Systems Analysis, Computer Systems, or Education

SCIENCE

Honors BSc

(a) Requirements for Admission. A First Year General Program with Computer Science 20*, one of Mathematics 24, 27, or Applied Mathematics 20 and one other principal course.

(b) Program Structure

Caution: All students entering Second Year should examine the prerequisites for courses which they expect to take in subsequent years.

Second Year

Principal Courses

Computer Science 200, 206
Applied Mathematics 202 or Mathematics 250
One of: Mathematics 256, 278, Applied Mathematics 200

Subsidiary Course

One option

Third Year

Principal Courses

Computer Science 304, 313
Two Mathematics or Applied Mathematics courses at the 300 level

Subsidiary Course

One option

Fourth Year

Principal Courses

Four half courses in Computer Science on the 400 level. One 400 level course in Applied Mathematics, Mathematics, or one of Mathematics 350, 356. One 300 level course subject to the approval of the Department.

Subsidiary Course

One option

(c) The Honors Program is for students who wish to concentrate on Computer Science and Mathematics and who may wish to continue in graduate studies and research, advanced computer systems analysis, scientific programming, or toward the specialist Certificate in Education.

COURSES

20. Computer Science. This course provides an over-all view of the entire field of Computer Science. The course consists of three components: Programing and applications, development and design of computers, and theoretical aspects. Students will have an opportunity to solve problems on the somputer and to consider applications to science, business and education. They will study the overall design of computers and some specific logical design techniques. In addition, students will study more theoretical aspects of the subject relating to the nature of machines and information, general systems, cybernetics and automata.
Prerequisites: Two of Grade XIII mathematics courses (Calculus, Algebra and Relations and Functions) or Grade XIII Mathematics A.
3 lectures, 1 laboratory hour — 6

21. Computer Science. The course provides an over-all view of the field of Computer Science. It stresses the development and design of computers, the art of programming and use of algorithms for solving problems in science, social science and humanities.
Prerequisite: Grade XII Mathematics or equivalent.
3 lectures, 1 laboratory hour.

NOTE: Students contemplating the mathematical or physical sciences as their major field of study are *strongly advised to take Computer* Science 20.

30. Computer Science. A survey of developments in Computer Science. Selected parts from the following three main topics: present and future impact of computers (general trends in applications, the information utility, computer-assisted instruction, automation and machine intelligence), computer programing techniques to non-numerical problems (i.e. computer assisted instruction, simulation); introduction to the theory of automata and computation and its implications to other disciplines (i.e. biology, philosphy, psychology).
Prerequisite: Computer Science 20 and a *first year course in Mathematics at the 20* level
2 lectures, 2 laboratory hours — 18

31. Elements of Information Processing. A comprehensive course on the use of computers in data processing *application for students who desire a career* in the commercial use of computers. This is the basic course in the Systems Analysis theme and is divided into two phases. Phase 1 includes such topics as advanced problem solving, the COBOL language, computer design and communication concepts. Phase 11 covers System Analysis and the design of Information Systems.
Prerequisite: Computer Science 20*
2 lectures, 2 Laboratory hours — 6

34. Digital Computer Programming. An intensive course in computer programing. Emphasis on a compiler language and its applications to computer-oriented statistics, numerical analysis, simulation and other problems.
Prerequisites: Computer Science 20* and a first year course in Mathematics at the 20 level.
3 lectures, 1 laboratory hour — 26

37. Digital Computer Programming. An intensive course in computer programing for students not majoring in Computer Science. Emphasis on a standard computer language (FORTRAN) and its application to computer-oriented statistics, numerical analysis, simulation and various problems in the humanities and the social sciences.
Prerequisite: Afirst year course in Mathematics at the 20 level.
2 lectures, 2 laboratory hours — 26

Note: Not for students who have taken computer science 20 or 21.

41. Advanced Information Processing. Students are required to complete one major Electronic Data Processing project during the year. Lecture topics include: the study of the COBOL language, sorting, file maintenance and information retrieval, simulation, real time systems, time sharing.
Prerequisite: CS 31 or COBOL language
2 lectures, 2 laboratory hours — 34

42. Scientific Applications of Digital Computers. The structure and basis of algorithms for solving scientific problems on the computer. Topics in numerical methods, applied statistics and operations research, e.g., solution of sets of linear equations and differential equations, regression analysis and test of hypotheses, simulation, linear and dynamic programming.
Prerequisites: A Computer Science course and one of Mathematics 30, 34, 35
2 lextures, 2 laboratory hours — 10

43. Computer Logic and Programming. Theory of Boolean Algebra and switching circuits, basic logical elements of digital computer, logical design of computer components, software systems — compilers, interpreters, monitor systems, design of languages.
Prerequisite: A course in Computer Science or Mathematics
2 lectures, 2 laboratory hours — 20

44. Advanced Operating Systems. A systems programming course using assembly language programming. Lecture topics include information structures, machine organization, input-output programming of typical third generation systems, construction of assemblers, loaders, and compilers, operating systems, high level languages. Laboratory sessions cover assembly language programming techniques.
Prerequisite: Computer Science 34
2 lectures, 2 laboratory hours.

* While Computer Science 20 is the normal prerequisite, Computer Science 21 may be substituted. In some instances the Department will permit registration without Computer Science 20 or 21 but only after satisfactory completion of a two-week non-credit course prior to registration.

200. Digital Computer Programing. An intensive course in computer programming and algorithms. Includes advanced FORTRAN, numerical and statistical techniques, information processing, COBOL, computer hardware and software.
Prerequisites: Computer Science 20* and a First Year course in Mathematics at the 20 level
3 lectures, 1 laboratory hour — 26

206. Computational Mathematics. A study of the mathematics and mathematical systems relevant to machine theory. Topics included are number systems, codes, Macro 10 and DDT programming, as well as Boolean Algebra and theory of automata. A seminar dealing with computer applications is associated with the course.
Prerequisites: Computer Science 20* and a First Year course in Mathematics at the 20 level.
2 lectures, 2 laboratory hours — 20

304. Advanced Operating Systems. This is a system programming course providing background and experience in connection with large scale computer utilities. A detailed exposition of modern computer hardware and software is accompanied by laboratory exercises in the design of a specific system function.
Prerequisite: CS 206 or equivalent.
2 lectures, 2 laboratory hours — 19

313. Computer Logic and Design. Theory of Boolean Algebra, and switching circuits, basic logical elements of the digital computer, logical design of computer components, theory of automata.
Prerequisite: A senior course in Mathematics
2 lecturs, 2 laboratory hours — 7

420a. Computing Algorithms. A study of software and hardware used to implement algorithms. Error analysis.
2 lectures, 2 laboratory hours (half course)

421b. Computing Algorithms. A study of algorithms in Numerical Analysis.
2 lectures, 2 laboratory hours (half course)

430a. Non-Numeric Computing. Sequential Machine and Mathematical Systems Theory, algebraic languages and their translation.
Prerequisites: Mathematics 350 (taken previously or concurrently) and Computer Science 200 or equivalent.
2 lectures, 2 laboratory hours (half course)

431b. Non-Numeric Computing. Theory of computability: Turing machine and recursive function theory, mathematical machine theory and formal language theory.
Prerequisites: Mathematics 350 (taken previously or concurrently) and Computer Science 200 or equivalent.
2 lectures, 2 laboratory hours (half course)

440a. Artificial Intelligence. Computationaland descritpive logics as applied to theorem-proving, question-answering and robot control.
3 lectures, 1 laboratory hour (half course)

460a. Computer Simulation. Introduction to simulation languages. Methods for generating and testing pseudo-random-number sequences to probability functions. Introduction to queuing theory. Principles of mathematical modelling.
3 lectures, 1 laboratory hour (half course)

461b. Simulation Laboratory. Structure of simulation problems. Programming digital simulations. Design of simulation experiments, and selected topics in statistical analysis.
2 lectures, 2 laboratory hours (half course)

480b. Project. Approval by the Department is needed, (half course).

*While Computer Science 20 is the normal prerequisite, Computer Science 21 may be substituted. In some instances the Department will permit registration without Computer Science 20 or 21 but only after satisfactory completion of a two-week non-credit course prior to registration.

Department of Geology

Departmental Office B & G 128

Professors

Dreimanis, A., Magrernat Riga; DSc Waterloo

Hutchinson, R. W., BSc UWO; MSc, PhD Wisconsin

Reavely, G. H., BA, MA UWO; DIC Imperial College, Emeritus

Suffel, G. G., BSc, MSc Queen's; PhD Stanford, Emeritus

Winder, C. G., BSc UWO; MSc, PhD Cornell

Associate Professors

Church, W. R., BSc, PhD Wales

Edgar, A. D., BA, MSc McMaster; PhD Manchester

Fleet, M. E., BSc, PhD Manchester

Lenz, A. C., BSc, MSc Alberta; PhD Princeton

Starkey, J., BSc, PhD Liverpool

Sutterlin, P. G., BSc McMaster; PhD Northwestern

Young, G. M., BSc, PhD Glasgow

Assistant Professors

Hodder, R. W., BA (Geol.) Queen's; PhD Calif., Berkeley

MacRae, N. D., BSc Queen's; MSc, PhD McMaster

Honorary Lecturers

Bancroft, G. M., BSc, MSc Manitoba; PhD Cambridge

Palmer, H. C., BSc St. F. X.; PhD PRinceton (Associate Professor of Geophysics)

Quigley, R. M., BASc, MASc Toronto; PhD MIT (Associate Professor of Engineering Science)

PROGRAMS

General BA Program

Students may complete a Three Year General Program for a BA degree with a Geology major by completing four or more Honors courses. Normally Geology 20 or Geology 21 wit a B minimum are prerequisite for second year courses. Some 300 and all 400 category courses are primarily for Honors students. Before starting the program, the student should discuss his objectives wit the Head of the Department

A Three Year B.Sc. Program is being considered b the Geology Faculty and may be implemented in the academic year 1972-73. For details see the Chairman of the Geology Department.

Honors BSc Program

Requirements for admission: First Year General Program (Natural Sciences). The Honors Geology student should select Geology 20, Chemistry 20, Applied Mathematics 20 or Mathematics 24 or 27, and eith Physics 20 (prerequisite for Physics 256) or Biology 22 (prerequisite for Zoology 265). Any three Natural Sciences courses will be considered the principal courses. The Honors Geology student should have completed at least one of the above elementary university courses in each of Chemistry, Physics, Mathematics and Biology before entering the Third Year.

Before registering in the Second, Third and Fourth Year, the Honors student should consult with the Head of the Department or his deputy. Generally the courses of one year are requisite for courses in the next year. Students should have completed at least one summer of fiel experience before entering the Fourth Year For grades required for admission and progression see page 309.

Second Year

Principal Courses

Geology, 200, 219, 260, 275

Subsidiary Courses

Biology 22 or Physics 20 (whichever was not taken in First Year)

Two of: Chemistry 214, Applied Mathematics 270, Physics 256, Zoology 265.

Immediately after final examinations the Department conducts a Field Camp (Geology 200, 300) of up to 10 days duration. Second and Third year students are required to attend Field Camp. The cost of each session will not exceed sixty dollars.

Third Year

Principal Courses

Geology 300, 310, 320, 340, 350, 367

Subsidiary Courses

One of: Option of the Second Year, Chemistry 354, Computer Science 34, Geography 431, Zoology 270

OR

An elementary or intermediate course in Scientific German, Russian or French

OR

An Arts or Social Sciences course

Fourth Year

Principal Courses

Geology 400

Three of: Geology 415, 420, 425, 430, 450, 463, 475; Geophysics 302, Engineering Science 426

Subsidiary Courses

One of: an advanced science course, *including Geology*

OR

Intermediate course in scientific language

OR

An Arts or Social Science course

A student may substitute a science course in a closely related field for one selected Geology course provided permission is given by the Department.

COURSES

20. Introductory Geology. Minerals and rocks; geological processes and their results; structure of the earth; fossils; interpreting the earth's history; economic mineral deposits.
2 lectures, 3 laboratory hours — 34

21. Geological Science. A broad survey of Geology dealing with minerals and rocks, agents and processes currently active on the earth, earth history, geological map interpretation and the evolution of life on earth. Course may include field trips around the London area.
2 lectures, 2 laboratory hours — 34

60. Earth History. Principles of rock nomenclature and correlation, Geologic time, Mountain building. Principle of uniformitarianism, The Evolution of life, History of the earth's surface from Precambrian to the present with emphasis on the Paleozoic and Mesozoic. Recent theories of continent and ocean basin development.
Prerequisite: Geology 20 or 21
Extension only — 34.

200. Mapping Procedures. Geological mapping using aerial photos and pace and compass techniques on a small, but complex, area of Precambrian rocks near Whitefish Falls, Ontario; examination of sedimentary, igneous and metamorphic rocks both in the Field Camp area and on field trips to the Elliott Lake and Espanola areas; section measurement and study of Paleozoic strata on Manitoulin Island.
Prerequisites: Two Honors Geology courses, including 219.
Offered at Field Camp (half course)

211. Materials of the Earth. An introduction to Mineralogy and Petrography including the use of the petrographic microscope. A discussion of the more important aspects of Petrology, Stratigraphy and the concept of geologic time. Primarily for Geophysics 1 (Physical) students.
2 lectures, 1 hour per week extra for those who have not had Geology 20 — 16

219. Elements of Mineralogy. Elements of crystal symmetry, stereographic projection, crystal classes; introduction to morphological crystallography. Study of light transmission in minerals. Introduction to crystal chemistry and paragenesis of rock forming minerals and their identification in hand specimen and thin section (This is intended as a first course in mineralogy for all students of Geology.)
2 lectures, 2 laboratory hours. — 13

260. Stratigraphy and Historical Geology. Principles of Correlation, classification, paleogeography and geologic time with examples from the Phanerozoic: Precambrian stratigraphy of North America and comparison with shield areas of other parts of the world. Laboratory includes work on geological maps. Corequisite: Geology 275
2 lectures, 3 laboratory hours — 4

275. Paleobiology. Classification, morphology, paleoecology of invertebrate fossils. Evolution, index fossils, geographic ranges. Some fossil plants and vertebrates.
2 lectures, 3 laboratory hours — 27

300. Field Investigation. Detailed studies of the geology of the region north of Lake Huron or an extended field trip to study in detail more advanced aspects of field geology. Geophysical, economic and Pleistocene field studies may be included.
Offered in the field: (Half course)

310. Mineralogy. Systematic morphological crystallography, point groups, Bravais lattices: introduction to X-ray diffraction, chemical bonding and packaging models, structure and crystal chemistry and identification of important mineral groups.
Prerequisites: Geology 219 and Chemistry 214
2 lectures, 3 laboratory hours—(exam no. ?)

311. Resources of the Earth. Concepts of Geology emphasizing sedimentary and tectonic structures favorable for the localization of petroleum and mineral deposits. Geochemistry and the study of mineral deposits emphasizing their physical characteristics as targets for the exploration geophysicist.
Primarily for Geophysics 1 (Physical) students
2 lectures — 5

320. Petrography. Megascopic and microscopic description and classification of igneous, sedimentary and metamorphic rocks.
Prerequisite: Geology 219
2 lectures, 3 laboratory hours — 15

340. Paleodynamics. The dynamic evolution of the earth. The present-day development of, and relationship between, oceans, continents, and island arcs, and the theory of plate tectonics. Techniques of structural analysis and petrology, strain analysis and rock mechanics. Laboratory work will include the interpretation of geologic structures from maps.
Prerequisite: Geology 219
2 lectures, 3 laboratory hours — 31

350. Mineral Deposits. The origin and descriptive geology of the principal types of metallic and non-metallic ore deposits with emphasis on their time-tectonic-stratigraphic relationships in the metallo-genic sequence. Laboratory study of the ores and related rocks using the ore microscope.
Prerequisite: 219
2 lectures, 3 laboratory hours — 4

367. Glacial and Pleistocene Geology. Glaciers and their work, Glacial and extraglacial deposits, their structure and landscape forms,. Pleistocene stratigraphy, especially of eastern North America. Economic aspect of Pleistocene deposits. Laboratory exercises, field trips, and a field-laboratory project.
Prerequisite: Geology 20 or 21 and permission
5 hours — 20

391. Geology for Engineers. Introduction to minerals, rock, weathering, transportation, deposition and glacial geology. Engineering properties of geologic minerals. Application of principles of weathering to the deterioration of construction materials. Ground water seepage conditions and their influence on slope stability. Glacial soils and their importance in engineering practice. Case histories of engineering projects markedly influenced by site geology.
5 hours, one term: (Half course).

400. Senior Thesis. An original study including field observations, laboratory investigations and literature survey.
One and one-half courses

415. Advanced Mineralogy and Introductory X-ray Crystallography. Universal Stage, its mineralogy and petrographic uses. Advanced mineralogical concepts illustrated by reference to the crystal chemistry and structural crystallography of selected mineral groups, introductory X-ray crystallography, powder methods.
2 lectures, 3 laboratory hours — 16

420. Igneous Petrogenesis: Principles of silicate phase equilibria, theories of igneous differentiation with examples from selected localities. Laboratory study of petrographic methods and problems, seminars.
2 lectures, 3 laboratory hours — 3

425. Metamorphic Petrogenesis. Principles, classification and the facies concept. Physical-chemical principles involved in their genesis. Laboratory study of petrographic methods and calculations, seminars.
2 lectures, 3 laboratory hours — 35

430. Geochemistry. Element abundancies, Meteorites, Trace element geochemistry, Application of thermodynamics to geological problems. Sedimentary geochemistry, Isotope geochemistry, Polymorphism.
3 lectures — 24

450. Economic Metal Deposits. The occurrence, production and mineral economics of metals, considering outstanding examples in Canada primarily and possible metallogenic relationships between different types. Laboratory work includes report preparation from geologic literature, seminar presentation, microscope examination of specific ores.
Prerequisite: Geology 350, Concurrent Geology 420 or 430
1 lecture hour, 3 laboratory hours — 7

463. Sedimentation and Stratigraphy. Types of sediments and their habitat, conditions within the environment. Stratigraphic concepts of unit nomenclature, correlation and facies. Laboratory exercises in sediment analysis and map interpretation. tion.
2 lectures, 3 laboratory hours — 11

475. Invertebrate Macropaleontology. Advanced study of rugose corals, graptolites and Paleozoic brachipods, with emphasis on stratigraphic occurrence, morphology and classification. Study of principles of taxonomy, evolutionary concepts, use of fossils in zonation and environmental influence.
2 lectures, 3 laboratory hours — 32

Department of Geophysics

Departmental Office: B & G 62

Professors

Beck, A.E., BSc London; PhD Australian National University; (Head of Department)

Carmichael, C.M., BSc, MSc, PhD UWO

Associate Professors

Mansinha, L., BSc, MTech, IIT Karagpur; PhD British Columbia

Mereu, R.F., BSc, MSc Toronto; PhD UWO

Palmer, H.C., BSc St. Francis Xavier; PhD Princeton

Schloessin, H.H., BSc Zurich; PhD Cologne

Assistant Professor

Hayatsu, A., BSc Tokyo, MSc Tokyo, PhD Toronto

Visiting Assistant Professor

Chandra, U., BSc India, MSc India, PhD India

Geophysics is the study of problems associated with the earth using the methods of Mathematics, Physics and Geology. The physical properties of the earth's interior, the earth's magnetic field, the rotation of the earth and the history of the earth are some of the topics covered in pure geophysics. Topics in applied geophysics deal with methods of locating oil deposits, ground water, and mineral deposits using various instruments and techniques of interpretation.

The opportunities for geophysicists are so broad that many areas of emphasis are available. Students should consult with the Department Head when choosing a program and specific course options. However, in general, for students with an interest in earth sciences and a talent, or additional interest, in Physics and Mathematics the Honors Geophysics I program is recommended; for students with an interest in earth sicences and a talent, or an additional interest, in Geology the Honors Geophysics II program would be recommended. For a student who becomes interested in Geophysics at a relatively late stage in his advance through the university, the Honors Geophysics III program would be recommended but for the student who intends to go on to graduate work there may be a small penalty at this and most other universities in the form of extra course work at the graduate level to make up for what he has missed at the undergraduate level. For the student who wishes to obtain a deeper knowledge of the earth sciences than can be obtained by one or two survey courses and yet does not want to commit himself to an Honors Program, the Three Year BSc with a major or a minor in Geophysics would be recommended. Occasionally, substitution of one course by another may be allowed but such requests will be treated individually and a decision made on the basis of merit and ability to schedule the work.

PROGRAMS

Degree programs offered within the Department of Geophysics:

Three Year BSc

Honors BSc (Geophysics I, II, III)

Three Year BSc

Requirements for Admission

Candidates must satisfy the general regulations for the BSc degree (page 309) and include in their program the following courses:

Physics 20
Applied Math 20, or Math 24, or Math 27
Applied Math 270
Geophysics 202, 302, 304
Physics 256
Geology 211*

Geology 20 and Geophysics 21 are recommended but are not obligatory.

A candidate should consult the Head of the Department to arrange his program which may begin either at the end of the First Year or the Second Year.

Honors BSc

Requirements for Admission

Geophysics I (Physical). First Year General Program with Physics 20 and Mathematics 24 as Applied Mathematics 20 or principal courses. Geology 20 is recommended as a subsidiary course. Students planning to enter a graduate school are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

Second Year

Principal Courses

Geology 211
Geophysics 202
Physics 250, 264, 265

Subsidiary Courses

Applied Mathematics 200, 202

OR

Applied Mathematics 270 and one option

OR

One of:

(a) Second year of Program in Honors Physics
(b) Second year of Program in Honors Mathematics
(c) Second year of Program in Honors Applied Mathematics
(d) Second year of Program in Honors Engineering
(e) Second year of Program in Honors Astronomy

Students who wish to enter the Third Year Honors Geophysics program after taking one of these programs must first consult the Head of the Geophysics Department who will give him advice on options and subsidiary courses.

*This is regarded as a Geophysics course for the purposes of subject area concentration.

Third Year

Principal Courses

Geophysics 302, 303, 304
Geology 311

Subsidiary Courses

Applied Mathematics 370 or 300
Physics 366
One option

Fourth Year

Principal Courses

Geophysics 400, 401, 470
One of Applied Mathematics 340, 360 or Fourth Year course

Subsidiary Courses

Geophysics 458

One senior option from Physics or Astronomy or Geology
One option

Geophysics II (Geological)

Requirements for Admission. First year General Program with Physics 20 and Geology 20 as principal courses, Math 24 or Applied Mathematics 20 and Chemistry 20.

Students planning to enter a graduate school are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

Second Year

Satisfies requirements of Second Year Honors Geology with permission of Head of Geology Department.

Principal Courses

Geology 200, 210, 219, 275
Physics 256
Chemistry 214 or Geophysics 202

Subsidiary Courses

Applied Mathematics 270

Third Year

Principal Courses

Geophysics 302, 304
Geology 320, 340

Subsidiary Courses

Geophysics 303 or Applied Mathematics 370
One option (Geophysics 202 if not taken in 2nd yr.)

Fourth Year

Principal Courses

Geophysics 400, 402, 470
Geology 350

Subsidiary Courses

Geophysics 458

One senior option from Physics or Astronomy, Mathematics or Applied Mathematics, or Geology
One option

Geophysics III (after Three Year BSc)

Prerequisites: Three Year BSc with Geophysics major plus departmental permission; permission to enter this program will not be granted to students graduating with an average of less than 75% (or equivalent grade point average) in their Three Year BSc program.

Fourth Year

Principal Courses

Geophysics 303, 400, 401, 470
Geology 311

Subsidiary Courses

Applied Mathematics 370
Physics 366
Geophysics 458

COURSES

Geophysics 21. Physics of the Earth. A survey of: origin and development of the earth and solar system, constitution of the earth, tectonophysics, oceanography, meteorology, application of physical and chemical methods to oil and mineral exploration.
No Prerequisites
2 lectures, 2 laboratory hours — 18

Geophysics 202. Seismology. Fundamentals of seismology and wave propagation with applications to seismic exploration methods, studies of the earth's interior and earthquakes.
Prerequisites: Applied Mathematics 20 (or equivalent), Physics 20
2 lectures — 1

Geophysics 302. Exploration Geophysics. An introduction to gravitational, magnetic, electromagnetic, electrical and radioactive exploration methods.
Prerequisites: Physics 264, 265, (or 256), Applied Mathematics 270 or equivalents
2 lectures — 20

Geophysics 303. Potential Theory. Application of potential theory to problems concerning the earth's gravitational and magnetic field.
Prerequisites: Physics 264, 265 (or Physics 256), Applied Mathematics 270 or equivalents.
2 lectures — 10

Geophysics 304. Laboratory. Covers various problems in exploration geophysics, earthquake seismology and computer programming and instrumentation.
Prerequisites: Physics 264, 265 (or Physics 256), Applied Mathematics 270 or equivalents.
4 laboratory hours

Geophysics 400. Communication theory. Introduction to time-series analysis, and digital filtering with applications to geophysical problems.
Prerequisites: Applied Mathematics 270 (or equivalent), Geophysics 202 (or equivalent).
2 lectures, 2 laboratory hours — 29

Geophysics 401. Physics of the earth's interior. Application of mechanics, thermodynamics and atomic physics to problems of the earth.
Prerequisites: Geophysics 202, 302, 303, 304
2 lectures — 16

Geophysics 458. Geophysics Seminars. This is a course in which the students are required to prepare and present orally, papers on specified topics; the papers are also written in a style normally used for published papers.
For Honors Geophysics students (4th year)

Geophysics 470. Thesis. A report on a field or laboratory study conducted by the student. One full course.
For Honors Geophysics students (Fourth Year)

NOTE. Geology 211 and 311 are regarded as Geophysics courses for the purposes of subject area concentration.

Department of Mathematics

Professors

Ali, M.M., BSc, MSc Dacca; MS Michigan; PhD Toronto
Borwein, D., BSc Witwatersrand; PhD, DSc London; FRSE (Head of Department)
Cole, R.H., BA UWO; MA, PhD Wisconsin (Senior Professor)
Magee, G.R., BA UWO; MS, PhD Chicago (part time)
Moore, J.T., BA UWO; MA Wisconsin; PhD Chicago
Ritcey, L.F.S., BA Mount Allison; MA Harvard; PhD Chicago; ASA; LLD
Thierrin, G., Licence Math; Doctorat Math. Fribourg (Switzerland); Doctorat Math (State Doctorat) Paris

Associate Professors

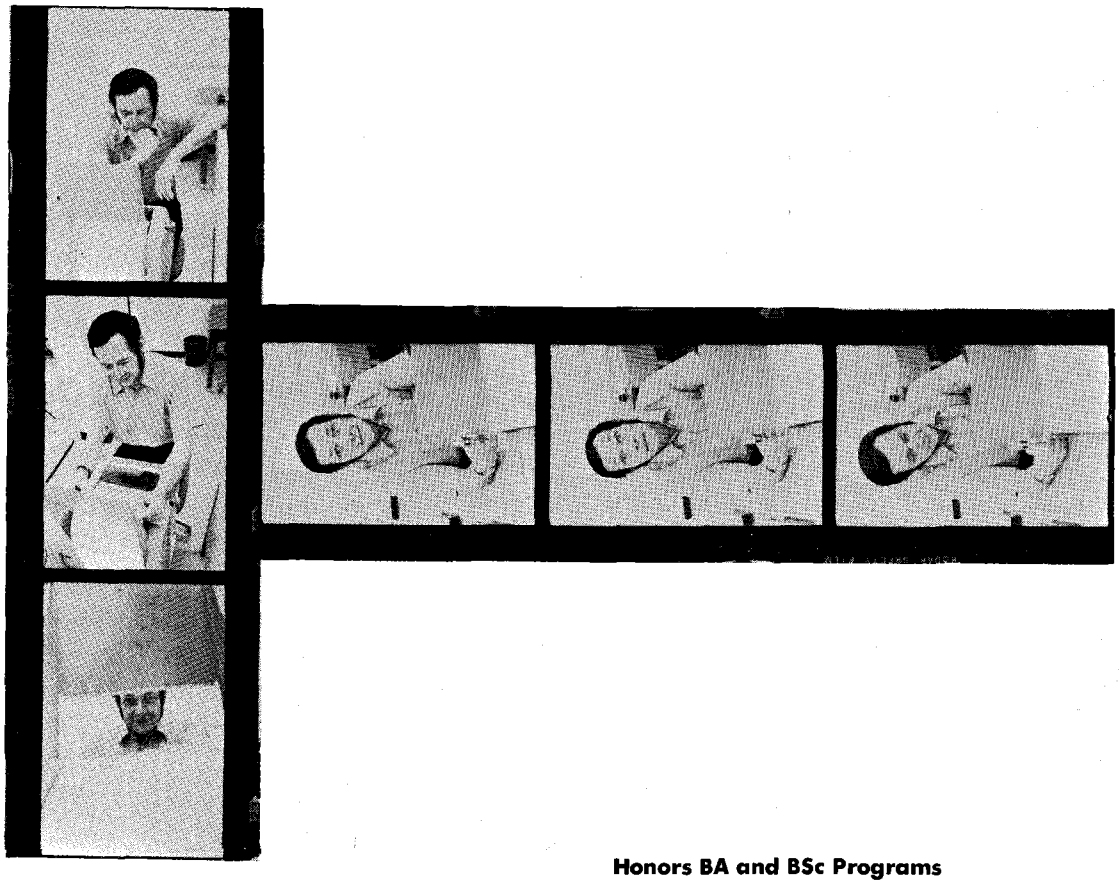
Bode, Anne E.M., BA, MA Saskatchewan
Bryan, R.N., BA, MA, PhD Utah
Chan, L.K., BSc Hong Kong Baptist; MA, PhD UWO
Haq, M.S., MA, PhD Toronto
McKay, D.O., BA, MA, PhD Buffalo
Shawyer, B.L.R., BSc, PhD St. Andrews
Wonnacott, T.H., BA UWO; PhD Princeton

Assistant Professors

Biggs, R.G., BSc Stanford; PhD British Columbia
Cass, F.P.A., BSc, MSc Victoria, N.Z.; PhD UWO
Delkin, J.L., BA Reid; MA British Columbia
Florence, J.B., MA St. Andrews; MSc Newcastle-upon-Tyne; PhD Simon Fraser
Heinicke, A.G., BSc, MSc Manitoba; PhD British Columbia
Klass, W., BSc West Indies; MA, PhD Toronto
Miller, C.B., BA Saskatchewan; MA PhD Illinois
Milnes, P., BA, MSc, PhD Toronto
Rankin, S.A., BA, MA Saskatchewan; PhD Ottawa
Reis, C.M., MA Oxon; PhD Michigan State
Robinson, I.J.W., BA, MA Queen's; PhD UWO
State, E.Y., BSc Toronto; MA, PhD Illinois
Strube, R.F.E., BS Massachusetts Institute of Technology; MS, PhD Michigan
Vranch, J.K., BSc, MA, PhD Waterloo

Lecturers

Callaghan, Nancy L., BA, MA UWO
Dawes, A.M., BSc Victoria; MSc Toronto
Horrocks, G., MA Oxon; FSA, FCIA AIA (part time)
Mereu, J.A., BA UWO; FSA, FCIA (part time)



PROGRAMS

Mathematics may be elected as the subject of concentration within the following degree programs:

Three Year BSc, General BA, Honors BA, Honors BSc.

Departmental requirements pertaining to these programs are specified below.

Three Year BSc Programs

Two basic programs are offered:

(a) Mathematics 30, 32, 34 and at least one of Mathematics 31, 35, 40, 44.

(b) Mathematics 250, 256, 278 and at least one of Mathematics 340, 350, 351, 355, 363, 453.

Other programs may be set up in consultation with the Department.

A prerequisite for any Three Year BSc Program is Mathematics 24 or 27 or Applied Mathematics 20.

General BA Program

A prerequisite for this program is Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.

Honors BA and BSc Programs

Requirements for Admission, Progression and Graduation: The requirements for admission to an Honors Program in Mathematics are the First Year General Program with Mathematics 24 or 27 or Applied Mathematics 20 and any two other courses as principal courses. For grades required for admission, progression and graduation see page 29 . For requirements concerning the joint Honors Program in Philosophy and Mathematics see page 46 . For the Honors Program in Economics, Mathematics option, see page 308 .

In order to qualify for the Honors BA degree, a student must successfully complete one of Programs 1, 2, 3, or 4 listed below.

In order to qualify for the Honors BSc degree, a student must successfully complete one of Programs 1, 2 or 3 with at least TWO of the five subsidiary courses chosen from Honors courses offered by the Faculty of Science.

Students who plan to continue into graduate studies are advised to take French or a foreign language if they have not already done so in their First Year.

Second Year

Principal Courses

Mathematics 250, 256, 278

Subsidiary Courses

Two options. A student intending to proceed in the Actuarial Mathematics Program should choose Mathematics 253 as one of these options.

Third and Fourth Years

In the Third and Fourth Years, a student may elect one of four programs.

A student who has completed the Second Year of the Computer Science Program may be permitted to enter one of the Programs 1, 2 or 3 provided he has taken Mathematics 256. Such a student must take Mathematics 278 before the end of Third Year.

MATHEMATICS (Program 1)

Third Year

Principal Courses

Mathematics 350, 356
One other Mathematics course numbered 300 or above

Subsidiary Courses

Two options

Fourth Year

Principal Courses

Two of Mathematics 450, 456, 460
Two Mathematics courses numbered 300 or above

Subsidiary Courses

One option

ACTUARIAL MATHEMATICS (Program 2)

Program 2 will prepare students to write the Preliminary Actuarial Examinations, Parts 1 and 2, prepared by the Educational Testing Service, and also to write Parts 3 and 4 of the Actuarial Examinations. Each year these examinations, which may be written in London, will be held in May and November. Applications to write the examinations must be received by the Society of Actuaries not later than April 1 and October 1 respectively.

Third Year

Principal Courses

Mathematics 353, 355, 356

Subsidiary Courses

Two options

One of these options must be Mathematics 253 if it has not been taken previously

Fourth Year

Principal Courses

Mathematics 463
Three Mathematics courses numbered 300 or above

Subsidiary Course

One option

MATHEMATICAL STATISTICS (Program 3)

Third Year

Principal Courses

Mathematics 355, 356
One Mathematics course numbered 300 or above

Subsidiary Courses

Two options

Fourth Year

Principal Courses

Two of Mathematics 445, 453, 455, 465
Two Mathematics courses numbered 300 or above, one of which must be Mathematics 350 if not taken previously.

Subsidiary Course

One option

MATHEMATICS, ECONOMICS OPTION (Program 4)

Requirements for Admission. First Year General Program with Mathematics 24 or 27 or Applied Mathematics 20, and Economics 20 as principal courses.

Second Year

Principal Courses

Economics 230, 255
Mathematics 250, 256, 278

Third Year

Principal Courses

Economics 340
Mathematics 355, 356, 378
One of Economics 237, 351

Fourth Year

Principal Courses

Economics 360
Mathematics 350, and 445 or 455
One Mathematics or Economics course numbered 300 or above

Subsidiary Course

One option

COURSES

10. Calculus with Analytic Geometry. Topics in algebra, trigonometry and analytic geometry followed by an introduction to differential and integral calculus. May not be taken for credit by students with Grade 13 Mathematics A.
Prerequisite: Grade 12 Mathematics.
3 lectures and 1 tutorial hour — 30.

20. Introductory Calculus and Algebra. An introduction to calculus; a study of logic, set theory, probability theory, and the algebra of vectors and matrices.
Prerequisites: Mathematics 10; or Grade 13 Mathematics A; or Grade 13 "Calculus" plus either Grade 13 "Algebra" or Grade 13 "Relations and Functions".
3 lectures — 30.

NOTE: Mathematics 20 is not accepted as a prerequisite for most Honors Programs offered by the Faculty of Science.

21. Mathematics for the Social Sciences. A problem-centred course with major emphasis on calculus, linear algebra, and probability. This course is primarily designed for students registered in the Faculty of Social Science.
Prerequisites: Mathematics 10; or Grade 13 Mathematics A; or Grade 13 "Calculus" plus either Grade 13 "Algebra" or Grade 13 "Relations and Functions".
3 lectures and 1 tutorial hour.

24. Calculus. Differential and integral calculus with applications.
Prerequisites: Grade 13 Mathematics A and Mathematics B or Grade 13 "Calculus", "Algebra" and "Relations and Functions".
3 lectures and 1 tutorial hour — 30.

27. Calculus. Differential and integral calculus with applications.
Prerequisite: Mathematics 10; or Grade 13 Mathematics A; or Grade 13 "Calculus" plus either Grade 13 "Algebra" or Grade 13 "Relations and Functions". Students with Grade 13 Mathematics A and B should take Mathematics 24.
3 lectures and 1 tutorial hour — 30.

30. Algebra. An introduction to abstract algebra, with principal emphasis on the structure of groups, rings, integral domains and fields.
Prerequisite: Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.
3 hours — 19.

31. Synthetic Geometry. Groups of transformations of the Euclidean plane, inversion, and coaxal systems; the projective plane.
Prerequisite: Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.
3 hours — 35.

32. Analytic Geometry. Euclidean geometry of two- and three-dimensional spaces studied with extensive use of vector and matrix methods.
Prerequisite: Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.
3 hours — 5.

33. Intermediate Calculus. Differentiation of functions of a single variable including trigonometric, exponential, hyperbolic functions and their inverses. Parametric and polar equations of curves. Techniques of integration of functions of a single variable with applications. Functions of several variables; partial derivatives with applications including extrema with and without constraints; multiple integrals. Infinite sequences and series. Power series expansions of functions. Ordinary differential equations.
Students who have taken Mathematics 24 or 27 or Applied Mathematics 20 may NOT take Mathematics 33.
Prerequisite: Mathematics 20 or 21.
3 hours.

34. Calculus. Review of anti-differentiation; uniform continuity, Riemann integral, indeterminate forms, improper integrals, Taylor's formula; functions of several variables, partial differentiation, multiple integration; line and surface integrals; infinite sequences and series; ordinary differential equations.
Prerequisite: Mathematics 24 or 27 or Applied Mathematics 20.
3 hours — 9.

35. Statistics. Standard probability distributions; sampling distributions; estimation; test of hypothesis, analysis of variance; regression and correlation.
Prerequisite: Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.
3 hours — 30.

36. Elementary Operations Research with Applications. Linear programming, dynamic programming; the shortest route problem, the maximal flow problem; probability and theory of games.
Prerequisite: Mathematics 20, or 21, or 24, or 27, or Applied Mathematics 20.
3 hours.

37a. Statistical Methods. An introduction to frequency distributions, measures of central tendency, correlation, probability and hypothesis testing. Intended primarily for students in the Social Sciences, and cannot be taken for credit by students in Mathematics programs.
3 hours first term (half course)

38b. Statistics: Distributions, hypothesis testing, multiple regression, prediction and experimental design. Intended primarily for students in the Social Sciences, and cannot be taken for credit by students in Mathematics programs.
Prerequisite: Mathematics 37a.
3 hours second term (half course)

40. Elementary Theory of Numbers. Euclidean algorithm, congruences, indices, continued fractions, Gaussian integers, partitions and Diophantine equations.
Prerequisite: Mathematics 20 or 21 or 24 or 27 or Applied Mathematics 20.
3 hours — 22.

44. Complex Variable. Complex numbers, elementary point set topology, sequences and series, Cauchy-Riemann conditions, integration. Cauchy's theorem, Taylor and Laurent expansions, residue calculus and applications.
Prerequisite: Mathematics 34.
3 hours — 9.

45a. Statistical Analysis I. Multiple regression, time series analysis, sampling theory and designs.
Prerequisite: Mathematics 35 or permission of department.
3 hours first term (half course)

46b. Statistical Analysis II. Design of experiments, analysis of variance, standard statistical tests, nonparametric tests.
Prerequisite: Mathematics 35 or permission of department.
3 hours second term (half course)

HONORS COURSES

NOTE: Associated with the group of principal Second Year honors mathematics courses is a two-hour problem session. A student taking any of these courses (i.e., Mathematics 250, Mathematics 256, Mathematics 278) is advised to fit at least one hour of this session into his timetable.

250. Linear Algebra. Vector and matrix algebra, determinants, linear transformations, linear equations, canonical forms. Applications to bilinear forms, quadratic forms, geometry.
Prerequisite: Mathematics 24 or 27 or Applied Mathematics 20.
3 hours — 14.

253. Mathematics of Finance. Compound interest, annuities certain, amortization, sinking-fund, bonds; the mortality table; life annuities, standard forms of life insurance; commutation functions.
Prerequisite: Mathematics 24 or 27 or Applied Mathematics 20.
3 hours — 17.

254. Mathematics for the Social Sciences. Advanced calculus and linear algebra. Topics include maximizing functions, differential and difference equations, and the algebra of n-dimensional vector spaces as far as eigenvectors and quadratic forms. Cannot be taken for credit by students in Mathematics programs.
Prerequisite: Mathematics 20 or 24 or 27 or Applied Mathematics 20.
3 hours — 1

255. Statistical Methods. An introductory, practical course intended primarily for honors students in departments other than mathematics. Topics include sampling, confidence intervals, analysis of variance, regression and correlation. Cannot be taken for credit by students in Mathematics programs.
2 hours second term (half course) — 12

256. Analysis I. Elementary point set topology, sequences, limits, continuity — these topics to be discussed with reference to Euclidean n-space. Differentiation, mean value theorems. Basic properties of the Riemann integral. Series: tests for convergence, uniform convergence, multiplication of series, power series.
Prerequisite: Mathematics 24 or 27 or Applied Mathematics 20.
3 hours — 2

278. Advanced Calculus. Functions of several variables, partial differentiation, coordinate transformations, Taylor's theorem, extrema, vectors, integral as a function of a parameter, multiple integration, line and surface integrals, integral theorems, ordinary differential equations.
Prerequisite: Mathematics 24 or 27 or Applied Mathematics 20.
3 hours — 30

Prerequisites for courses with numbers between 300 and 400 are Mathematics 250 and 256 or 278 or the permission of the Department. For courses numbered 400 or above the permission of the Department is required.

340. Number Theory. Divisibility, congruences, quadratic reciprocity, some functions of number theory, Diophantine equations, continued fractions, the distribution of primes, algebraic numbers, partitions.
3 hours — 22

345. Sampling Theory and Design of Experiments. Simple random sampling, cluster sampling, stratified multistage sampling, stratified multi-stage cluster sampling, regression estimates, double sampling. Randomised experiments, randomised blocks, latin square, missing observations, factorial experiments; factors at two levels and three levels, confounding, split-plot design, balanced incomplete blocks, incomplete latin square. Problems may require computer solution.
3 hours.

350. Algebra I. Introduction to abstract algebraic systems; elementary theory of groups, rings, fields.
3 hours — 25

351. Geometry I. Synthetic Euclidean geometry; synthetic and analytic methods in projective geometry.
3 hours — 9

353. Finite Differences. Advancing differences, interpolation, divided differences, central differences, inverse interpolation, summation, approximate integration; applications to life contingencies; theory of graduation.
3 hours — 5

355. Statistics I. Standard distributions; sampling distributions; sampling from finite population; estimation; test of hypothesis; design of experiments; analysis of variance and regression analysis; nonparametric methods; sequential analysis.
3 hours — 23

356. Analysis II. Discussion of the real number system. Metric space topology and selected topics in real variable theory, including the Riemann-Stieltjes integral. Complex variable theory differentiation and integration, Cauchy's theorem, Taylor and Laurent expansions, residue calculus and applications. Fourier and Laplace transforms.
4 hours — 31

363. Numerical Methods. Accuracy of approximate calculations, interpolation, summation of series, numerical differentiation and integration, solution of numerical algebraic and transcendental equations, numerical solution of difference equations and differential equations, least squares and harmonic analysis, numerical solution of simultaneous linear equations, use of digital computers in problem solving.
3 hours — 14

378. Differential equations. Ordinary differential equations, solution in series, matrix systems, Green's functions, eigenvalue problems, simple eigenvalue expansions. Non-linear systems, stability, phase plane, Liapounov functions.
3 hours — 1

445. Theory of Probability. Probability measure, Lebesque-Stieltjes and Riemann-Stieltjes integrals for n variables; Fourier integrals, matrices and quadratic forms; Beta and Gamma functions; orthogonal polynomials; mathematical expectation; correlation and regression, distribution theory; limit theorems, asymptotic distributions; significance tests.
3 hours — 31

450. Algebra II. Elementary factorization theorems; field theory; Galois theory; groups with operators, semi-simple rings, general factorization theorem.
3 hours — 8

452. Geometry II. Algebraic Geometry. Affine and projective varieties; divisors; Riemann-Roch Theorem; additional topics to be selected.
3 hours — 35

453. Methods of Operations Research. Optimization (linear, quadratic, and dynamic programming, Lagrange multiplier, etc.). Applied probability (queuing theory, Markov chains, etc.). Miscellaneous topics (theory of games, graphs, etc.).
Prerequisites: Mathematics 250, and 256 or 278.
3 hours — 17

455. Statistics II. Distributions in R^n; sampling theory and distributions; theory of estimation; fiducial inference; testing of hypothesis; analysis of variance; design of experiments and balanced designs; multiple correlation and regression; multivariate analysis; time series.
3 hours — 21

456. Analysis III. Topics in point set theory. Introduction to measure and integration theory with applications.
3 hours — 11

460. Introductory Topology. Metric spaces, topological spaces, connectedness, compactness, separation axioms, product spaces, function spaces, nets and convergence; simplicial complexes, elementary simplicial homology, classifications of compact 2-manifolds.
3 hours — 18

463. Life Contingencies. General Life annuities and insurances, net and gross premiums, reserves, non-forfeiture values, combination benefits, joint annuities, last survivor annuities, generalized multiple life annuities, contingent assurances, reversionary annuities, population tables, multiple decrement tables.
3 hours — 25

464. Ordinary Differential Equations. Existence theorems; general linear equation, matrix systems, adjoint systems, Green's function, expansion problems; stability theory.
3 hours — 33

465. Multivariate Statistical Analysis. Matrix theory; normal distributions; correlations.
3 hours — 13

468. Differential Geometry and Tensor Calculus. Theory of curves, Serret-Frenet formulae; curvilinear co-ordinates, first and second fundamental forms, geodesics, Codazzi equations, Gauss-Bonnet theorem. Introduction to differential geometry in the large. Introduction to n-dimensional Riemann geometry tensor analysis and general relativity.
3 hours — 27

470. Foundations of Mathematics. Formal systems; first-order theories, the completeness theorem, one of the standard axiomatic set theories. Development of mathematics from set theory emphasizing the number systems of mathematics. Discussion of various philosophies of mathematics.
3 hours — 24

478. Linear Operators. Continuous operators in normed spaces, linear functionals, contraction mappings, Hilbert space, adjoint operators, completely continuous operators, fixed point theorems, applications to integral equations and boundary value problems.
3 hours — 19

488. Complex Analysis. Harmonic, entire and meromorphic functions, infinite products, the Gamma function, normal families, conformal mapping and Riemann mapping theorem. Elliptic functions, Picard Theorem, analytic continuation and Riemann surface of a function.
3 hours — 24

Department of Pharmacology

Departmental Office MS 275

Professors

Gowdey, C.W., BA, MSc UWO; DPhil Oxon (Department Chairman)

Parker, J.M., MD Manitoba; DPH, PhD Toronto

Associate Professors

Colhoun, E.H., BSA Toronto; PhD Cantab

Hamilton, J.T., BSc, PhD Edinburgh

Philp, R.B., DVM Toronto; PhD UWO

Assistant Professors

Hersey, M.L.W., BSc McGill; MD, PhD UWO; CRCP(C), FACA

Hirst, M., BSc, PhD Liverpool; PhD UWO

Honorary Lecturers

Borda, I.T., MD Budapest; FRCP(C)

Lovegrove, T.D., BA, MD, MSc UWO

Meltzer, D.B., BSc Manitoba; MD UWO; FRCP(C)

Spoerel, W.E.G.A., MD Frankfurt-on-Main; FRCP(C)

White, D.F., MD UWO; FRCP(C)

Instructors

Dinel, B., BScPhm Toronto; MSc Ohio State

Hansford, D.F., PhmB Toronto

PROGRAMS

The Department of Pharmacology does not offer, at this time, any individual undergraduate degree programs. In collaboration with the Department of Physiology, however, it does provide a Pharmacology option in the Fourth Year of the Honors Physiology Program; for further details, consult the listings of the Department of Physiology.

HONORS COURSES

Prerequisites for Fourth Year courses: Successful completion of previous year's program or permission of the Head of the Department.

301. General Physiology and Pharmacology. (Given in collaboration with the Department of Physiology.) A survey of the principles of general physiology and pharmacology.
2 lectures — 31

441. Seminar. The preparation of essays and the presentation of scientific reports or papers on assigned topics in pharmacology.
1½ hours for two terms.

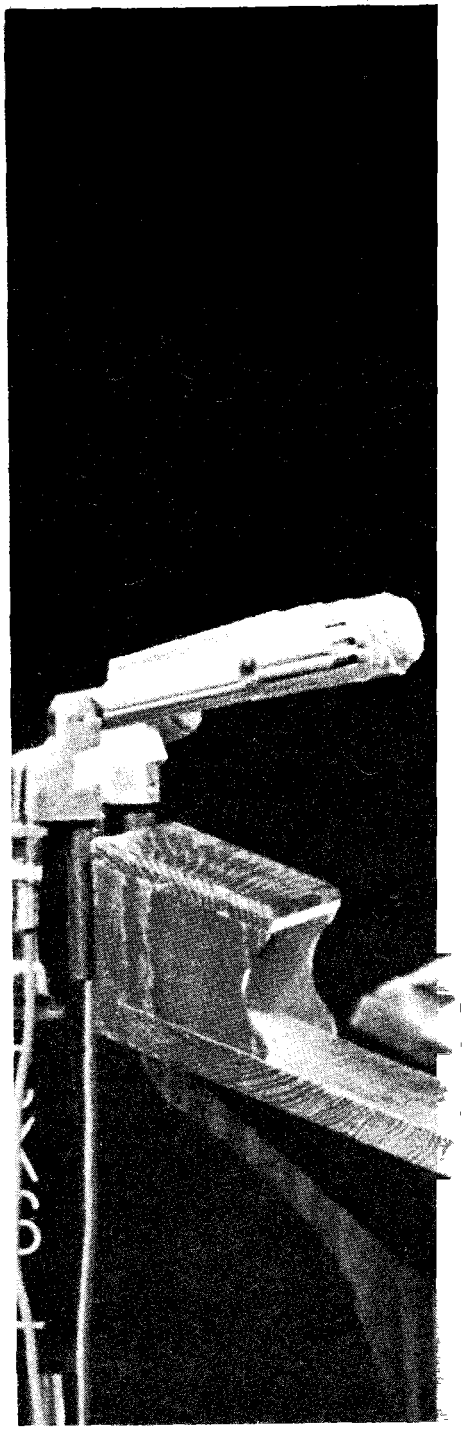
460. Advanced Physiology and Pharmacology. (Given in collaboration with the Department of Physiology.) Principles of general Physiology and Pharmacology at an advanced level.
2 lectures (half course) — 8

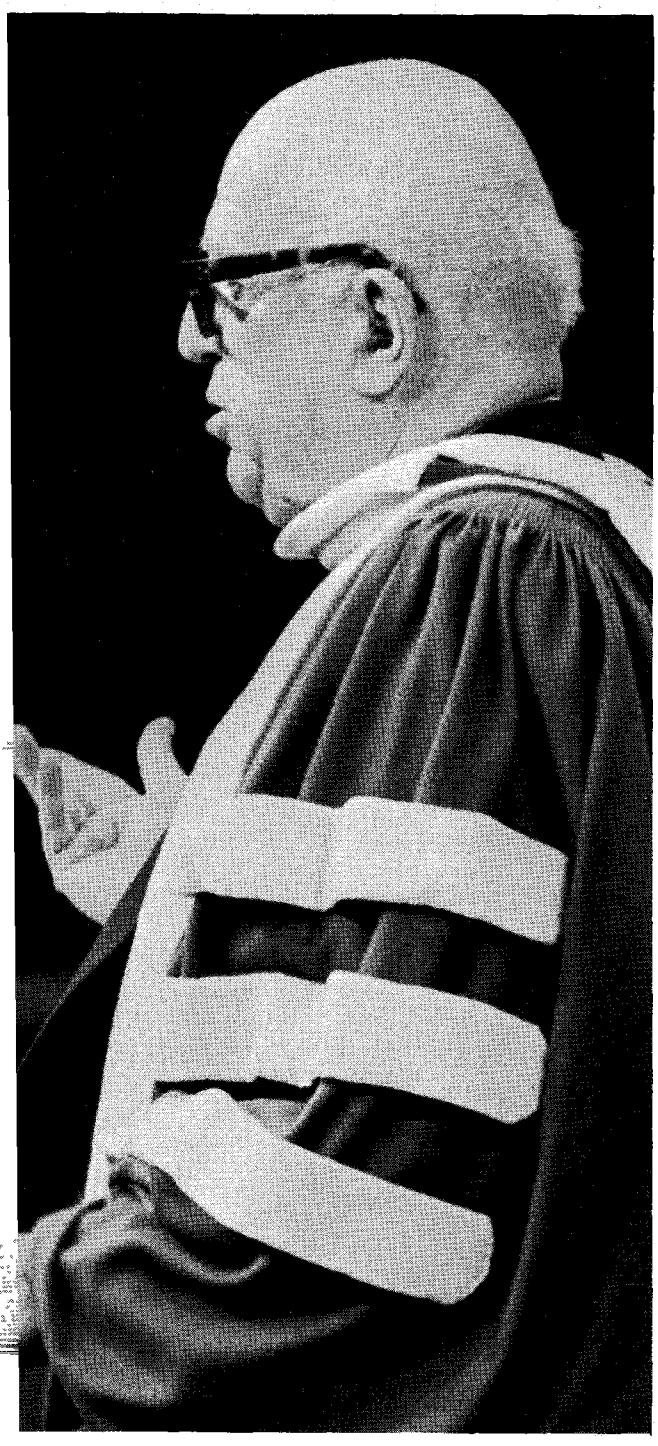
461. Chemical Pharmacology. Pharmacological screening, pharmacodynamics, structure-activity relationships, metabolism and toxicology of selected drug classes. Enrollment limited.
2 lectures — 13

462. Survey of Pharmacology. Classification of the major drugs with emphasis on their absorption, metabolism, excretion, mechanism of action and importance.
2 lectures, one term only (half course)

480. Laboratory and Tutorial. A course of training in the techniques employed in modern pharmacological investigations. Opportunity for original projects will be provided. The tutorial will supplement both lecture and laboratory work. Enrollment limited.
Minimum of 10 hours

SCIENCE





Department of Physics

Departmental Office PB 125; Tel. ext, 2283

Professors

Brannen, E., BA, MA Toronto; PhD McGill

Durnford, A.M.I.A.W., BA, MA UWO; PhD Toronto, Emeritus

Ferguson, H. I. S., BSc, MSc, PhD UWO

Forsyth, P. A., BA, MA Saskatchewan; PhD McGill; FRSC, (Director, Centre for Radio Science)

Hay, D. R., BSc, MSc UWO; PhD McGill

Lyon, G. F., BA, MA, PhD Saskatchewan

McGowan, J.W., BSc St. F.X.; MSc Carnegie Mellon; DSc Laval (Chairman of Department)

Vogan, E. L., BSc, MSc UWO; PhD McGill

Associate Professors

Bow, Y.F., BS National Chakiang; MS, PhD Michigan State

Froelich, H. R., BSc Berlin; MSc, PhD UWO

Fulford, J. A., BSc, PhD UWO

Jarmain, W. R., BA UWO; MA Wisconsin

Jones, J., BSc, PhD Sheffield

Lowe, R. P., BSc, PhD UWO

Moorcroft, D. R., BASc, MSc Toronto; PhD Saskatchewan

Murty, R. C., BSc Andhra; MSc, Dip Lib Bombay; PhD UOW

Rose, G. S., BSc, PhD Birmingham

Stewart, T. W. W., BSc, MSc UWO; PhD London

Tong, B.Y., BSc Hong Kong; MLS, MA California, Berkeley; PhD California, San Diego

Assistant Professors

Gaily, T. D., AB Oregon State; MS, PhD Washington

Gallaher, D. F., BASc, MSc British Columbia; MA Toronto; PhD Washington

John, P. K., BSc Kerala; MSc Madras; PhD Ohio State

Lane-Smith, D. R., BSc, MSc Manchester; PhD Durham

Rosner, S. D., BSc Toronto; MSc, PhD Harvard

Tunaley, J. K. E., BSc, PhD Sheffield

Whippey, P. W. W., BSc, PhD Reading

Instructor

Chefurka, P. M. (Mrs.), BSc Manitoba; MS Montana State

Sessional Lecturers

Dawson, D. J., BASc, MA, PhD Toronto

MacDonald, J. C. F., BA, MA British Columbia; PhD Toronto

Marton, J. P., BSc Budapest; PhD UWO

SCIENCE

PROGRAMS

The Physics Department offers a program leading to a BSc degree after three years of study and an Honors Program leading to an Honors BSc after four years of study. The Honors Program is designed to study not only basic Physics but also its relationship with other academic disciplines and with society. With a suitable choice of optional courses, the program is designed to lead to graduate research, secondary school teaching, or employment in many areas of government, industry and managerial or public relations positions. For details consult the Departmental brochure.

Students should consult the appropriate section of this calendar for details of academic regulations and grades required for admission, progression and graduation in these programs.

Three Year BSc Program

Requirements for Admission: A First Year General Program which includes one of Physics 20, 22 or 26 and one of Applied Mathematics 20 or Mathematics 24 or 27. Admission to this program will be granted only after consultation with the Department prior to registration.

To meet the requirements for this program a student must complete at least four senior courses in Physics. A program is outlined below:

Second Year

Physics 252 and 256
Applied Mathematics 270 or 202* or
Mathematics 278.

Plus two options

Third Year

Physics 367 and one of Physics 203, 353, 366. Plus 3 options.

Other programs may be set up in consultation with the Physics Department but must contain P252, 256, 367 or equivalent.

*The student must take AM200 concurrently or in his third year.

Honors BSc

Requirements for Admission. First Year General Program with Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27 as principal courses. Students who fail to maintain the required standing to continue, or decide not to continue, in this program may transfer to a Three Year Program, provided that they meet all or equivalent requirements of that program.

All students **must consult** with the Physics Department concerning their choice of courses before registering in each year of the program. Normally, six courses will be taken each year. Those who plan to continue into graduate studies are advised to select options which satisfy the foreign langauge credit required by many graduate schools.

Second Year

Principal Courses

Applied Mathematics 200 and 202 or equivalent
Physics 250, 254, 255

Subsidiary Course

One option

Third and Fourth Years

Principal Courses

Applied Mathematics 300
Physics 353, 357, 359, 451 and 458

Plus any other five Honors courses (or half-course equivalents), two of which must be Physics courses numbered 300 or higher.

Subsidiary Courses

Any two options

Note: (1) Honors BSc (Physics): old program (not offered after 1972-73)

The students who are enrolled in the Third Year of the Honors BSc (Physics) Program in 1971-72 may elect to join the new program in 1972-73 without any difficulty or increase in course load.

However, they can pursue their studies in the old program, as follows:

Fourth Year (not offered after 1972-73)

Principal Courses

Physics 451, 458, 465, 469

Five half-course senior options or 2 1/2 full course senior options, as approved by the Physics Department; at least 1 1/2 of these shall be Physics courses.

Subsidiary Course

One option

(2) Honors BSc (Physics: Major-Minor) (not offered after 1972-73)

Fourth Year (not offered after 1972-73)

Principal Courses

Physics 353, 359
Two half-courses or one full course Physics option
One course from the Minor

Subsidiary Courses

Two options

COURSES

20. Introductory Physics. This course is a suitable prerequisite for all science programs and is required for those students intending to specialize in the Physical Sciences. Grade XIII physics is strongly recommended.
Prerequisite: Grade XIII Mathematics A or equivalent
Corequisite: One of Applied Mathematics 20, Mathematics 24 or 27
2 lectures, 3 laboratory/tutorial hours — 22

21. Introductory Modern Physics. A treatment at the elementary level of the experimental facts of modern physics and the interpretation of these facts in terms of atoms and molecules, electrons and other particles, and quantized energy. The necessary concepts from classical physics are reviewed and conservation laws are stressed. This course is not intended for students registered in the Faculty of Science.
3 lecture-laboratory hours — 31

22. Introductory Physics. For students intending to pursue most programs in the Biological and Health Sciences; this course has no corequisites and is not generally acceptable as a prerequisite for Honors Programs in the Physical Sciences.
Prerequisite: Grade XIII Mathematics A or equivalent
2 lectures, 3 laboratory/tutorial hours — 22

26. Introductory Physics. For students in First Year Engineering Sciences.
Prerequisite: Grade XIII Mathematics A or Equivalent
Corequisite: Applied Mathematics 20
2 lectures, 3 laboratory/tutorial hours—22

33. The Physics of Music and Sound. An introduction to acoustics with applications to the production and transmission of musical sounds; including wave motion; sound waves and their characteristics; vibratory sources of sound; harmony and scales; hearing; electronic recording, reproduction and synthesis of sound; acoustics of buildings and building materials. Open to students in the Faculty of Music, Communication Disorders of the Faculty of Medicine and those students with some formal musical training who are not pursuing a major in Physics. In the second term, students in the Communication Disorders program are separated from the main course and given lectures on hearing and speech.
3 lecture-laboratory hours — 7

38. Selected Readings in Physics. A discussion course in which detailed study is made of writings selected from among the original works describing major achievements in physics and from among those commenting on the achievements
Prerequisite: one of Physics 20, 21, 22 or 26
2 discussion hours per week

HONORS COURSES

203. Fundamentals of Meteorology. Meteorological elements and instruments for their measurement, including temperature, pressure, wind, relative humidity, cloud forms and precipitation. A physically oriented treatment of air masses and fronts, cyclones and anticyclones, with applications of thermodynamics to adiabatic changes in dry and moist air; stability, instability, convection and turbulence. Special topics such as luminous atmospheric phenomena and severe types of storms.
Prerequisites: Physics 20, 22 or 26 and Applied Mathematics 20 or Mathematics 24 or 27; or permission.
2 lectures — 18

204. Intermediate Physics for Biologists. Material on the mechanics of solids and fluids, sound, optics, DC and AC circuits, atomic and nuclear physics, with emphasis on biological and medical examples and applications.
Prerequisite: Physics 20, 22 or 26
2 lectures, 3 laboratory hours alternate weeks — 27

250. Classical Mechanics. The dynamics of systems of particles described via Lagrange's equations and Hamilton's principle with applications to rigid body motion, central force motion, vibrating systems and normal mode analysis.
Prerequisites: Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisite: Applied Mathematics 200 and 202 or equivalent
3 lectures — 12

252. Classic Mechanics. Vector algebra including triple products. A critical analysis of Newton's laws and their application to rotational motion, rigid body motion, central force motion and simple systems of particles.
Prerequisites: Physics 20, 22 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisite: Applied Mathematics 270 or 200 or Mathematics 278
2 lectures — 12

253. Intermediate Physics for Chemists. Essential topics in electricity and magnetism, classical mechanics and physical optics with emphasis where possible upon instrumentation.
Prerequisite: Physics 20 or 26
3 lectures, 3 laboratory hours — 31

254. Waves. A general but rigorous treatment of electromagnetic and sound wave phenomena including the wave equation, reflection, impedance, dispersion, diffraction, interference, coherence, polarisation and birefringence. Plane-wave solutions of Maxwell's equations and electromagnetic radiation from a point charge. This course is intended for Honors Physics students. (See Physics 264 for other Natural Science Honors students)
Prerequisites: Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisite: Applied Mathematics 200 or 202 or equivalent
2 lectures, 3 laboratory hours — 36

255. Electricity and Magnetism. A detailed discussion of the basic laws of electrostatics, magnetostatics and electromagnetic induction leading towards an empirical derivation of Maxwell's equations followed by a study of the effects of electric and magnetic fields in matter. This course is intended for Honors Physics students. (See Physics 265 for other Natural Science Honors students)
Prerequisites: Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisites: Applied Mathematics 200 and 202 or equivalent.
2 lectures, 3 laboratory hours — 8

NOTE: The laboratory of 254 and 255 will include the study of error analysis, numerical analysis and elementary computer programming and their applications to specific experiments.

256. Light; Electrcity and Magnetism: An intermediate course in geometrical and physical optics; electrostatics, magnetism; and electromagnetism.
Prerequisites: Physics 20, 22 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
3 lectures, 3 laboratory hours — 31

264. Waves: Lectures are those of Physics 254 but the laboratory is 3 hours, alternate weeks. This course is intended for Natural Science Honors students other than Honors Physics students.
Prerequisites: Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisites: Applied Mathematics 200 and 202 or equivalent
2 lectures, 3 laboratory hours, alternate weeks — 36

265. Electricity and Magnetism. Lectures are those of Physics 255 but the laboratory is 3 hours, alternate weeks. This course is intended for Natural Science Honors students other than Honors Physics students.
Prerequisites: Physics 20 or 26 and Applied Mathematics 20 or Mathematics 24 or 27
Corequisites: Applied Mathematics 200 and 202 or equivalent
2 lectures, 3 laboratory hours, alternate weeks — 8

353. Statistical and Thermal Physis. An introduction to the basic concepts of statistical mechanics; the interpretation of temperature and entropy in equilibrium systems and derivation of the laws of thermodynamics. The quantum statistics of Bosons and Fermions with applications to black body radiation and transport phenomena.
Prerequisite: Physics 250 or 252
2 lectures — 36

357. Quantum Physics. An introduction to atomic, molecular, nuclear and particle physics. The course combines elementary quantum mechanics with experimental illustrations drawn from modern physics.
Prerequisite: Physics 250, 254 and 255 or equivalent
3 lectures — 19

359 Modern Physics Laboratory. A comprehensive laboratory designed to familiarise the student with the basic concepts of modern physics, with emphasis on the development of experimental skills.
Prerequisites: Physics 254 and 255, or equivalent
6 laboratory hours

360. Advanced Classical Mechanics. A logically connected development of classical mechanics including a thorough treatment of Lagrangian and Hamiltonian methods. Special relativity may be included. Given in collaboration with the Department of Applied Mathematics (AM350).
Prerequisites: Physics 250, Applied Mathematics 200 and 202 or equivalent.
3 lectures — 12.

364. Applied Optics. A discussion of the design and operation of interferometers, spectrographs, refractometers, polarimeters, lasers, etc. Fourier transforms and optical processing of information.
Prerequisite: Physics 254 or 264.
2 lectures 1 term (half course) — 22

365. Electromagnetic Theory 1. A study of static electric and magnetic fields using vector calculus; time varying electric and magnetic fields, Maxwell's equations and solutions; wave propagation in continuous and discontinuous media, wave guides; retarded potentials, radiation.
Prerequisite: Physics 255 or 256.
Corequisite; Applied Mathematics 300.
3 lectures second term only (half course) — 25

366. Applied Electronics. A study of the operation and applications of electronic and solid state devices and circuits.
Prerequisite: Physics 253, 255 or 256
2 lectures, 2 laboratory hours — 13

367. Advanced General Physics. Topics in (a) electromagnetic theory (b) atomic and molecular physics (c) the physics of solids and (d) nuclear and particle physics. Quantum mechanical ideas are introduced in (b), (c) and (d).
Prerequisites: Applied Mathematics 270 or 202 or Mathematics 278, Physics 252 and 256 (or equivalent), or permission.
3 lectures and 3 laboratory hours — 33

451. Quantum Mechanics I. An introductory course in quantum mechanics to include discussion of the free particle, barrier penetration, the harmonic oscillator and the hydrogen atom.
Prerequisites: Physics 357 and Applied Mathematics 300
3 lectures first term only (half course) — 35

458. Seminar. Students will conduct seminars on topics of current interest and write an essay upon an assigned topic.
1 hour (half course)

461. Quantum Mechanics II. Time-independent and time-dependent perturbation theory, scattering and radiation processes.
Prerequisite: Physics 451.
3 lectures second term only (half course) — 10

462. Nuclear Physics. An introduction to nuclear and particle physics.
Prerequisite: Physics 357.
2 lectures 1 term (half course) — 7

463. Atmospheric Physics. Basic concepts of physics applied to atmospheric phenomena.
Prerequisite or corequisite: Physics 353
2 lectures 1 term (half course) — 3

464. Atomic and Molecular Physics. A study of simple atomic and molecular systems with emphasis upon their interactions with each other and with the electromagnetic field.
Prerequisites: Physics 254 and 357
2 lectures 1 term (half course) — 3

465. Electromagnetic Theory. The solution of Maxwell's equations for two and three dimensional problems. e.g. radiating systems, resonators, waveguides.
Prerequisites: Physics 255 or 256 and Applied Mathematics 300.
3 lectures first term only (half course) — 25
(Not offered after 1972-73)

466. Radio Physics. A discussion of selected topics in circuit analysis, transmission line theory and the propagation of radio waves.
Prerequisite: Physics 365 or 465.
2 lectures second term only (half course) — 24

467. Solid State Physics. An introductory course covering the thermal, electric and magnetic properties of crystalline matter.
Prerequisite: Physics 357
2 lectures one term (half course) — 7

468. Plasma Physics. An introduction to the theory of highly ionised gases, their properties, production, diagnostics and application to thermonuclear fusion.
Prerequisite: Physics 365 or 465
2 lectures second term only (half course) — 24

469. Laboratory. A laboratory in which the student selects or suggests a project and works under the supervision of a faculty member. This may include instruction in workshop practice, electronics instrumentation and the techniques of high-vacuum or low temperature physics.
Prerequisite: Physics 359
9 laboratory hours

Department of Physiology

Departmental Office: MS 222

Professors:

Armstrong, D. T., BSA Toronto; MS, PhD Cornell. Professor of Obstetrics and Gynaecology

Brooks, V. B., BA Toronto; MS Chicago; PhD Toronto. Professor and Chairman

Mogenson, G. J., BA, MA Saskatchewan; PhD McGill (Professor of Psychology)

Associate Professors:

Bondy, D. C., MD UWO, FRCP (C)

Calaresu, F. R., BA Pavia; MD Milan; PhD Alberta

Chess, G. F. H., BASc Toronto; MEng McGill (Associate Professor of Electrical Engineering)

Critz, J. B., BS (Ed), MA, PhD Missouri

Dellow, P. G., BDS, MBBS Adelaide; FACDS

Harding, P. G. R. MD, MSc UWO; FRCS(C) (Associate Professor of Obstetrics and Gynaecology)

Mercer, P. F., DVM Toronto; PhD Cornell

Sequin, J. J., BSc, MSc, PhD UWO

Squires, B. P., BA, MD, PhD UWO

Vanderwolf, C. H. BSc Alberta; MSc, PhD McGill (Associate Professor Psychology)

Assistant Professors:

Cunningham, D. A., MSc Alberta; PhD Michigan

Girvin, J.P., MD, UWO; PhD McGill, FRCS(C) (Assistant Professor of Clinical Neurological Sciences)

O'Hea, E. K., BAgrSc, MAgrSc Dublin; PhD Illinois

Stewart, D. J., BSc British Columbia, PhD California, Santa Barbara

Ziegler, W. H., MD British Columbia; MSc Philadelphia, PhD McGill

Visiting Assistant Professor

Swart, G. Toni., BA Beloit; MS, PhD Marquette, Wisconsin

Lecturers (Sessional)

Reese, L., MD, CM Queen's; FRCS(C); FACS

Sellery, G. R., MD Toronto; DA England; DA Toronto; FRCP(C)

Honorary Lecturers:

Manning, G. W., MA, MD, PhD Toronto; FRCP(C)

Rounthwaite, F. J., BSc, MD, CM McGill; FRCS(C), FACS

Steele, J. E., BSc Dalhousie; MSc UWO; PhD Saskatchewan

Instructor

Walker, Esme H., BA, MA Toronto

PROGRAMS:

The Department of Physiology participates in the Three Year Biology BSc program. For complete details the student is referred to the Biology lisiting p260, of this calendar.

The Department of Physiology offers a program leading to the Honors BSc Degree. In Fourth Year of this program, the students may choose either the Physiology option or the Physiology and Pharmacology option.

In conjunction with the Department of Psychology, the Physiology Department offers an Honors Program leading to the BSc degree in Psychology and Physiology.

Honors BSc Program:

Physiology:

Concomitant with the introduction of the new Three Year Biology BSc program, the present Honors BSc Program will be phased out and replaced by a new Fourth Year Honors Program.

For the 1972-73 academic year students will continue to be admitted to a Third Year Honors Program on the same basis as in previous years; students registered in the Third Year Honors Program in 1971-72 may progress to the Fourth Year. In the program listings which follow, where certain courses have been redesignated or modified because of the new program, the new listing is given first followed by the former name in parentheses.

Second Year: (For students registered in the 1971-72 year only)

One of:

(a) Second Year of Program in Honors Biology

(b) Second Year of Program in Honors Chemistry

(c) Second Year of Program in Honors Physics

(d) Second Year of other Honors Programs
With permission of the Department of Physiology, a student who has completed the First Year of a General Program (Natural Sciences) may petition the Dean, Faculty of Science, for recognition of the Second Year of other Honors Programs. If these do not include Organic Chemistry, the student must take Organic Chemstry in the Third Year.

Third Year:

Principal Courses:

Biology 310 (formerly Physiology 300)
Biology 311 (formerly Physiology and Pharmacology 301)

Two of:

Biology 202 (formerly Microbiology 300)
Biology 300 or 301 (formerly Biochemistry 300 or 406)
Biology 302 (formerly Biophysics 300)
Biology 309 (formerly Anatomy 300)

Subsidiary Courses:

Two Options:

Chemsitry 203 or 250 and 252 may be required for students who have not previously taken Organic Chemistry.

Applied Mathematics 20 or Mathematics 20, 24 or 27 is required of students who have not previously taken a university course in Mathematics.

Fourth Year:

Requirements for admission into the Honors Programs in Physiology and Physiology and Pharmacology for all students graduating from the three-year Biology BSc Program in 1974, besides the general prerequisites for entrance into the Honors Programs in Biological Sciences listed on page 261.; have the following additional prerequisites:

Physics 20 or 22
Biology 310 (formerly Physiology 300)
Biology 311 (formerly Physiology and Pharmacology 301)

Two of:

Biology 202 (formerly Microbiology 300)
Biology 300 or 301 (formerly Biochemistry 300 or 406)
Biology 302 (formerly Biophysics 300)
Biology 309 (formerly Anatomy 309).

Students may choose either the Physiology option or the Physiology and Pharmacology option in this last year of the program.

Physiology Option:

Principal Courses:

Science 440
Physiology and Pharmacology 460
Physiology 441, 461, 462, 463, 464, 466, 480.

Subsidiary Courses:

One Option from:

Biology 205 (formerly Plant Sciences 300);
Psychology 255;
Mathematics 255;
Biology 312 (formerly Zoology 465) (only if Statistics not previously taken).
One additional option to be determined by consultation with the Department of Physiology.

Physiology and Pharmacology Option:

Principal Courses:

Science 440
Physiology and Pharmacology 460
Pharmacology 441, 461, 462, 480

Two of:
Physiology 461, 462, 463, 464, 466, 467.

Subsidiary Courses:

One Option from:

Biology 205 (formerly Plant Sciences 300);
Psychology 255;
Mathematics 255;
Biology 312 (Formerly Zoology 465) (only if Statistics not previously taken).
One additional option.

PSYCHOLOGY AND PHYSIOLOGY 1972-73.

Requirements for Admission:

First Year General Program (Science) with:

Psychology 20,
Biology 20,
Chemistry 20,
Physics 20, as principal courses.
Applied Mathematics 20 Mathematics 24 or 27 is recommended as one option.

Second Year:

Principal Courses:

Psychology 235, 255;
Chemistry 203;
Zoology 255 or Biology 206

One of:

Physics 204, 256;
Applied Mathematics 20, 200;
Mathematics 20, 24, 27, 250.

Subsidiary Course:

One Option

Third Year:

Principal Courses:

Psychology 338, 343;
Biology 310, 311;

One of:

Biology 300, 301;
Biology 309.

Subsidiary Course:

One Option

Fourth Year:

Principal Courses:

Physiology 463, 464, 480.
Physiology 460 and 466 or 461 and 462.

Two of:

Psychology 234, 236, 331, 337, 349, 445, 446, 448.

Subsidiary Course:

One Option:

Students in this program will undertake a major project in Behavioral Physiology or Sensory Processes as part of their experimental work in Physiology 480.

COURSES:

30. Human Physiology: A survey course of lectures, demonstrations and laboratory exercises outlining the principles of mammalian physiology with emphasis on human physiology: general properties of the living cell and internal environment, nerve and muscle, cardiovascular, respiratory and gastrointestinal systems; metabolism and nutrition; body fluids and the kidney; the nervous system; endocrine glands; reproduction; controls regulations and homeostasis. Enrolment limited.
2 lectures, 3 laboratory hours — 4

342. Human Physiology: A survey for students in Honors Physical and Health Education.
2 lectures, 3 laboratory hours — 4

310. Biology (formerly Physiology 300) Mammalian Physiology. A survey of the physiology of various systems (e.g. cardiovascular, digestive, respiratory, etc.) of the mammal.
(Prerequisites: Chemistry 203 or equivalent; Physics 20 or 22; One of Mathematics 20, 24, 27 or Applied Mathematics 20, Biology 20, or by permission of the Department).
2 lectures, 3 laboratory hours — 36

311. Biology (formerly Physiology and Pharmacology 301). General Physiology and Pharmacology. A survey of cellular and general physiology and general pharmacology.
(Prerequisites: Chemistry 203 or equivalent; Physics 20 or 22; One of Mathematics 20, 24 27 or Applied Mathematics 20; Biology 20; or by permission of the Department).
2 lectures — 31

441. Seminar: The presentation of scientific papers and reports and the writing of essays on assigned topics.
2 hours (Half Course).

442. Physiology of Exercise: A study of the response and regulation of the human cardiovascular, respiratory and neuromuscular systems to acute and chronic exercise.
For students in Honors Physical and Health Education and others with adequate preparation.
Prerequisite: Physiology 342 or equivalent.
1 lecture, 3 laboratory hours — 1-5

460. Advanced General Physiology And Pharmacology: Principles of general physiology and pharmacology at an advanced level. (Given in collaboration with the Department of Pharmacology) (Advanced Physiology and Pharmacology 460).
2 lectures, one term only (half course) — 8

461. Systematic Mammalian Physiology: Special physiology of the blood and other fluids, the cardiovascular, respiratory and gastrointestinal systems.
2 lectures, one term only (half course) — 13

462. Metabolic and Reproductive Physiology: Role of the endocrine system in regulation of metabolism and reproduction in mammals.
2 lectures, one term only (half course) — 17

463. Neurophysiology: The central and peripheral nervous systems and the special senses.
1 lecture (half course) — 21

464. System Analysis in Physiology: The role of various systems and control mechanisms in the maintenance of homeostasis and the regulation of behaviour.
1 lecture (half course) — 35

465. Physiological Regulation and Behaviour: Observation and measurement of external behaviour and the role of the integrative systems in the control of external behaviour.
1 lecture (half course) — 28

466. Body Water and Renal Physiology: Body fluid compartments and kidney function.
2 lectures, one term only (half course) — 30

467. Selected Advanced Topics in Physiology: A seminar course (half course)

480. Laboratory and Tutorial: Instrumentation in physiology and laboratory research projects. Open only to honors students in physiology.
Minimum 10 hours.

481. Instrumentation in Physiology: Principles of measurement and instrumentation in physiology. Open only to students not in honors physiology.
2 lectures, one term only (half course) — 10

Department of Plant Sciences

Departmental Office: B.G. 232, X3102

Professors

Cook, F.S., BA, PhD Toronto
Hickman, C.J., BSc, MSc, PhD, DSc Birmingham
McKeen, W.E., BSc, MSc UWO; PhD Toronto
McLarty, D.A., BA UWO; PhD Columbia
Walden, D.B., BA Wesleyan; MSc, PhD Cornell (Acting Chairman)
Wilson, D.G., BA, MA Queen's; PhD Wisconsin

Associate Professors

Cavers, P.B., BSA Toronto; PhD Wales
Greyson, R.I., BA British Columbia; MSc, PhD Oregon
Hopkins, W.G., BA Wesleyan; PhD Indiana
Orloci, L., BSF Sopron; MSc, PhD British Columbia
Phipps, J.B., BSc Birmingham; PhD UWO
van Hystee, R.B., BA, MA Saskatchewan; PhD Minnesota
Wellman, Angela M., BSc, PhD Bristoll

Assistant Professorss

Day, A.W., BSc, PhD Reading
Fahselt, M. Dianne, BA Saskatchewan; PhD Washington
Jancey, R.C., BSc, MSc Southampton; PhD Sydney

Lecturerr

Hayden, D.B., BSc, PhD UWO

Visiting Lecurer

Maun, M.A., MSc American University of Beirut; PhD Washington

Instructors

Bohaychuk, Wendy, BSc McGill; MSc Manitoba
Chute, Marilyn, Hons BSc (Biol) McMaster
Day, Lynne L., BSc Reading (part time, joint appointment with Zoology)
Evernden, L.L.N., BSc, MSc Alberta
Scott, Rosemary E., BSc Durham (part time, joint appointment with Zoology)

Honorary Lecturers (part time)

Minshall, W.H., BSA Toronto; MSc, PhD McGill
Richardson, L.T., BA McMaster; MA, PhD Toronto
Ward, E.W.B., BSc Wales; MSc, PhD Alberta

The Department provides for study in many areas of the plant sciences including: ecology, genetics, morphogenesis, mycology and plant pathology, phycology, plant biochemistry and physiology, radiobiology, systematics. The programs lead to a General BA degree with a Plant Sciences Major or to an Honors BSc degree in Biiology (Plant Sciences option). The latter provides a basis for professional work in academic, government and industrial fields.

PROGRAMS

GENERAL BA DEGREE

A BA degree with an area of concentration in Plant Sciences is no longer offered, but some biology and plant sicences courses are available to students taking a BA degree. Students who registered prior to September 1972 in a BA program with an area of concentration in Plant Sciences may complete their program by substituting the appropriate new courses (as specified by the Department) or may transfer to the new BSc Biology three year program, provided they fulfill the requirements of that program. Please consult the Department prior to registration.

General Courses

21. Biology. The fundamental principles of biology with stress on the cell as a unit, the origin and preservation of the individual and the race, the mode of inheritance, and the application of biology to social and economic problems. The course is given both in the Department of Plant Sciences and in the Department of Zoology.
2 lectures, 2 demonstration/laboratory hours — 7

35. Genetics. Principles of heredity discussed at various levels of cellular organization, from the chromosome within the cell nucleus to populations of multicellular organisms, using plants and animals as illustrative material. Prerequisite: Plant sciences 20, Biology 21, or Biology 22
2 lectures — 17

36. Microbiology. Morphology, biology, classification and economic importance of microorganisms.
Prerequisite: Plant Sciences 20, Biology 21 or Biology 22
4 lecture/laboratory hours — 3

Students not registered in the BSc Biology or Honors Biology or Plant Sciences but who wish to take Honors level Plant Sciences courses must first obtain permission from the Chairman of the Department.

THREE YEAR BSC BIOLOGY PROGRAM

The Department of Plant Sciences participates in the BSc Biology three year program which is being initiated in September, 1972. For complete details the student is referred to the Biology listing p 260 of this calendar.

Students who have successfully completed a First Year Program which included Biology 22 and Chemistry 20 may register in the second year of the BSc Biology three year program.

Courses for BSc Biology three-year Program

Although some of the courses in this program are open to students from other programs, if space and facilities become limiting in courses at the two hundred level or higher, preference will be given to three-year BSc Biology students.

Biology Core Courses

Biology 20 — Biology of Organisms*
Growth, development, integration, organization, reproduction and heredity of unicellular, colonial and multicellular organisms.
2 lectures, 3 laboratory hours. Full Course.

*Students who have done well in Biology 21 and wish to transfer to the three-year BSc program, may, with the permission of the Dean of the Faculty of Science, substitute Biology 21 for Biology 20.
Offered September 1972

Biology 200 — Biology of Cells
The organization and the physiological, genetical and biochemical processes occurring in cells. Prerequisite — Biology 20 and Chemistry 20
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 201 — Biology of Populations
The distribution, genetics and evolution of populations and their growth, regulation and interactions with other populations and their environment. Prerequisite — Biology 20 or Biology 21. A student may be permitted to take this course at the discretion of the Dean of the Faculty of Science on evidence of satisfactory standing in Biology.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 202 — Microbiology (given by the Departments of Bacteriology and Immunology and Plant Sciences)
A comparative study of the morphology, biology, and relationships of algae, bacteria, fungi, protozoa and viruses. (Co-requisite or pre-requisite — Biology 200)
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 203 — Plants and Our Environment (given by the Department of Plant Sciences)
A study of the ecosystem with emphasis on primary production, the degrading influences of pollution and the necessity of conservation practice. Pre-requisite — Biology 20.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 204 — Plant Cybernetics (given by the Department of Plant Sciences)
Communication and control in movement, growth and development. Co-requisite or pre-requisite — Biology 200. A knowledge of elementary calculus is desirable.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 205 — Biometry (given by the Department of Plant Sciences)
A course in applied statistics directed to the beginner with an interest in the study of elementary statistical methods and the application of these to biological data. Pre-requisite — Mathematics 20, 24, 27 or Applied Mathematics 20 or equivalent standing in Mathematics.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1972

Biology 304 — Systematics (given by the Departments of Plant Sciences and Bacteriology and Immunology)
An examination of the place of systematics in modern biology, with emphasis on logical questions, the relevance of different kinds of data, particularly molecular; the species concept in sexual and asexual organisms and a brief account of the classification of the living world. Pre-requisites — Biology 200 and Biology 201.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1973

Biology 305 — Plant Pathogens and Plant Pathology (given by the Department of Plant Sciences)
Study of plant diseases, and their causes, non-parasitic and parasitic. Nature of pathogens involved - bacteria, fungi, viruses, mycoplasmas, nematodes and their biology in relation to host plants. Methods of control. Pre-requisite - Biology 202.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1973

Biology 307 — Applied Microbiology (given by the Departments of Bacteriology and Immunology and Plant Sciences).
A survey of selected topics in agricultural and industrial micro-biology with reference to food microbiology, fermentation reactions, single cell protein synthesis, the principles of plant disease control and applied immunological techniques. Pre-requisites or co-requisites — Biology 200 and Biology 202 or 306, and Biology 300 or 301.
2 lectures, 3 laboratory or tutorial or demonstration hours. Full Course.
Offered September 1972

Biology 308 — Advanced Genetics (given by the Departments of Plant Sciences and Zoology)
Critical analyses of recent concepts of the gene and chromosomes. Pre-requisites — Biology 200, and Biology 201.
2 lectures, 3 laboratory hours. Full Course.
Offered September 1973

BSC HONORS BIOLOGY (PLANT SCIENCES OPTION).

Students already registered in this program and entering third or fourth year may complete their program as indicated below.

Requirements for progression to third and fourth year

For grades required for admission and progression see p.261 Admission to Third and Fourth Year courses is granted automatically to those completing the previous year with a grade average in the principal courses of 70% with no principal course grade below 60% and a passing grade in each of the subsidiary courses. Students who fail to qualify for automatic admission but who completed the preceding year with a grade average of 60% or greater in the principal courses should apply to the Department for consideration.

All students entering Third and Fourth Years are required to participate in the Field Courses conducted by the Department; therefore, students in Second Year who intend to enter the Third Year of the Plant Sciences option must consult the Chairman of the Department before the end of the Second Year in order to arrange for participation in the Field Course (363) which is conducted prior to registration in the fall.

All Third and Fourth Year students must consult the Chairman of the Department of Plant Sciences before registering in any of the courses prescribed for Third and Fourth Years.

Students not registered in Honors Biology but who wish to take Honors level courses must first obtain permission from the Chairman of the Department.

Third Year

Principal Courses

Biology 205/Plant Sciences 300
Biology 200/Plant Sciences 342
Biology 202/Plant Sciences 351
Biology 203 or 204/Plant Sciences 353
Plant Sciences 357

Subsidiary Courses

Biology 301/Biochemistry 406, or a course at the two hundred level or higher in the Faculty of Science.

One option*

Fourth Year

Principal Courses

Plant Sciences 499
Four of: Plant Sciences 442, 443, 452, 453, 454, 455, 457, 459, 460, 461, 471

Subsidiary Courses

One course other than Plant Sciences from the Faculty of Science
One option*

HONORS COURSES

Plant Sciences 255. Genetics. Principles of heredity discussed at various levels of cellular organization, from the chromosome within the cell nucleus to populations of multicellular organisms, using plants and animals as illustrative material.
2 lectures, 3 laboratory hours — 17. Full course.

Plant Sciences 307. Applied Microbiology. A survey of selected topics in agricultural and industrial microbiology with reference in food microbiology, fermentation reactions, single cell protein synthesis, the principles of plant disease control and applied immunological techniques.
Pre-requisites or co-requisites — Biology 200 and Biology 202 or 306, and Biology 300 or 301, or permission of the Department.
2 lectures, 3 laboratory or tutorial or demonstration hours. Full Course.

*Students who plan to continue into Graduate Studies are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

Plant Sciences 357. Plant Taxonomy. Theory of taxonomy. Numerical taxonomy with emphasis on Q-techniques. Study of selected genera. History of taxonomic practice and theory.
4 lecture/laboratory hours — 28 (full course)
Not offered after September 1972

Plant Sciences 363. Field Course. A course of study of plants in their natural environment for students entering Third Year. Students should be prepared to meet part of the expenses of travel and subsistence.
Not offered after September 1972

Plant Sciences 442a. Plant Biochemistry. Selected topics in plant biochemistry, including photosynthesis and nitrogen metabolism.
2 lectures, 2 laboratory hours for 1 term (half course) — 9
Not offered after September 1973

Plant Sciences 443a. Quantitative Plant Ecology. Sampling and description of natural communities. Analysis of distribution patterns. Ordination and classification procedures.
2 lectures, 2 laboratory hours for 1 term (half course) — 16
Not offered after September 1973

Plant Sciences 452b. Plant Physiology. Selected topics of current interest in plant physiology.
2 lectures, 2 laboratory hours for 1 term (half course) — 30
Not offered after September 1973

Plant Sciences 453b. Experimental Plant Ecology. Plant responses to environment under experimental conditions, plant competition; evolution and plant ecology.
2 lectures, 2 laboratory hours for 1 term (half course) — 6
Not offered after September 1973

Plant Sciences 454b. Cytogenetics. The study of chromosomes and the genetic consequences of meiosis.
2 lectures, 2 laboratory hours for 1 term (half course) —
Not offered after September 1973

Plant Sciences 455a. Microbial Genetics. Aspects of genetics applying to microorganisms. Given in collaboration with the Department of Bacteriology and Immunology.
2 lectures, 2 laboratory hours for 1 term (half course) — 26
Not offered after September 1973

Plant Sciences 457a. Evolution of Plants. Micro-evolution - gene flow, differentiation of populations; isolation of populations - with particular reference to cultivated plants. Macro-evolution - problems of homology, reliability of the fossil record; semiological techniques of deriving phylogenies. Geographical-chronological evidences. Biochemical and physiological evolution.
2 lectures, 2 laboratory hours for 1 term (half course) — 36
Not offered after September 1973

Plant Sciences 459a. Radiobiology and Molecular Biophysics. Nature and effects of electromagnetic radiations on biomolecular structure and on living cells. Applied radiobiology and radioecology. Given in collaboration with the Department of Biophysics (Biophysics 462b).
2 lectures, 2 laboratory hours for 1 term (half course) — 34
Not offered after September 1973

Plant Sciences 460a. Algae and Limnology. Morphology and biology of fresh-water algae with particular reference to their significance in natural waters.
2 lectures, 2 laboratory hours for 1 term (half course) — 21
Not offered after September 1973

Plant Sciences 461b. Principal of Plant Pathology. Nature of plant diseases and of plant pathogens; relationships between host and pathogen; epidemiology of plant diseases; plant disease control.
2 lectures, 2 laboratory hours for 1 term (half course) — 10
Not offered after September 1973

Plant Sciences 463. Field Course. A course of study of plants in their natural environment for students entering Fourth Year. Students should be prepared to meet part of the expenses for travel and subsistence.
Not offered after September 1973

Plant Sciences 466b. Bacteriology and Virology. Selected topics in bacteriology and virology with emphasis on current developments.
2 lectures, 2 laboratory hours for 1 term (half course) — 19
Not offered after September 1973

Plant Sciences 471a. Mycology. Selected topics in mycology with emphasis on current developments.
2 lectures, 2 laboratory hours for 1 term (half course) — 14
Not offered after September 1973

Plant Sciences 499. Laboratory. A laboratory investigation in a selected field with presentation of a seminar and thesis.
9 laboratory hours
Not offered after September 1973

HONORS PLANT SCIENCES (FOURTH YEAR)
(new program to be initiated in September 1974)

Principal Courses

Plant Sciences 401a, 402b, 403a and 404b.
2 courses at the 200 level or higher in the Biological Sciences.

A course in the Faculty of Science may be substituted for one Biological option with the permission of the Department of Plant Sciences. Students who have already specialised in a particular aspect of biology in the three-year BSc program, may, with the permission of the Plant Sciences Department, take other Plant Sciences courses (except Plant Sciences 405) provided the necessary pre-requisites for the courses have been met.

The principal courses in the Honors Plant Sciences program form an integrated program in which recent advances in the study of Plant Sciences are reviewed, current literature evaluated and selected problems are investigated in the laboratory. Emphasis will be placed upon individuality of work and resourcefulness.

Honors Courses

****Plant Sciences 401a.** Plant Communities: Their structure, dynamics and distribution as related to intraspecific and interspecific interactions, inbreeding and outbreeding mechanisms and environmental stress.
3 lectures one term only (half course)

****Plant Sciences 402b.** Growth and Metabolism of Plants. Structural and physiological changes occurring during germination, vegetative growth, reproductive development, aging and scenescence in fungi, algae, lower and higher plants. The genetic and environmental control of growth, the role of dormancy and regeneration in plant survival.
3 lectures, one term only (half course)

403a. Analysis of Structure, Dynamics and Distribution Patterns in Plant Populations and Communities: This course includes field and laboratory exercises emphasising modern techniques in design and analysis of field surveys and controlled experiments. Co-requisite Plant Sciences 401a, except with permission of the Plant Sciences Program co-ordinator.
2 tutorial/discussion, 10 laboratory hours, one term only (full course)

404b. Analysis of Growth and Metabolism of Plants. An investigative laboratory focusing on the regulation of growth and metabolism. Co-requisite Plant Sciences 402b, except with permission of the Plant Sciences Program co-ordinator.
2 tutorial/discussion, 10 laboratory hours, one term only (full course)

****405a. Selected Topics.** Available by prior arrangement with Plant Sciences Program coordinator.
5 lecture/laboratory/discussion hours, one term only (half course)

****406b. Selected Topics.** Available by prior arrangements with Plant Sciences Program coordinator.
5 lecture/laboratory/discussion hours, one term only (half course)

462b. Radiobiology and Molecular Biophysics: (Given in collaboration with the Department of Biophysics) Nature and effects of electro-magnetic radiations and biomolecular structure on living cells. Applied radiobiology and radioecology.
2 lectures, 1 laboratory hour, one term only (half course)

HONORS BIOLOGY (FOURTH YEAR)
(new program to be initiated in September 1974)

Principal Courses

5 Full courses from the offerings of the Biological Science Departments at the two hundred level or higher. At least one of these courses must include laboratory work. No more than two courses to be taken in one Department.

Subsidiary Courses

One option

467a. Microbial Genetics: (Given in collaboration with the Department of Bacteriology and Immunology). Aspects of genetics applying to micro-organisms. Available to third-year Biology or fourth-year Honors students. Pre-requisites or co-requisites: Biology 308 and 300 or 301.
2 lectures, 2 laboratory hours, one term only (half course)

**Courses that would be particularly suitable options to students in other honors programs.

Department of Zoology

Department Office, BG 344

Professors

Battle, Helen I., BA, MA UWO; PhD Toronto (part time)

Bourns, T.K.R., BA, MA British Columbia; PhD Rutgers

Judd, W.W., BA McMaster; MA UWO; PhD Toronto

Locke, M., BA, MA, PhD Cantab (Department Chairman)

Scott, D.M., BSc, PhD McGill

Stinson, R.H., BA McMaster; PhD Toronto (Honorary)

Associate Professorss

Dunbar, R.W., BA, MA, PhD Toronto

George, J.A., BSA Sakatchewan; MSA Toronto; PhD UWO

Keenleyside, M.H.A., BA, MA British Columbia; PhD Groningen

MacInnes, C.D., BSc Bishop's; MS, PhD Cornell

McMillan, D.B., BSc, MSc UWO; PhD Toronto

Misra, R.K., MSc, PhD Nagpur; PhD Edinburgh

Ogilvie, D.M., B.Sc., New Brunswick; PhD Western Australia

Purko, J., BA, MSc, PhD UWO

Steele, J.E., BSc Dalhousie; MSc UWO; PhD Saskatchewan

Assistant Professors

Cook, C.B., BA Rutgers; PhD Duke

Holsworth, W.N., BSc, MSc British Columbia; PhD Western Australia

Owen, M.D., BSc Wales; PhD Monash

Planck, R.J., BS, PhD California

Roth, R.R., MSc Cluj; PhD Alberta

Shivers, R.R., AB, MA, PhD Kansas

TAM, W.H., BSc, PhD Hong Kong

Lecturers

Bignell, D.E., BSc, PhD Nottingham

Caveney, S., BSc Witwatersrand; DPhil Oxford

Millar, J.S., BSc, MSc British Columbia; PhD Alberta

Mullins, D.E., BA, MSc Colorado State; PhD Virginia Polytechnic

Steele, R.G., BSc Toronto

Instructors

Day, Lynne Lesley, BSc Reading (part time, joint appointment with Plant Sciences)

Moulton, Marjorie Eleanor, BSc, MSc UWO

Scott, Rosemary Eileen, BSc Durham (part time, joint appointment with Plant Sciences)

Honorary Lecturers (part-time)

Bond, E.J., BSA Toronto; MSc UWO; PhD London

Brown, B.E., BSc, MSc UWO; PhD Illinois

Chefurka, W, BSc Manitoba; MA Montana State; PhD Harvard

Colhoun, E.H., BSA Toronto; PhD Cantab; FRES

Harris, C.R., BA, MA British Columbia; PhD Wisconsin

McLeod, D.G.R., BSc, Manitoba; MSc, PhD, Wisconsin

Nagai, T., MEng, MSc, DSc, Tokyo

Vardanis, A., BSc, *Leeds; MSc, PhD, McGill*

PROGRAMS

The department is equipped to carry out studies in ultrastructure, polytene cytotaxonomy, developmental biology, comparative histology, environmental physiology, insect physiology, parasitology, reproductive biology, ethology, new methods of insect control, population genetics, population dynamics, and ecology. Laboratories are equipped for electron microscopy, tissue culture, cell fractionation and ultracentrifugation, gas chromatography, atomic absorption spectrophotometry, respiratory gas analysis, gamma-irradiation with a cobalt-60 source, radioactive tracer studies and photoperiodism. A summer field station equipped for ecological field studies is maintained near Eskimo Point in the Northwest Territories. The facilities of the Huntsman Marine Laboratory in St. Andrews, New Brunswick, are available to researchers in the department.

The student should consult the General section of this Calendar for details of academic regulations, grades required for admission and progression, and the requirements for graduation which pertain to these programs of study in the Faculty of Science.

The Departmental requirements are outlined below.

General BA Program: (Zoology Major)

A BA degree with an area of concentration in Zoology is no longer offered but certain courses are available to those students presently registered in the program in order that they may complete the degree requirements. Biology 201 (replaces Zoology 43) and Zoology 45 must be included among the four senior courses. Students who registered prior to September 1972 in a BA program with an area of concentration in Zoology may complete their program or may transfer to the new Three Year BSc Biology program, provided they fulfill the requirements of that program. Please consult the undergraduate Advisor (Dr. D. M. Scott) prior to registration.

General Courses

21. Biology. The fundamental principles of biology with stress on the cell as a unit, the origin and preservation of the individual and the race, the mode of inheritance and the applications of biology to social and economic problems. This course is given by the Departments of Plant Sciences and Zoology.
2 lectures, 2 demonstration/laboratory hours — 7

34. Comparative Vertebrate Histology. An introduction to the microscopic structure and development of tissues and organs.
Prerequisite: Zoology 30 or 270
2 lectures, 3 laboratory hours — 21

41. Entomology. The biology and economic importance of insects and related arthropods.
Prerequisite: One Zoology or Biology course
May not be offered in 1972-73
2 lectures, 3 laboratory hours — 8

43. Animal Ecology. Not offered in 1972-73
Students needing this course to complete the requirements of the BA degree must register in Biology 201, Biology of Populations

44. Embryology. A study of fundamental embryological processes as illustrated by selected invertebrate and vertebrate types.
Prerequisite: Zoology 30 or equivalent
2 lectures, 3 laboratory hours — 15

45. Principles of Genetics. The principles of Mendelian genetics and the chromosome theory.
Prerequisite: One Zoology or Biology course
2 lectures — 17

THREE YEAR BSc BIOLOGY PROGRAM

The Department of Zoology participates in the BSc Biology three year program which is being initiated in September, 1972. For complete details the student is referred to the Biology listing p of this calendar.

Students who have successfully completed a First Year Program which included Biology 22 and Chemistry 20 may register in the second year of the BSc Biology Three Year Program.

Courses for BSc Biology Three Year Program

Although some of the courses in this program are open to students from other programs, if space and facilities become limiting in courses at the two hundred level or higher, preference will be given to Three Year BSc Biology students.

Biology Core Courses

Biology 20 — Biology of Organisms*
Growth, development, integration, organization, reproduction and heredity of unicellular, colonial and multicellular organisms.
2 lectures, 3 laboratory hours. Full course.
*Students who have done well in Biology 21 and wish to transfer to the Three Year BSc program, may, with the permission of the Dean of the Faculty of Science, substitute Biology 21 for Biology 20.
Offered September 1972

Biology 200 — Biology of Cells
The organization and the physiological, genetical and biochemical processes occurring in cells.
Prerequisite: Biology 20 and Chemistry
2 lectures, 3 laboratory hours
Offered September 1972

Biology 201 — Biology of Populations
The distribution, genetics and evolution of populations and their growth regulation and interactions with other populations and their environment.
Prerequisite: Biology 20 or Biology 21
A Student may be permitted to take this course at the discretion of the Dean of the Faculty of Science on evidence of satisfactory standing in Biology.
2 lectures, 3 laboratory hours
Offered September 1972

Biology Options

For a complete list of optional Biology courses please refer to Biology Program p.

The prerequisites are such that courses numbered 202 and above can be taken in second or third year, and 300 level courses would normally be taken in third year.

Biology 206 (formerly Zoology 270) — **Comparative Vertebrate Zoology** (given by the Department of Zoology)*
The biology and origins of the classes of vertebrates. The adaptations of vertebrates for life in water and on land are emphasized.
Prerequisite: Biology 20
2 lectures, 3 laboratory hours

*NOTE: (normally taken in second year, otherwise the permission of the instructor is required)

Biology 207 (formerly Zoology 265) — **Invertebrate Zoology** (given by the Dept. of Zoology)
The anatomy and biology of representative invertebrates.
Prerequisite: Biology 20
2 lectures, 3 laboratory hours

Biology 208 (formerly Zoology 30) — **Mammalian Zoology** (given by the Dept. of Zoology)
The biology of mammals with emphasis upon structure and function, and their adaptive significance.
Prerequisite: Biology 20
2 lectures, 3 laboratory hours

Biology 312 (formerly Zoology 465) — **Biometry** (given by the Dept. of Zoology)
Methods of measurement and sampling and the application of statistical methods to zoological data. In special cases, with permission of the instructor, this course may be taken in the second year.
Prerequisite: A mathematics course at the 20 level.
(Biology 312 is prerequisite for a number of courses given by the Department of Zoology)
2 lectures, 3 laboratory hours

BSc HONORS BIOLOGY (ZOOLOGY OPTION) PROGRAM

Students already registered in this program and entering third or fourth year may complete their program as indicated below. For grades required for progression see page

Third Year

Principal Courses

Biology 207 (formerly Zoology 265)
Zoology 352, 354, 363, 454
Biochemistry 406 or Biochemistry 300

One course from the Faculty of Science, approved by the Department Subsidiary Course
One option**

Fourth Year

Principal Courses

Zoology 463*

Four of Biology 312 (formerly Zoology 465)
Zoology 410, 453, 456, 460, 470, 471, 473, 480

One course from the Faculty of Science, approved by the Department Subsidiary Course
One option**

*Students should inquire about these field courses at the end of their Second and Third Years since these may be offered before registration time in their Third and Fourth Years.

**Students who plan to continue into Graduate Studies are advised to select courses which will satisfy the foreign language credit required by many graduate schools.

BSC HONORS ZOOLOGY PROGRAM

Students already registered in this program and entering third or fourth year may complete their program as indicated below. For grades required for progression see p 29. All the Natural Science courses that the student has taken will be counted as principal courses.

Third and Fourth Years

A minimum of 6 courses must have been taken in the Second Year and 5 must be taken in each of the Third and Fourth Years. Of these, at least 8 must be Zoology courses which must have included Zoology 265 and 270 taken in the Second Year; of the remainder, 2 courses must be selected from each of Sections II and III listed below, and the other 2 being optional Zoology courses. The student must obtain the approval of the Department for his program for each year.

Section I — Biology 206 (formerly Zoology 270), Biology 207 (formerly Zoology 265), Zoology 410, 460, 471

Section II — Zoology 255, 354, Zoology 352, 454; although for both of these courses Biochemistry 300 or 406 is prerequisite it may be taken concurrently.
(Note that Chemistry 203 is a prerequisite to either Biochemistry course).

Section III — Zoology 470, 473; Zoology 453 (prerequisite or corequisite). Biology 312 (formerly Zoology 465)

Section IV — Biology 312 (formerly Zoology 465), Zoology 437, 480; Zoology 456 (prerequisite Zoology 354)

Zoology 480 may be taken only in the Fourth Year. A student who lacks the necessary prerequisites for a particular Honors course may with the approval of the Department substitute the corresponding general course in the same subject.

Zoology 363 and 463 (Field Courses) are required and may be offered prior to registration at the beginning of the Third and Fourth years respectively. Students are advised to register for these courses in the spring of their Second and Third Years.

The remaining 8 courses additional to the 8 required Zoology courses are entirely optional but subject to the approval of the Department.

Each of the Zoology courses offered is a full course, counting for 3 credits. For the computation of grades, the principal courses are those courses which are in Natural Science.

HONORS COURSES

Students who are not registered in the Honors Program may be admitted to honors courses if they had a B average in the science courses and in all courses of the previous year together with permission of the instructors.

255. Principles of Genetics. The principles of Mendelian genetics and the chromosome theory, illustrated by lectures and the practical performance of simple breeding experiments.
2 lectures, 3 laboratory hours — 17

352. Comparative Physiology. A study of chemical and physical principles of cell function, homeostatic mechanisms and the integration of organ systems in selected invertebrate and vertebrate types.
2 lectures, 3 laboratory hours — 12

354. Comparative Vertebrate Histology. An introduction to the microscopic structure and development of vertebrate tissue and organs.
2 lectures, 3 laboratory hours — 21

363. Biological Field Studies. Study of living organisms in their field environment. The student should be prepared to meet part of his expenses for travel and subsistence.
Prescribed but non-credit

410. Entomology. The biology of insects. Classification, physiology, ecology, insect-control, collecting techniques will be among the topics studied.
May not be offered in 1972-73
2 lectures, 3 laboratory hours — 8

453. Animal Ecology. A rigorous course in population biology. Dynamics of single and multiple species systems. Population structure. Strategies of reproduction and interaction. Diversity and stability in real ecosystems. Emphasis will be placed on the evolution of regulating mechanisms at the population level.
Prerequisite or Corequisite: Biology 312 (formerly Zoology 465)
2 lectures, 3 laboratory hours — 31

454. Embryology. Principles of development as illustrated by selected invertebrate and vertebrate types.
Prerequisite: Biology 300 or 301
2 lectures, 3 laboratory hours — 15

456. Histological Techniques. A practical course in the techniques of microscopy including sectioning and staining, photomicrography, preparation of illustrations and introductory electron microscopy.
Prerequisite: Zoology 354
3 laboratory hours

460. Insect Taxonomy. The principles and historical development of insect taxonomy and the classification of specimens by means of keys and monographs.
May not be offered 1972-73
3 laboratory hours — 7

463. Biological Field Studies. Study of living organisms in their field environment. The student should be prepared to meet part of his expenses for travel and subsistence.
Prescribed but non-credit

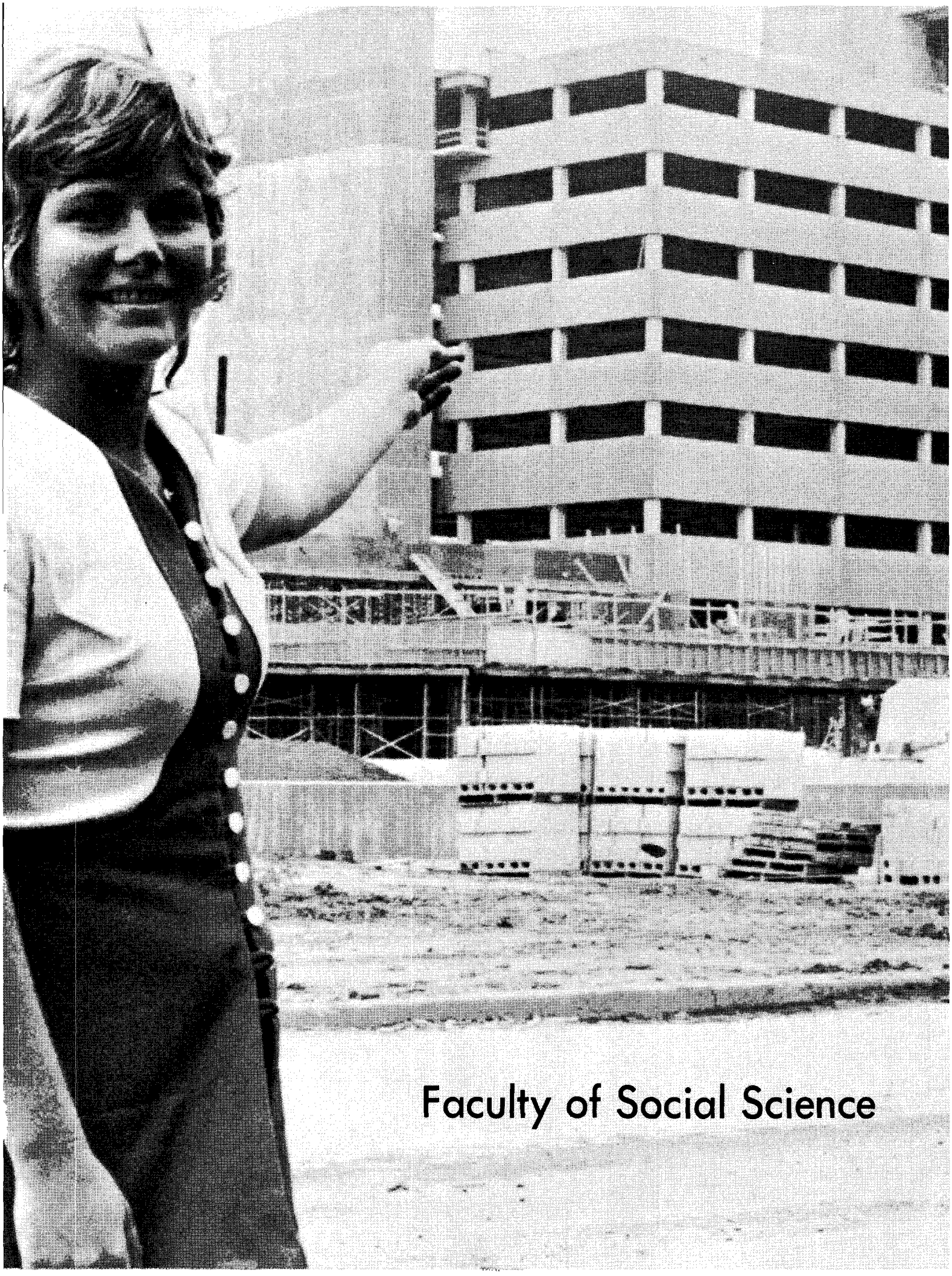
470. Evolution. Concepts of species, intra and interspecific variations including polymorphism; selection and gene flow; significance of central changes. A lecture and seminare course available only to students in Honors Zoology.
May not be offered 1973-74
3 lectures — 24

471. Parasitology. A study of parasitism as a way of life, representative animal parasites, host-parasite relationships and parasitological techniques.
2 lectures, 3 laboratory hours — 36

473. Comparative Ethology. An introduction to the study of animal behavior.
2 lectures, 3 laboratory hours — 25

480. Tutorial. A course in reading and practical work within a particular field of Zoology under the direction of a staff member.
Prerequisite: average of 70% in Third Year. A student will be admitted only with permission of an instructor.
Full course

NOTE: Certain graduate courses are available to undergraduates with the permission of the instructor concerned and the Department Advisory Committee.



Faculty of Social Science

Faculty of Social Science

Dean

Grant L. Reuber, BA UWO; AM, PhD Harvard, Professor of Economics

Associate Dean

David A. Chambers, BA British Columbia; MSc, PhD McGill, Associate Professor of Psychology

Assistant Dean

Thomas N. Guinsburg, BA, MA, PhD Columbia, Assistant Professor of History

Director, Social Science Computing Laboratory

Edward H. Hanis, AB Cornell; PhD Indiana

Office: Room 112 University College

ACADEMIC COUNSELLING

The Faculty of Social Science maintains a full-time counselling service for all students registered, or intending to register, in the Faculty. Students are urged to use this service as well as to consult with individual Departments in the Faculty. Inquiries should be directed to the Office of the Dean or to the Chairman of the Department concerned.

PROGRAMS OF STUDY

The Faculty of Social Science offers the following programs leading to a Bachelor of Arts (BA) degree:

Three-year Programs with an area of concentration in the following fields:

Anthropology, Economics, Geography, History, Political Science, Psychology, Sociology.

Three-year Program in Secretarial Science

Four-year Honors Programs in: Anthropology; Economics, Economics with History options, Economics with Mathematics options; Geography; History, History combined with Economics, History and German, History and Philosophy, History and Russian; Journalism; Political Science, Political Science and French; Psychology, Psychology and Philosophy, Psychology and Physiology; Sociology.

One-year post-BA Program leading to a Diploma in Journalism.

Availability of Options. The student's choice of course options within any academic program is subject to the constraints of both the lecture and the final examination timetables.

Accuracy of Registration. It is the responsibility of the student to ensure the completeness and accuracy of his registration.

FIRST YEAR

The first year is intended to provide one year of general education in the social sciences, leaving it open to the student to select those areas of social science on which he wishes to focus in subsequent years after he has taken University courses in subjects not normally available in the secondary schools. On the successful completion of the first year, the student is eligible to register in the second year of the Three-year Program or the second year of an Honors Program, provided that course prerequisites are fulfilled.

The First-year Program in the social sciences is intended to lead primarily to programs offered by the Departments within the Faculty of Social Science. It does not, however, preclude admission to programs in other Faculties (Arts, Science), provided that course prerequisites are fulfilled. Similarly, students who have successfully completed a First-year Program in Arts or in Science are eligible to enrol in social science programs in subsequent years.

Election of First Year Courses. See pages of this Calendar or the University's General Information booklet.

HONORS PROGRAMS — ADMISSION TO SECOND AND SUBSEQUENT YEARS

A student will be automatically accepted if he has an average of at least 70 per cent with no grade of less than 60 per cent in the courses listed as principal courses by the Department (s) of the subject (s) in which he is specializing. He must also have a passing grade in each of the courses listed as subsidiary courses by the Department (s) concerned.

LANGUAGE SKILLS

English is the language of instruction in most courses. Students whose command of English is inadequate are asked to seek advice from the Office of the Dean about remedial instruction in English.

Because of the bilingual nature of Canadian society as well as for cultural and academic reasons, it is important that social science students have some command of French. Which courses are most appropriate to achieve this objective will depend upon the student's background and should be worked out in consultation with the Department of French. For most students a sequence of courses including French 20 and French 31 or French 271, as listed in the Department's offerings, will enable them to speak and write in French.

Most graduate programs at this and other Universities require a degree of competence in at least one foreign language, and some require proficiency in two. Students who may wish eventually to enter a graduate program should prepare themselves to meet such language requirements in their undergraduate work.

Social Science 31. Man in Contemporary Society. An interdisciplinary course, not associated with an individual Department in the Faculty of Social Science. Registration is limited to the first 30 students who choose to register in the course and who have successfully completed at least one year in the Faculty of Social Science.
Tutorials and lectures — 15 hours

May not be offered in 1972-73.

MATHEMATICS, STATISTICS, COMPUTER SCIENCE

In most branches of social science it is important for students to take courses in Mathematics, Statistics and Computer Science. Such courses should be taken as soon as possible upon entering the University. The following courses, offered in the Faculty of Science, have been specially designed to meet the needs of social science students. Some of these courses require very little background training in Mathematics; others require Grade XIII Mathematics.

Applied Mathematics 22. Introductory Mathematics for Social Science. A problem-centred course based upon basic algebra, linear algebra and calculus. The course is designed for students registered in Social Science. May not be taken for credit by students who are eligible for Mathematics 21.
3 lectures and 1 tutorial hour.

Applied Mathematics 233. Statistics for Honors Social Science. Standard distributions, statistical inference, regression analysis, experimental design and other topics. This course is designed for Honors students in Social Science and cannot be taken for credit by students in Mathematics programs.
Prerequisite: Applied Mathematics 22 or Mathematics 20, or 21, or consent of the instructor.
3 hours.

Mathematics 21. A problem-centred course with major emphasis on calculus, linear algebra, and probability. This course is primarily designed for students registered in the Faculty of Social Science.
Prerequisite: Grade 13 Mathematics A, or Grade 13 "Calculus" plus one of Grade 13 "Algebra" or Grade 13 "Relations and Functions."
3 lectures and 1 tutorial hour.

Mathematics 37a. Statistical Methods. An introduction to frequency distributions, measures of central tendency, correlation, probability and hypothesis testing. Intended primarily for students in Social Science and cannot be taken for credit by students in Mathematics programs.
3 hours for one term (half-course).

Mathematics 38b. Statistics. Distributions, hypothesis testing, multiple regression, prediction and experimental design. Intended primarily for students in Social Science and cannot be taken for credit by students in Mathematics programs.
Prerequisite: Mathematics 37a.
3 hours for one term (half course).

Mathematics 254. Advanced Mathematics for Honors Social Science. Advanced calculus in linear algebra. Topics include maximizing functions, differential and difference equations, and the algebra of n-dimensional vector spaces up to eigenvectors and quadratic forms. Cannot be taken for credit by students in Mathematics programs.
Prerequisite: Mathematics 21 or Applied Mathematics, or permission of the instructor.
3 hours.

Computer Science 21. The course provides an over-all view of the field of Computer Science. It stresses the development and design of computers, the art of programming and use of algorithms for solving problems in science, social science and humanities.
Prerequisite: Grade 13 Mathematics or equivalent.
3 lectures and a laboratory hour.

Note: Students contemplating the mathematical or physical sciences as their major field of study are strongly advised to take Computer Science 20.

Department of Anthropology

Chairman and Associate Professor

Guemple, D.L., BA, MA, PhD Chicago

Departmental Office: Room 223, Middlesex College

Assistant Professor

Spence, M., BA, MA Toronto; PhD S. Illinois

Lecturers

Shamis, Sandra L., BA Berkeley; MA U.C.L.A. (Visiting)

Tobias, S.F., AB Harvard; AM Chicago (Visiting)

Instructors

Gehman, J.G., BA Grinnell College

Miller, Caroline C., BA London; MA McMaster

GENERAL PROGRAM

Students who wish to elect an area of concentration in Anthropology will be required to complete Anthropology 20 and attain a grade of no less than 65 per cent in that course. They will also be required to complete at least four 200 or 300 level honors Anthropology courses other than 250 and 350.

GENERAL COURSES

20. Introduction to Anthropology. A survey of the basic concepts and methods of Anthropology with topical consideration of questions such as the development of man's capacity for culture, the study of culture history, the comparative study of language, religions, and other social institutions. The ethnography of various societies is discussed. 2 hours lecture; 1 hour discussion.

20

HONORS PROGRAM

Requirements for Admission: First year general program (Arts, Social Sciences, or Sciences) with Anthropology 20 and four other courses as principal courses.

Continuance in the honors Anthropology program is in accordance with University regulations. Students who fail to meet these requirements will be allowed to continue with Anthropology as an area of concentration in the general program.

Not all of the following courses will be offered in 1972-73. Students should consult the Department Chairman before selecting their courses.

SECOND YEAR

Principal Courses

Anthropology 200, 250 and one other 200 level course or equivalent.

Subsidiary Courses

Three approved options.

THIRD YEAR

Principal Courses

Anthropology 300, 350 and one other 300 level full course or equivalent.

Subsidiary Courses

Three approved options.

FOURTH YEAR

(Tentative)

Principal Courses

Anthropology 400, 410A, 411B, 450.

Subsidiary Courses

(Tentative)

Two approved options.

HONORS COURSES

200. Traditional Societies. Intensive study of a single society or community with emphasis on the holistic character of their social and cultural life.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours. 1

210a. Native Cultures. Intensive study of a single local or regional culture with emphasis on development of the cultural system.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours.

220b. Anthropological Profiles. Intensive study of the contributions of a single individual or group of anthropological scholars to the discipline. The course will consist of reading and evaluating the entire works of some individual or "school", together with the comments of their principal critics.
Prerequisite: Anthropology 20 or consent of the Instructor.
4 hours. 4

230a. Prehistoric Societies. A detailed archeological study of the development of prehistoric societies. Topics considered will include evolutionary process, ecological adaptations, contacts and interrelationships among various societies, and the social organization of prehistoric peoples.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours.

235b. Language and Culture History. Analysis of the historical growth and development of language families and their relation to patterns of migration. Emphasis will be placed on one cultural or linguistic area.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours. 6

241. Anthropological Linguistics. Systematic study of the basic properties of language in the light of modern linguistic theory with emphasis on the social dimensions of language use.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours. 9

250. Workshop in Anthropology. A problem oriented course focusing on a subject that is of current interest to staff members and students. This course is required of honors Anthropology students and open to others with consent of the Department Chairman.
3 hours. 13

300. Topics in Social Anthropology. A discussion of the models used by social anthropologists to analyze traditional social systems. Some attention may be given to the application of these models to complex societies.
Prerequisite: Anthropology 200 or consent of Instructor.
4 hours. 16



310. Topics in Archeology. An examination of the techniques used to obtain and analyze information in archeology, together with some of the major theoretical contributions to that field. Topics include the role of ecology in shaping prehistoric societies and the effects of their social compositions.
Prerequisite: Anthropology 210A or 220B or consent of Instructor.
4 hours. 19

320a. Topics in Language and Culture. Culture is investigated using linguistic methods and techniques. Topics include: the analysis of lexical sets, cognitive categories, language as a symbolic communicative process.
Prerequisite: Anthropology 241 or consent of Instructor.
4 hours.

321b. Topics in Language and Society. An investigation of the interrelationship between language and social structure with particular attention to linguistic differentiation on this basis and the direction of language change. The speech of minority groups will be investigated.
Prerequisite: Anthropology 241 or consent of Instructor.
4 hours. 21

330a. Native Peoples of Canada. A survey of the traditional lifeways of the autochthonous peoples of Canada including the development of major cultural differences between these and their social and cultural adaptations.
Prerequisite: Anthropology 20 or consent of Instructor.
4 hours.

331b. Contemporary Natives of Canada. A survey of the conditions under which native peoples live in modern Canada, including consideration of their intercultural contacts with whites, acculturation to greater Canadian society, the development of a pan-Indian culture, and the current problems facing Indians in living in the present era. The course serves in part as a vehicle through which local native peoples can present their own interpretation of their traditional ways and air their views on contemporary Indian problems.
Prerequisite: Anthropology 330a or consent of the Instructor.
4 hours. 27

350. Seminar in Anthropology. A research oriented course focusing on a topic formulated by individual students. This course is required of honors Anthropology students and others with the consent of the Department Chairman.
3 hours. 30

Department of Economics

Chairman and Professor

R.J. Wonnacott, BA UWO; AM, PhD Harvard

Departmental Office: Room 261, University College

Professors

Bodkin, R.G., BA Swarthmore; MA, PhD Pennsylvania
Brown, T.M., BA UWO; MA Toronto; PhD Australian National
Burley, K.H., BA, PhD London
Courchene, T.J., BA Saskatchewan; PhD Princeton
Kadiyala, K.R., BSc Andhra; MStat ISI; PhD Minnesota
Melvin, J.R., BSc Manitoba; MA Alberta; PhD Minnesota
Reuber, G.L., BA UWO; AM, PhD Harvard

Associate Professors

Batra, R.N., BA Punjab; MA DSE; PhD Southern Illinois
Berry, R.A., BA UWO; PhD Princeton
Leith, J.C., BA Toronto; MSc, PhD Wisconsin
Saraydar, E., AB Syracuse; AM, PhD Rochester

Assistant Professors

Blomqvist, A.G., Civ-ekonom Stockholm; PhD Princeton
Bhatia, K.B., BCom, MCom Delhi; PhD Chicago
Boyer, R.S., BA Columbia; MA Wisconsin; PhD Chicago (Visiting)
Burgess, D.F., BA Queen's; MA UWO; PhD Wisconsin
Clark, C.S., BA Queen's; PhD California
Conklin, D.W., BA Toronto; PhD MIT
Dick, T.J.O., BA Carleton; MA, PhD Washington
Frankena, M.W., BA Swarthmore; PhD MIT
Fried, J.S., BA Stanford; PhD Northwestern
Gately, F.D., BSc Holy Cross; MA, PhD Princeton
May, J.D., BCom Queen's; PhD York (England)
Haessel, W.W., BSc, MSc Alberta; PhD Iowa State
Johnson, H.T., AB Harvard; MBA Rutgers; MA, PhD Wisconsin
Kirkham, P.G., BASc British Columbia; MBA, MA UWO; PhD Princeton
Oaxaca, R.L., BA Fresno State; MA, PhD Princeton (Visiting)
Palmer, J.P., BA Carleton College Minn; PhD Iowa State
Parai, L., BA Alberta; MA Toronto; PhD Yale
Plourde, C.G., BA, MA Queen's; PhD Minnesota
Rao, V.S., BA Andhra; PhD Minnesota
Scheffman, D.T., BA Minnesota; PhD MIT (Visiting)
Smith, B.E., BCom Carleton
Toda, Y., BA, MA Tokyo; PhD Harvard
Vickery, W.E., BE Vanderbilt; MBA Harvard; PhD Chicago

Lecturers

Avio, K.L., BS Oregon (Visiting)
Baumann, H.G., BA Windsor; MA Michigan
Jondrow, J.M., BA Wisconsin
Ketchum, E.J.D., BA Toronto; MSc LSE; MA Princeton
Kuch, P.J., BA Cornell; MA Syracuse
McFetridge, D.G., BCom Saskatchewan; MA Toronto; MSc LSE
Pattison, J.C., BA, MA UWO
Valentine, T.J., BEc Sydney
Woodward, R.S., BA Haverford; MA Washington

GENERAL PROGRAM

All students who wish to make Economics their area of concentration will be required to take any four senior Economics courses. Students who may plan later to enroll for a two-year MA program are strongly advised to take Economics 30 and 33.

Students who have received credit for Economics 37 prior to 1971-72 may not receive credit for Economics 49.

GENERAL COURSES

20. Introduction to Economics. The nature of economics, economic organization, national income, money and banking, economic fluctuations, public finance and fiscal policy, price determination, international trade, and Canadian economic problems.
3 lectures and 1 optional tutorial hour — 15

21. Introduction to Economics. A mathematical treatment of introductory economics. Topics covered are the same as those in Economics 20
3 lectures and 1 optional tutorial hour — 15.

30. Intermediate Microeconomic Theory. A survey of microeconomic theory including theories of the firm, consumer behavior, market organization, distribution and welfare.
Prerequisite: Economics 20 or 21.
3 hours — 34.

31. International Trade and Finance. A discussion of the principles of international economics and their application to contemporary problems in the international economy.
Prerequisite: Economics 20 or 21.
3 hours — 13.

32. Soviet Economics. Historical and doctrinal background; the structure and operation of the Soviet economy, including central planning techniques; contemporary problems. Attention will concentrate on the USSR.
Prerequisite: Economics 20 or 21.
3 hours — 20.

33. Money and Income. A course in intermediate macroeconomic theory and policy. Topics will include national accounts, income determination, banking theory and practice, monetary theory, stabilization policies in closed and open economies.
Prerequisite: Economics 20 or 21.
3 hours — 15.

35. Statistics. Introduction to statistics and econometrics including such topics as index numbers, time series analysis, survey sampling, probability, sampling, estimation theory, hypothesis testing, simple and multiple regression models.
Prerequisite: Economics 20, and a 20-level Mathematics course, or Economics 21, or permission of the instructor.
3 hours — 10.

36. Labor Economics. A survey of labor economics and industrial relations. Topics include labor force participation, the demand for labor, unemployment, wage determination, poverty and the distribution of income, the history of the trade union movement, the economics of trade unions, labor law, and labor relations.
Prerequisite: Economics 20 or 21.
3 hours — 4.

37. Economic History of Canada. An analysis of the main features of Canadian economic history. Topics will include staple trades, industrialization, transportation, land policy, money and banking, agriculture, National Economic Policy and interrelations with the USA and the world economy
Prerequisite: Economics 20 or 21.
3 hours — 9.

38. Economic Development. A review of the principles of economic development and their application to contemporary problems.
Prerequisite: Economics 20 or 21.
3 hours — 28.

39. Regional Economics and Fiscal Federalism. An analysis of theoretical and policy issues relating to Canada's regions. Topics will include regional income disparities, manpower policies, incentives for industrial location, intergovernmental tax-sharing agreements, the theory of intergovernment grants.
Prerequisite: Economics 20 or 21.
3 hours — 24.

40. Seminar in Economic Policy. A discussion of policy issues of current interest.
Prerequisite: Economics 33.
3 hours — 13.

41. Introduction to Mathematical Economics. An introduction to the basic tools of mathematical economics and their application to economics.
Prerequisite: Economics 21 or 20, and a 20-level Mathematics course.
3 hours — 1.

43. Public Finance. A survey of the role of government, the economic effects of taxes and public expenditures, fiscal policy for stability and growth and intergovernmental relationships.
Prerequisite: Economics 20 or 21.
3 hours — 31.

45. Urban Economics. Theoretical and policy issues relating to cities. Topics include urban growth, location of economic activity in cities, housing, urban transportation, pollution, urban public services and finance.
Prerequisite: Economics 20 or 21.
3 hours — 15.

47. The International Economy in Historical Perspective. A study of the emergence of the international economy in the late nineteenth century, its contraction during the inter-war years, and the attempts at revival since 1945.
Prerequisite: Economics 20 or 21.
3 hours — 5.

48. Special Topics in Economics. An analysis of selected problems in resource allocation.
Prerequisite: Permission of the instructor.
3 hours — 36.

49. Economic History of the United States. An historical analysis of the economic development of the United States since about 1790. Topics include labor and the economy, the role of government, transportation, the evolution of a national market, technological change, the structure of industry, savings and capital formation, agriculture, industrial concentration, and economic fluctuations.
Prerequisite: Economics 20 or 21.
3 hours — 18.

HONORS PROGRAMS

Requirements for Admission

First Year General Program (Arts, Social Science or Science) with a 20-level Economics, a 20-level Mathematics, and one other course as principal courses.

Students who receive a grade of 70 or higher in a 20-level Mathematics course will be encouraged to take either Mathematics 254 or an Honors Mathematics course in the second year.

Mathematics 35 may not be credited as a subsidiary course in the Honors Economics program.

In the special case of a student who has not taken a 20-level Mathematics course in his first year, the Department may grant conditional entry into the Second Year of the Honors Economics program provided that he pick up the 20-level Mathematics requirement in his second year.

Students already in the program, who will in 1971-72 enter the fourth year, will be required to take five courses in the manner prescribed, and will not be allowed to offer any course completed in their second or third year for credit in their fourth year.

SECOND YEAR

Principal Courses

Economics 230, 255 and one other Honors Economics course

Subsidiary Courses

Three options

THIRD YEAR

Principal Courses

Economics 340, 360
One other Honors Economics course

Subsidiary Courses

Two options

FOURTH YEAR

Principal Courses

Economics 400
Two other Honors Economics courses.

Subsidiary Courses

Two options

ECONOMICS WITH HISTORY OPTIONS

Requirements for Admission. First Year General Program (Arts, Science or Social Science) with a 20-level Economics course, a 20-level History course and one other as principal courses. It is recommended that a 20-level Mathematics course be taken.

SECOND YEAR

Principal Courses

Economics 230, 237 and either Economics 255 or another Honors Economics course
Two Honors History courses

Subsidiary Courses

One option

THIRD YEAR

Principal Courses

Economics 340
One of Economics 437, 447, 497 and one other Honors Economics course
Two Honors History courses

FOURTH YEAR

Principal Courses

Economics 360, 400 and one of 437, 497, 447
One Honors History course

Subsidiary Courses

One option

ECONOMICS WITH MATHEMATICS OPTIONS

Requirements for Admission First Year General Program (Arts, Social Science or Science) with Economics 20 or 21 and Mathematics 24, 27 or Applied Mathematics 20 as principal courses.

SECOND YEAR

Principal Courses

Economics 230, 255
Mathematics 250 and 256 or 278

Subsidiary Courses

Two options

THIRD YEAR

Principal Courses

Economics 340, 360
One other Honors Economics course
Mathematics 355, 363

FOURTH YEAR

Principal Courses

Economics 400
Two Honors Economics courses
Mathematics 453

Subsidiary Courses

One option

HONORS COURSES

Honors courses are restricted to students who have the prescribed prerequisites or the permission of the instructor.

Students who have received credit for Economics 437 prior to 1971-72 may not receive credit for Economics 497.

200. Introductory Seminar in Economic Policy. The analysis of contemporary problems and discussion of the relevance of economic principles and policies to deal with these problems. The topics of discussion depend upon current problems and interest of the students.
Prerequisite: Economics 20 or 21.
2 hours.

230. Economic Theory. An outline and survey of microeconomic and macroeconomic theory, taught at an intermediate level.
Prerequisite: Economics 20 or 21.
3 hours — 17.

237. The Economic History of the Modern World A study of the economic history of major nations in the recent past concentrating on Europe, North America, and the development of the emerging nations in more recent years. Topics include changing attitudes to international economic cooperation.
Prerequisite: Economics 20 or 21.
2 hours — 5.

255. Statistics. Introduction to statistics and econometrics including such topics as probability, random variables, sampling, estimation theory, hypothesis testing, simple and multiple regression models, serial correlation, and estimation of systems of equations.
Prerequisite: Economics 20 or 21.
3 hours — 25.

300. Intermediate Seminar in Economic Policy. An introduction to techniques of economic research with emphasis on their application to policy issues.
Prerequisite: Economics 230.
2 hours.

336. Labor Economics. A study of the labor market, wage determination and the relationship among wages, employment and prices.
Prerequisite: Economics 230.
3 hours — 4.

339. Regional-Urban Economics. Theoretical and policy issues relating to Canadian cities and regions. Urban topics include urban growth, location of economic activity in cities, housing, urban transportation, pollution. Regional topics include industrial location, regional income disparities, migration, fiscal federalism.
Prerequisite: Economics 230.
3 hours — 15.

340. Intermediate Macroeconomic Theory. An analysis of general equilibrium models of national income and the price level in both a static and dynamic context. The aims and techniques of macroeconomic policy will be discussed with respect to employment, inflation and growth.
Prerequisite: Economics 230.
3 hours — 9.

351. International Trade and Finance. Topics to be covered include the pure theory of international trade, the theory of balance of payments adjustment, stabilization policies for open economies, the economic consequences of various commercial policies, and the problem of international liquidity.
Prerequisite: Economics 230.
3 hours — 36.

360. Resource Allocation and Economic Welfare. An intensive survey of microeconomic theory, including theories of the firm, consumption, market organization, distribution and welfare.
Prerequisite: Economics 230.
3 hours — 3.

400. Senior Seminar in Economic Policy. An analysis of economic policy issues of current interest.
Prerequisite: Economics 340.
2 hours — 13.

410. Mathematical Economics. A course designed to give the student the ability to use the basic tools of static mathematical economics.
Prerequisite: Economics 360 or permission of the instructor.
3 hours — 1.

433. Advanced Monetary Theory and Policy. A detailed analysis of the foundations of monetary theory as well as a survey and analysis of recent advances in both monetary theory and policy.
Prerequisite: Economics 340.
2 hours — 36.

434. Industrial Organization. An application of basic microeconomic theory to areas such as firm size and structure, price discrimination, resale price maintenance, advertising, innovation, foreign ownership, etc. Part of the course will be devoted to the objectives and performance of Canadian antitrust policy.
Prerequisite: Economics 230.
2 hours — 24.

437. Economic History of Canada. A seminar course in selected topics concerned with growth and welfare in the Canadian past. The role of economic theory and measurement will be discussed. Topics will include the staple trades, industrialization, transportation, land policy, money and banking, agriculture, National Economic Policy, and interrelations with the U.S. and the world economy. The main features of Canadian economic growth from 1800-1950 will be analyzed in the first term followed by the discussion of more specialized topics in the second term.
Prerequisite: Permission of the instructor.
2 hours — 16.

447. The Economic History of Europe. A study of economic change in Europe since the eighteenth century, with special reference to the economic history of England, France and Germany. Topics include: the problems of transforming traditional societies and the creation of a sophisticated manufacturing sector; the economics of imperialism; and the growth of the international economy.
Prerequisite: Permission of the instructor.
2 hours — 27.

450. History of Economic Thought. Survey of economic theories of earlier thinkers, with emphasis on the topics of value and distribution, money, aggregate income determination, growth and development, and scope and method. Course commences with ancient economic thought, surveys the medieval scholastics and then focuses on developments in the last three centuries. Individual economists studied include Petty, Cantillon, Hume, Turgot, Smith, Ricardo, Malthus, Say, J. S. Mill, Marx, Javons, Menger, Walras, J. B. Clark, Bohm-Bawerk and Alfred Marshall.
Prerequisite: Economics 230 or permission of the instructor.
2 hours — 20.

455 Econometrics. Development of statistical ideas and concepts as employed in testing economic theories. First term is devoted to the classical regression model; second term, to developments and extensions. Topics covered in the first term include: the bivariate model as a special case of the classical regression model, nonlinear estimating forms, hypothesis testing in the context of the general linear classical regression model, partial correlation analysis, and the theory of prediction. Topics covered during the second term include: measurement errors, autocorrelated disturbances, lagged dependent variables, dummy variables, and simultaneous equation systems.
Prerequisite: Economics 255 or permission of the instructor.
3 lectures and 1 tutorial hour — 5.

463. Public Finance. An examination of the principles of resource allocation in the public sector. Some consideration will also be given to the financing of government expenditures.
Prerequisite: Economics 230.
2 hours — 8.

470. Economic Development. A review of the principles of economic development and their application to contemporary problems.
Prerequisite: Economics 230.
3 hours — 30.

497. Economic History of the United States. The historical development of economic activity in the United Sates since 1790. Lectures and student discussion papers focus on the evolution of the national market during the nineteenth century and changes in the urban, industrial and agricultural sectors during the twentieth century.
Prerequisite: Permission of the instructor.
2 hours — 34.

498. Current Topics in Economics. An analysis of current problems in the national and international economy.
Prerequisite: Permission of the instructor.
2 hours — 12.

499. Special Topics in Economics. An analysis of selected problems in resource allocation.
Prerequisite: Permission of the instructor.
2 hours — 26.

Department of Geography

Chairman and Professor

W. Warntz, BS; AM; PhD Pennsylvania

Departmental Offices: Room 321, Middlesex College.

Professors

Hosse, H.A., BA, MA Manitoba; PhD Ottawa
Nelson, J.G., BA McMaster; MA Colorado; PhD John Hopkins
Nicholson, N.L., BA, MSc UWO; PhD Ottawa; FRGS
Packer, R.W., BA, MA Cantab; FRGS
Philbrick, A.K., BA, MS, PhD Chicago
Pleva, E.G., BA, MA, PhD Minnesota

Associate Professors

Bjorklund, Elaine M. (Mrs.), BSc Utah; MA Washington; PhD Chicago
Day, J.C., BSc, MSc UWO; PhD Chicago
Goodchild, M.F., BA Cantab; PhD McMaster
Janelle, D.G., BA Southwestern Louisiana; MA, PhD Michigan State
Langtvet, O.P., CMag, CPhil Oslo
McDaniel, R., BA, MA UWO
Sim, V.W., BA McMaster; MA Clark; PhD McGill,
Taylor, H.W., BA Westerchester State; MA Indiana; PhD Maryland
Whebell, C.F.J., BA, MSc UWO; PhD London
Wightman, R.W., BA, MA UWO; PhD Durham

Assitant Professors

Butler, R.W., BA Nottingham
Code, W., BA Queen's; PhD Berkley
King, R.H., BSc Swansea; MSc Aberdeen; PhD Saskatchewan
Smith, T., BA Cambridge; PhD John Hopkins
Troughton, M.J., BA, MA UWO; BLitt Oxon

Lecturers

Cecil, R.G., BSc, MA McGill
Luckman, B., BA, MA Manchester
Mutambirwa, C.C., BA Lincoln; MA Pennsylvania
White, R., BA Swarthmore; MA North Carolina

Instructors

Campbell, N., BA Queens (Belfast); MA UWO
Fieguth, W., BSc Bethel College; MA Queen's
Janelle, Barbara (Mrs.), BA Michigan State; MA Colorado
Shawyer, Joyce S. (Mrs.), BA UWO; MA, PhD Nottingham

GENERAL PROGRAM

General BA students wishing to elect an area of concentration in Geography must consult with the Department.

20. Introduction to Geography. A systems introduction to Geography; investigation of the spatially interacting systems within the limits of human habitability.
2 lectures and 2 hours practical work — 3.

30. Process of Landscape Development. Examination of the landscape of selected Canadian regions with particular emphasis on the relationship between climate and the geomorphic processes which are presently active. Some attention will be given to the role of man in altering the natural landscape.
Prerequisite: Geography 20 or permission.
2 lectures and 2 hours practical work — 10.

32. The Geography of Culture. Theory, exemplification, and application of models of perception, the processes of culture, and the formation of regional cultures.
2 lectures and 2 hours practical work — 35.

33. Introduction to Urban and Regional Development. A study of the spatial structure of cities and systems of cities; the processes generating this structure; premises and principles of land use planning; planning problems.
2 lectures and 1 hour tutorial — 6.

37. Geography of Developing Countries. An examination of the environmental, human and economic factors that interact in developing countries. Systematic analysis of spatial aspects of urbanization, industrialization, agriculture, resources, population and related factors. Special emphasis is placed on the implications of change. Spatial concepts and models are used to study the development process, and reference is made to selected case studies.
Prerequisite: 1 course in Geography or permission.
2 lectures and 2 hours of seminar/workshop — 18.

39. Elements of Economic Geography. A conceptual interpretation of the factors influencing the spatial distribution of economic activities.
2 lectures and 2 hours practical work — 12.

World Regional Geography. A comprehensive systematic survey in world regional geography.
Prerequisite: 2 courses in Geography or permission.
2 lectures and 2 hours practical work — 31.

47. Geographical Aspects of North American History. An introduction to the main themes of the historical geography of North America.
Prerequisities: 2 courses in Geography (preferably geography 20) or permission.
2 lectures and 2 hours practical work — 24.

40. Political Geography. The human geography basis of the world's territorial divisions: concepts, selected regional examples, and some applications.
Prerequisite: 1 course in Geography.
2 lectures and 1 hour tutorial — 18.

45. Geography of North America. The geographic basis of human occupance in North America with particular attention to regional analysis and practical case studies. The natural wealth of North America and its conservation through wise development and use.
Prerequisite: Geography 20 or permission.
2 lectures and 2 hours practical work — 31.

HONORS PROGRAM

Requirements for Admission. First Year General Program (Arts, Social Science or Science) with Geography 20 and any two others as principal courses. A student who wishes to enter Second Year and has not taken Geography 20 will cover a prescribed reading program during the summer before Second Year, pass a written and/or oral examination during the first week of lectures in September, complete the laboratory exercises for Geography 20 during the academic year and write the Geography 20 Spring examination.

A 20 level mathematics, applied mathematics or computer science course is strongly recommended in the first year.

SECOND YEAR

Principal Courses

Geography 200, 230, 232, 241
During the first two years the following courses must be completed: Economics 20 or 21, Geology 20 or 21.

Options must be selected in consultation with a Departmental Adviser.

Subsidiary Courses

Two options

THIRD YEAR

Principal Courses

Geography 339, 343
Two of: Geography 345, 346, a 400-level Geography course

Subsidiary Courses

Three options. One of these options may be any Geography course, including a 400-level course.

FOURTH YEAR

Principal Courses

Geography 443 (half course) 448 (half course), 450 (one and one-half courses)
One of: Geography 430, 431, 432, 433, 434, 435, 437, 439, 440, 447, 451
One of: Geography 451, 460, 461, 462, 463, 464, 465, 466, 467, 468

Subsidiary Courses

One option

HONORS COURSES

200. Quantitative Methods in Geography. Methods of analyzing geographical data; an introduction to statistical methods. A 20 level mathematics, applied mathematics or computer science course is strongly recommended in the first year.
2 lectures and 2 hours practical work — 25.

230. Physical Geography. Studies of the environmental factors, meteorology, climatology, geomorphology, hydrology, vegetation, and soils, their interrelationships, techniques of measurement and classification.
Prerequisite: Geography 20 or equivalent.
2 lectures and 2 hours practical work — 8

232. Cultural Geography. An introduction to the spatial behavior of different cultures, the cultural processes occurring among people, and the conceptual and theoretical framework for interpretation.
2 lectures and 2 hours practical work — 35.

241. Cartographic Representation and Photo Interpretation. Scales and projections, map making, surveying on the ground and from the air, official and professional maps, cartographic specialties. Techniques in the use of air photos in geographic analysis.
Prerequisite: Geography 20 or permission.
1 hour lecture and 4 hours practical work — 21.

339. Economic Geography. A systems analysis of the spatial organization of natural resources, agriculture, manufacturing, transportation and communication and tertiary activity.
Prerequisite: Geography 200 or permission. Computer Science 20 or 37 is strongly recommended.
2 lectures and 2 hours practical work — 12.

343. Field Methods and Practices. Departmental field camps and field trips as arranged; attendance at geographical meetings as required; special studies and practical problems in field techniques.
Sessions and hours by arrangement. (half course).

345. Geography of North America. A detailed analysis of the regional geography of North America, case studies and type areas; special attention to major geographical regions shared by Canada and the United States.
Prerequisite: Geography 20 or permission
2 lectures and 2 hours practical work — 31.

346. World Regional Geography. A systematic analysis of the major environments with emphasis on problems of resource use. Regional samples are analyzed in detail emphasizing culture and cultural progression. Practical work includes map analysis and seminars on selected problems.
Prerequisite: 2 courses in Geography or permission
2 lectures and 2 hours practical work — 3.

430. Meteorology and Climatology. The basic meteorological processes; readings in climate classification, regional climate, microclimatology, climatic change, and applied climatology.
2 lectures and 2 hours practical work — 4.

431. Geomorphology. Examination of recent periodical literature with particular emphasis on geomorphic process, current research techniques, and the physiographic development of selected Canadian regions.
Prerequisite: Geography 230 or permission.
2 lectures and 2 hours practical work — 5.
(Offered in alternating years with Geography 436).

432. Advanced Cultural Geography. Seminar lectures and discussions towards the development of a quantitative theoretical world cultural geography.
Prerequisite: 3 courses in Geography, including Geography 232.
2 lectures and 2 hours practical work — 7.

433. Urban Geography. Systems of cities; urban land use; social, cultural and political patterns within the city; urban problems.
Prerequisite: 2 courses in Geography or permission.
2 lectures and 2 hours practical work — 11.

434. Agricultural Geography. Identification and study of the components of the agricultural system; emphasis on the level of the operational farm unit; models of agricultural location, land use and decision making;

the development of projects investigating the *local farm system and changes taking place* in agricultural and related rural structure.
Prerequisite: 2 courses in Geography or permission.
2 lectures and 2 hours practical work — 9.

435. Introduction to Resources Geography. A review and evaluation of *socioeconomic theory and problems related* to the use and deterioration of mineral, soil, biotic, *water and landscape resources.*
Prerequisite: 3 courses in Geography or permission.
2 lectures and 2 hours practical work — 13.

436. Soil Geography. An examination of soils as three-dimensional natural bodies. The factors affecting soil formation and areal differentiation. The processes giving rise to soil profile development. Techniques of soil classification, horizon nomenclature and soil survey, and their practical applications.
Prerequisite: Geography 230 or permission.
2 lectures and 2 hours practical work — 34.
(*This course offered every other year.* Offered in 1972-73.)

437. Recreation Geography. Examination of leisure resources, comparison of urban and rural recreational land use patterns; the areal and seasonal variations in intensity of use of land; case studies of the impact of recreation upon various areas.
Prerequisite: 2 courses in Geography or permission.
2 lectures and 2 hours practical work — 16.

439. Advanced Economic Geography. The techniques of Regional Science, including the application of input-output analysis, *linear programming, the gravity* model and graph theory to the analysis of spatial systems.
Prerequisite: Geography 339 or permission.
2 lectures and 2 hours practical work — 5.

440. Advanced Political Geography. Examination in depth of selected aspects of political geography with special reference to applications of current theories and models.
Prerequisite: 3 courses in Geography.
2 lectures and 2 hours practical work — 25.

443. Field Methods and Practices. *Departmental field camps and field trips as* arranged; attendance at geographical meetings as required, special studies and practical problems in field techniques.
Mandatory for Fourth Year Honors.
Sessions and hours by arrangement. (half course).

447. Historical Geography. Studies and methodological approaches to historical geography with special reference to Ontario.
Prerequisite: 2 courses in Geography or permission.
2 lectures and 2 hours practical work — 10.

448. Senior Seminar in Geography. *An examination of the methodology of* Geography. Of central concern are diverse interpretations of the field and various problems of explanation in Geography.

450. Senior Report. A report on a geographical problem including the results of field work, cartographic representation, and a study of the relevant literature.
Restricted to and mandatory for Fourth Year Honors.
Hours by arrangement. (One and one-half courses).

451. Tutorial in Geography. An *advanced reading course in a regional or* systematic field of interest to the student. Normally, it will be expected that the applicant will have taken, during his Third Year, the regular 400 level lecture course in his field of interest.
Prerequisite: Permission of the instructor in the field of interest. (No exam).

SENIOR STUDIES IN THE REGIONAL GEOGRAPHY OF SIGNIFICANT WORLD AREAS

460. Canada. Regional aspects of the natural resources of Canada and their use; the basis of human occupance in Canada; geographical problems in national development.
Prerequisite: 3 courses in Geography or permission
2 lectures and 2 hours practical work — 22.

461. United States. A study of the *geographic factors in the regional* development of the United States; a systematic analysis of the overall occupance and economy with ten detailed type studies of selected areas to illustrate problem solving techniques.
Prerequisite: 3 courses in Geography or permission.
2 lectures and 2 hours practical work — 30.

462. Latin America. Regional study of economic and cultural geography; analysis of economic, cultural and political development in the Latin American context.
Prerequisite: 3 courses in Geography or permission.
2 lectures and 2 hours practical work — 32.

463. Western Europe. A systematic *analysis of the regional geography of* Western Europe; type studies.
Prerequisite: 3 courses in Geography or permission.
2 lectures and 2 hours practical work — 34.

464. U.S.S.R. and Eastern Europe. (Not given 1972-73).
—36.

465. Middle East (Southwest Asia and North Africa). (Not given 1972-73).
— 22.

466. Africa. (Not given 1972-73).
—30.

467. Australasia and the Pacific. An examination of the growth and structure of *regional systems in Australia,* New Zealand and associated areas of the Pacific. Selected sub-regional areas will be discussed in detail, and some comparisons with North America will be noted.
Prerequisite: 3 courses in Geography or permission.
2 lectures and 2 hours practical work — 34.

468. South, East and Southern Asia (Particularly India, China, Japan). (Not given 1972-73).

Department of History

Chairman and Associate Professor

C.A. Ruud, BA Willamette; AM Harvard; PhD Berkeley

Departmental Office: Room 434, Talbot College.

Professors

Balderston, W., BA, PhD Cornell

Ferguson, W.K., BA, MA, PhD Cornell; DLitt UWO; FRSC

Graham, G.S., BA, MA Queen's; AM Harvard; PhD Cantab; FRHistS Rhodes Professor of Imperial History, King's College, University of London (Visiting)

Kerr, D.G.G., BA McGill; PhD London

Lander, J.R., BA, MA, MLitt Cantab; FRHistS; J. B. Smallman Professor of History

Overton, R.C., AB, AM Williams; AM, PhD Harvard

Rowe, J.G., AB Harvard; BD Episcopal Theological School, Cambridge, Mass.; MA, PhD Toronto (Dean of Arts)

Talman, J.J., BA, MA UWO; PhD Toronto; DLitt Waterloo; FRSC

Wade, H. Mason, MA McGill; LLD New Brunswick; DesL Ottawa

Zaslow, M., BA, BEd Alberta; MA, PhD Toronto

Associate Professors

Armstrong, F.H., BA, MA, PhD Toronto, FRHistS

Dreyer, F.A., BA Toronto; BA Oxon; PhD St. Andrews

Emerson, R.L., BA Dartmouth; MA Brown; MA, PhD Brandeis

Gwynne-Timothy, J.R., BA, MA Toronto; DPhil Oxon

Hilborn, K.H.W., BA, MA Queen's; DPhil Oxon

Hohner, R.A., BA, MA, PhD Duke

Hyatt, A.M.J., BA RMC; BA Toronto; MA Carleton; PhD Duke

McLaughlin, J.P., BA Queen's; PhD London

Associate Professors

Metcalf, G., BA, MA Toronto; PhD London (Visiting)

Neary, P.F., BSc, MA Memorial; PhD London

Ogelsby, J.C.M., AB Stanford; MA, PhD Washington

Steele, I.K., BA Alberta; PhD London

Stockdale, W.H., BA, MA Alabama; PhD New York

Zoltvany, Y., BA Loyola; MA Universite de Montreal; PhD Alberta

Assistant Professors

Emery, G.N., BA Queen's; PhD British Columbia

Guinsburg, T.N., AB, MA, PhD Columbia

Hahn, E., BA UBC; MA, PhD Yale

Metzger, F.K., BA Bowdoin; MA Pennsylvania; PhD Rutgers

Tsurumi, E. Patricia (Mrs.), BA UBC; AM, PhD Harvard

Lecturers

Avery, D.H., BA, MA Manitoba

Early, E.F., BA Yale; MBA Stanford; MA London

Fuke, R.P., BA Toronto; MA Maryland

McCullough, Marilyn K. (Miss), BA Michigan State; MA Cornell

Pavloff, V.N., BASc British Columbia; BA Carleton; MA Berkeley

Rider, P.E., BA Carleton; MA Toronto

Santosuosso, A., BA, MA Toronto

Sea, T.F., BA Iowa; MA Berkeley

Simpson, C.M., BA Notre Dame; MA Stanford

Skidmore, Patricia G. (Mrs.), BS, MA Kent State; PhD Alberta

Instructor

Bowker, A., BA, MA Toronto

FIRST YEAR COURSES

Any course in the History 20 series fulfills the first-year principal course requirement in History leading to a General or Honors History program. Only one History course at the 20 level may be taken in the first year, or for credit towards a 15-course BA degree. No particular History 20-series course is a prerequisite for any senior History course. History 21, History 23, History 24, History 25, History 26, History 27, History 28 and History 29 are courses with limited enrollment.

20. Modern Europe. 1715 to the Present. Analysis of the evolutionary and revolutionary development of Modern Europe, with intensive treatment of the great landmarks in the formation of Western society and culture/Staff.
3 hours — 14.

21. Totalitarianism in the 20th Century. A study of totalitarian systems, 1917 to the present, with emphasis on Nazism and Soviet Communism. The course will examine the similarities and differences of Nazis, Communists and Italian Fascists both in theory and in practice and with respect to foreign policy as well as domestic affairs. Lectures and discussion. (Limited enrollment).
(Not offered, 1972-73).
3 hours — 4.

23. An Introduction to the Study of American History: Selected Problems. Studies in the critical use of historical sources, problems in research and writing, and readings on the nature of historical inquiry. Intensive study of selected topics, such as the clash at Lexington in 1775, the Nat Turner slave insurrection of 1831, and the Sacco-Vanzetti case of the 1920's. (Limited enrollment).
(Not offered 1972-73).
3 hours — 12.

24. Selected Problems in American History. An examination of specific historical events and the controversies which have developed around them in an effort to explore the principal themes of American history. Through extensive use of primary

source materials, the course will also focus on such problems as verification and the proper use of evidence. Procedural emphasis will be on discussions and written exercises. (Limited enrollment)/Simpson.
3 hours — 36.

25. Canada: A survey, from the beginning of the French Regime to the present. Not open to students holding credit for History 31 or 231. (Limited enrollment)/Staff.
3 hours — 24.

26. The Two World Wars. An examination of the causes, course and consequences of the First and Second World Wars, stressing comparison of the two conflicts. Students will be asked to consider a variety of historical analyses of both wars and to study the process of interpretation as well as events. (Limited enrollment)/Hyatt.
3 hours. 29

27. Ethnic Groups and the Problems of Racism in Canadian Development, 1600-1970. Role of major ethnic groups in the development of Canadian society. Basic themes will include relations between Amerindians and Europeans, between English and French, and among the established population (both English and French) and immigrants of diverse origins. (Limited enrollment).
(Not offered 1972-73).
3 hours.

28. Selected Aspects of North American Economic and Social History. The Railway Age: A study of the role of transportation, especially railways, with an emphasis on the United States. Problems examined will include contributions to new settlement, impact on agricultural and industrial development, and competition between railways and other forms of transport. (Limited enrollment)/Overton.
3 hours. 16

29. The Duel for Empire: Anglo-French Colonial Rivalry, 1688-1904. (Limited enrollment)/Gwynne-Timothy.
3 hours. 26

GENERAL COURSES

General BA students wishing to elect an area of concentration in History must earn credit in four senior History courses.

Students in programs other than History who wish to take a History option may take any History general course except those from which they are excluded by prerequisites.

The Department will admit General students to Honors courses on an individual basis, subject to the availability of places and the qualifications of the individual student. Permission of the instructor (s) involved is required. The following Honors courses are automatically open to students in the general program:

205-209. Military and Strategic Studies.
231. Canada.
237. Russia.
320. China.
321. Japan.
322. Modern Southeast Asia.
332. British Social History, 1660-1820.
340. Modern Italy.
372. The Reformation.
375. The Hapsburg Monarchy and Balkan Peninsula.
380. International Relations Since 1945.

See descriptions of these Honors courses for details.

All courses numbered 50 and above will have limited enrollment.

30. Mediaeval Europe. From the 4th to the 15th Centuries./Lander.
3 hours — 34.

32. England to 1688. A survey of English History from the Anglo-Saxons./Balderston.
3 hours — 10.

33. British Empires. A comparative study of the theory, practice, and legacy of British Imperialism in America, India, and Africa./Steele.
3 hours — 32.

34. The United States, Colonial Period to the Present. Emphasis first term upon the emergence of the American nation, the equalitarian impulse, national expansion and sectional conflict; second term, upon the great transformations ot the modern era: the growth of industrialism, big government, a pluralistic society, and international predominance./Staff.
3 hours — 36.

35. England since 1688. English political, social, economic, and diplomatic development./Stockdale.
3 hours — 18.

36. Modern Europe. From the beginning of the 16th century to 1715./Metzger, Sea.
3 hours — 13.

38. Latin America. An introduction to Latin America. The first term emphasizes the colonial foundations of Spanish and Portuguese civilization in the New World; the second term emphasizes the growth of the individual republics, personalist rule, federalism vs. centralism, revolution, and 'the static society'./Ogelsby.
3 hours — 30.

41. Post-Confederation Canada, 1867-1972. Emphasis on important topics such as the settlement of the west, French-English relations, and Canadian-American relations. (Not to be taken simultaneously with History 231)/Staff.
3 hours. 29

50. Selected Topics in Canadian History.
(Not offered 1972-73)
3 hours — 28.

51. Canadian Party Politics, 1867-1957.
Prerequisite: History 25 or 31 or permission of the instructor.
(Not offered 1972-73)
3 hours — 15.

52. Canadian Social History. The Impact of Industrialization, 1870-1960/Avery.
Prerequisite: History 25 or 31 or permission of the instructor.
3 hours — 5.



53. French Canada in the Modern Period. A survey history of French Canada from 1791 to the present with special emphasis on the changing character of nationalism from the period of Papineau to that of the Quiet Revolution/Zoltvany.
3 hours — 17.

60. Selected Topics in American History /Staff.
Prerequisite: History 34 or 234, or permission of the instructor.
(Not offered 1972-73)
3 hours — 23.

61. The United States, 1841-1901: The Prelude to Modern America. /Fuke.
Prerequisite: History 34 or 234, or permission of the instructor.
3 hours — 9.

62. The United States in the 20th Century.
Prerequisite: History 34 or 234, or permission of the instructor.
(Not offered 1972-73)
3 hours — 16

70. Selected Topics in European History.
(Not offered 1972-73)
3 hours — 4.

71. Mediaeval Europe.
(Not offered 1972-73)
3 hours — 33.

73. Modern Germany, 1701 to the present./Hahn.
3 hours — 19.

74. Modern France since 1815. /Gwynne-Timothy.
3 hours —8.

76. English Thought and Society, 1870-1914.
(Not offered 1972-73)
3 hours — 14.

90. Selected Topics in Latin American History. Students will do a major research project each term on a subject chosen in consultation with the instructor. /Ogelsby.
Prerequisite: History 38 or 338, or permission of the instructor.
3 hours — 22.

SOCIAL SCIENCE

HONORS PROGRAMS

HISTORY

Requirements for Admission. First Year General Program (Arts, Science or Social Science) with a 20-level History Course and two other courses as principal courses.

TYPE A CERTIFICATE IN HISTORY

A student who wishes to qualify for a Type A certificate in History should consult the Registrar of Althouse College.

COURSE REQUIREMENTS FOR AN HONORS DEGREE IN HISTORY

Nine (9) Honors courses in History as principal courses and six (6) options, approved by the Department, must be taken over the second, third and fourth years. A normal program is three honors courses in history and two options each year. The nine Honors courses in History must include History 234, History 236, one course in Canadian history at the 200 level, and at least one course at the 400 level. Not more than two (2) additional 200 level courses may be taken, except as options if the Department approves. History 234, History 236 and the 200 level course in Canadian history must be completed before entering fourth year. One of the Honors courses (other than History 236) taken in third or fourth year must be in the field of British or European history. A student not in fourth year can take a 400 series course only with approval of the instructor.

In selecting options, students intending to pursue graduate studies should bear in mind that a language other than English is generally required for the MA and that two languages other than English are generally required for the PhD.

Not more than three courses in Military and Strategic Studies may be counted towards a degree.

SECOND YEAR

Principal Courses

A 200-level Canadian History Course, 234, 236.

Subsidiary Courses

2 options.

THIRD YEAR

Principal Courses

Three honors courses in History.

Subsidiary Courses

2 options.

FOURTH YEAR

Principal Courses

Three Honors courses in History.

Subsidiary Courses

2 options.

HISTORY AND ECONOMICS

The Department of History offers a combined honors program with the Department of Economics that enables students to emphasize either (I) mathematical and theoretical economics or (II) economic history.

I. Requirements for Admission. First Year General Program (Arts, Science or Social Science) with a 20-level History course, Economics 20 and Mathematics 20 or 24 as principal courses. History Courses. Students are required to take History 236 and either 231 or 234 before the end of the third year. In addition, they are to take two honors courses in modern European history and two honors courses in modern North American history before the end of the fourth year. Economics Courses. Students are required to take Economics 230 and 255 in the second year; 340 and one other honors Economics course, to be selected in consultation with the Department, in the third year; and 360 plus one other honors Economics course in the fourth year. Optional Courses. One unrestricted option is permitted in each of the second, third and fourth years.

II. Requirements for Admission. First Year General Program (Arts, Science or Social Science) with a 20-level History course, Economics 20 and one other as principal courses. Either Mathematics 20 or 24 is strongly recommended. History Courses. Students are required to take History 236 and either 231 or 234 before the end of the third year. In addition, they are to take two honors courses in modern North American history before the end of the fourth year.

Economics Courses. Students are required to take Economics 230 and 237 in the second year; 255 (or 35 for those who have not taken a university mathematics course) in the third year; plus two of 437, 447, or 497 and one further honors Economics course in the third and fourth years.

Optional Courses. One unrestricted option is permitted in each of the second, third and fourth years.

HISTORY AND GERMAN

Requirements for Admission. First Year General Program (Arts, Science or Social Science) with a 20-level History course and German 20 or 22 and one other course as principal courses. After the First Year the program consists of a total of at least fifteen courses, a minimum of seven honors German courses, seven honors History courses, and one option.

NOTE: There is to be a total of seven German honors courses in the three senior years. Students are normally required to take the three language courses German 291, 391, and 481. Students fully proficient in spoken and written German are required to include as their only language course, German 481. A comprehensive examination in the spring, designated as German 495, is recommended in addition to the seven German honors courses for all students planning to do graduate work in German.

SECOND YEAR

Principal Courses

History 231, 236
German 290 and either 291, 391 or 481

Subsidiary Courses

One option (an additional German or History course may be selected).

THIRD YEAR

Principal Courses

Two of History 330, 335, 337, 346, 356.
Three of German 333, 390, 391, 420, 425, 430, 444, 480, 481, 482.

FOURTH YEAR

Three of History 330, 337, 356, 436, 456, 460.
Two of German 333, 390, 391, 420, 430, 444, 480, 481, 482.

HISTORY AND PHILOSOPHY

Requirements for Admission. First Year General Program (Arts, Natural Science or Social Science) with three principal courses including Philosophy 20, if taken, and a History course at the 20 level. With the permission of the Philosophy Department, a student who has not taken Philosophy 20 may enter this program. After the first year this program requires, at minimum six honors Philosophy courses, six honors History courses and three options. Some of these options may be additional Philosophy or History courses, and probably should be in the case of a student contemplating graduate work.

The Philosophy courses must include: Philosophy 254, taken in second year; at least one 400 level Philosophy course.

The History courses must include at least four 300 or 400 level History courses. History 231 and 236 are recommended, but not required, in second year.

For the rest, the student makes his own selection of courses in consultation with the Departments, and with their approval. The normal load is five courses each year including two honors Philosophy and two honors History courses. Additional courses may be taken with the approval of the Departments. All honors Philosophy and History courses taken in any year will be considered principal courses. A student who wishes to qualify for a Type A certificate in History must choose additional honors or general History courses as options after consultation with the Registrar of Althouse College.

HISTORY AND RUSSIAN

See Russian and History, Russian Studies Section, Faculty of Arts

OTHER COMBINED PROGRAMS

In addition to formal Combined Programs, other combinations may be arranged by Honors students in consultation with the Departments concerned. For example, an Honors History student with a B in French 20 may take French 271 and 290 as second-year options; with adequate standing in both subjects, such a student could choose either to continue into third-year of the History program (with the possibility of additional options in French), or to transfer to Honors French (with the possibility of options in History).

HONORS COURSES

Students in Honors programs other than History who wish to take a History option may take any History course except those from which they are excluded by prerequisites.

200. The History of Scientific Thought (Science 200). A survey of scientific thinking from Babylonian Science to the beginning of the 20th century./Plotkin.
3 hours — 18.

205-209. Military and Strategic Studies: Selected Topics. A lecture course also open to students in the general program. One course in the series will be offered each year. Consult the History Department for details of the current offering.
3 hours.

231. Canada. From the beginning of the French Regime to 1957. Not open to students who have taken History 25. Open to students in the general program.
3 hours — 29.

232. Canada: From the Beginning of the French Regime to Confederation.
(Not offered 1972-73)
3 hours.

233. Canada: From Confederation to the Present. /Staff.
3 hours.

234. The United States, Colonial Period to the Present. Emphasis first term upon the emergence of the American nation, the equalitarian impulse, national expansion and sectional conflict; second term, upon the great transformations of the modern era: the growth of industrialism, big government, a pluralistic society, and international predominance./Staff.
3 hours — 36.

236. Europe and England in the 16th and 17th centuries. /Metzger, Sea.
3 hours — 13.

237. Russia-U.S.S.R. From early Kiev through the Soviet period. /Ruud.
3 hours — 25.
Open to students in the general program.

320. Survey of Chinese History. The political, economic, social and cultural history of China from prehistoric times to the present. Open to students in the general program. Not open to students with credit for History 39 or 339./McCullough.
3 hours.

321. Survey of Japanese History. The political, economic, social and cultural history of Japan from prehistoric times to the present. Open to students in the general program. Not open to students with credit for History 39 or 339./Tsurumi.
3 hours.

322. The History of Modern Southeast Asia. The traditional political systems of the area, the course of western involvement and the development of colonial control, Southeast Asian responses to this challenge, and the resulting processes of change that led to the emergence of the modern nations of Southeast Asia. Open to students in the general program.
(Not offered 1972-73).
3 hours.

330. The High Middle Ages. Charlemagne to the end of the 13th century./Rowe.
3 hours — 21.

332. British Social History, 1660-1820. A study of changing social structures and the emergence of new elites. Open to students in the general program./Emerson.
3 hours.

333. The First British Empire. Seminar on selected areas; Elizabethan expansion to the American Revolution./Steele.
3 hours — 32.

334. Foreign Policy of the United States since 1775. A study of the interaction between domestic forces — ideological, political, and economic — and external forces in the development of United States foreign policy./Guinsburg.
Prerequisite: History 234 or 34, or permission of the Instructor.
3 hours — 14.

335. England, 1715-1914. A study of English history in the 18th and 19th centuries, stressing as a central theme the development of the modern state. The course will be based mainly on the writings of the following contemporary authors: Locke, Bolingbroke, Burke, Adam Smith, Paine, Bentham, James Mill, Engels, Robert Owen, Newman, and the Fabian Essayists./Dreyer.
3 hours — 18.

336. Absolutism and Society. *France* and Spain, ca. 1550-1700. A Seminar on the social causes and consequences of absolutism in 16th and 17th century France and Spain.
(Not offered 1972-73)
3 hours — 12.

337. Russia-U.S.S.R. The 19th and 20th centuries, with emphasis on intellectual history.
(Not offered 1972-73)
3 hours — 6.

338. Latin America. An introduction to Latin America. The first term emphasizes the colonial foundations of Spanish and Portuguese civilization in the New World; the second term emphasizes the growth of the individual republics, personalist rule, federalism vs. centralism, revolution, and 'the static society.'/Ogelsby.
3 hours — 30.

340. History of Modern Italy: Revolution, Counter-revolution and Democracy, 1730-1968. Open to students in the general program. / Santosuosso.
3 hours.

344. The United States, 1783-1877. The Development of the American Nation. Emphasis upon the framing of the Constitution, the emergence of political parties, the growth of nationalism and sectionalism, the impact of equalitarianism, and the disintegration and restoration of the Union./Simpson.
Prerequisite: History 234 or 34, or permission of the instructor.
3 hours — 34.

346. Modern France. From 1715 to the Present. /McLaughlin.
3 hours — 24.

350. Transportation and Its Impact on American Society. An analysis and consideration of the various modes of transportation (by land, water and air) employed in the United States from about 1800 to the present, and their impact on the social and economic life of the nation./Overton.
3 hours.

356. Modern Germany, 1848-1945. /Hahn.
3 hours — 9.

360. The Evolution of Canadian Political Parties 1867-1968. An examination of the factors which have influenced party politics in Canada (including economic nationalism, continentalism, imperialism, regionalism, industrialism and urbanism).
(Not offered 1972-73).
3 hours — 26.

361. New France. A detailed study of the early history of French Canada: its political, legal, and religious institutions, socio-economic organization, territorial expansion, and its evolution during the first half-century of British rule./Zoltvany.
3 hours — 27.

362. Selected Social Problems in Canadian History From the French Regime to the Present. An examination of ethnic minorities, religious institutions, class consciousness and other features of Canadian society./Emery.
3 hours.

363. The Development of Western Canada.
Prerequisite: History 25 or 231 or permission of the instructor.
(Not offered 1972-73).
3 hours.

372. The Reformation. An examination of the religious upheavals of the 16th century with emphasis on the interplay between ideas and their socio-economic context. Open to general students./Sea.
3 hours.

375. The Hapsburg Monarchy and the Balkan Peninsula. The course includes a study of the Succession states. Open to general students./Pavloff.
3 hours.

380. International Relations since 1945. Emphasis is placed on the impact of Communist ideology, the effects of changing technology, and the rise of independent states in Asia and Africa. Open to general students./Hilborn.
3 hours.

400. Senior Thesis. With permission of the Department.

405-409. Seminar in Military and Strategic Studies: Selected Topics. One course in the series will be offered each year. Consult the History Department for details of the current offering.
3 hours.

410. Urban. A study of the city in History, its evolution, problems, and influence on civilization./Armstrong.
3 hours — 27.

420. The Intellectual History of China. An intensive study of the major intellectual currents in Chinese history from Confucius to Mao. Emphasis on understanding the role of philosophy in Chinese government and society, as well as on the ideas which have shaped China's civilization./McCullough.
Prerequisite: History 39 or 339 or 320, or permission of the instructor.
3 hours.

421. Modern Japan. The development of Japan from a feudal society in the Nineteenth Century to its place as one of the world's leading industrial nations to-day. Emphasis will be both upon the economic, social and political institutional change which made this transformation possible, and upon the impact of this change on the thought and everyday lives of the Japanese people./Tsurumi.
Prerequisite: History 39 or 339 or 321, or permission of the instructor.
3 hours.

431. Canada since 1867. Emphasis on selected topics and seminar discussion.
(Not offered 1972-73).
3 hours — 7.

432. England, 1399-1642. A political, social and constitutional study of England from the 15th century to the mid-17th century./Lander.
3 hours — 10.

433. The Second British Empire and Commonwealth. /Gwynne-Timothy.
3 hours — 19.

434. The United States, 1841-1901. The Prelude to Modern America. Emphasis on economic, social, and constitutional developments against the general background of the period./Fuke.
Prerequisite: History 234 or 34, or permission of the instructor.
3 hours — 17.

435. Slavery in the Atlantic World, 1500-1860. Special emphasis on the British slave trade. Topics include origins of the slave trade, the planter-slave societies of the New World, effects of the trade upon the peoples of west Africa, profits of the trade to the metropolitan powers, abolition, aftermath./Metcalf.
3 hours.

436. Selected Topics in European Intellectual History 1660-1900.
Prerequisite: History 236 or permission of the instructor.
(Not offered 1972-73).
3 hours — 22.

437. The Russian Revolutions of 1917 and the Soviet Period. Soviet political institutions, social and economic development, science, literature, and the arts. The course will conclude with an analysis of the prospects for change in Soviet society.
Prerequisite: History 237 or the approval of the instructor.
(Not offered 1972-73).
3 hours.

441. French Canadian Nationalism.
(Not offered 1972-73).
3 hours — 2.

442. The Opening of the Canadian North. /Zaslow.
3 hours.

444. The United States in the 20th Century.
Prerequisite: History 234 or 34, or permission of the instructor.
(Not offered 1972-73).
3 hours — 16.

448. Selected Topics in Latin American History. /Ogelsby.
Prerequisite: History 338 or permission of the instructor.
3 hours — 5.

451. British North America. Urbanization and the Growth of Elites in British North America, 1759-1880./Armstrong.
3 hours — 23.

452. English Constitutional History. A study of the development of the English constitution from the Anglo-Saxon monarchy to 1688.
(Not offered 1972-73).
3 hours — 35.

456. European International Relations since 1871. The course includes the foreign policies of Great Britain and Continental Powers with respect to non-European nations. Lectures and seminars.
(Not offered 1972-73).
3 hours — 11.

457. Warfare. With emphasis on the relations between warfare and modern political, economic, and social conditions./Hyatt.
3 hours — 31.

460. The Transition from Mediaeval to Modern Civilization. The economic, social, political, religious, and cultural developments of the period from 1300 to 1600./Santosuosso.
3 hours — 26.

461. Canadian-American Relations since 1760. /Wade.
3 hours — 34.

470. British Science and Society in the 17th and 18th Centuries. A study of the development of modern science and its impact on British society. Reading of original material will be emphasized. Lectures, class discussion, essays. /Balderston.
3 hours.

490-499. Specialized Historical Studies. A course on a special topic, normally taught by a visiting professor. One course in the series will be offered each year. Consult the History Department for details of the current offering.
3 hours.

Department of Journalism

Chairman and Professor

J.L. Wild, BA UWO; MA Michigan

Departmental Office: Room 302, Talbot College.

Professor

Beattie, E., BA Manitoba; BEd Toronto; MA State U. of Iowa

Associate Professor

Key, W.B., BA Mexico City College; MA California (Visiting)

Assistant Professors

Bambrick, F.K., BA UWO
Laing, M.M., BA UWO; MS Wisconsin
Laplante, R., BA UWO
Wilson, C.E., BA UWO; MSc Northwestern

Lecturer

Dixon, R.F., BA UWO

Lecturers (Part Time)

Heine, W.C., BA UWO
Howey, M., BA UWO
O'Neail, J., BA UWO

GENERAL COURSES

31. Media Analysis. An examination of mass media functions, motives, processes, effects and feedback mechanisms; general media theories and behavioral-social hypotheses as applied to print, broadcasting and film.
Prerequisite: Journalism 20, 21 or permission of instructor.
3 hours — 16.

21. Survey of Mass Communication: The structure of the media of mass communication: relationship of the media to the social, economic, political and cultural environment; elements of mass communication theory; critical analysis of the media with reference to the main issues in the news.
3 hours — 33.

SOCIAL SCIENCE

HONORS PROGRAM

Requirement for Admission: First Year General Program (Arts, Science or Social Science) with any four courses as principal courses.

SECOND YEAR

Principal Courses

Journalism 250, 255, 260.
Four options of which two must be Social Science courses.

THIRD YEAR

Principal Courses

Journalism 350, 351, 356, 375.
Three options of which two must be Social Science courses.

FOURTH YEAR

Principal Courses

Journalism 451, 455.
Four options of which two must be Social Science courses.

Diploma in Journalism

Requirements for Admission. A degree in a field other than Journalism from a recognized university.

Candidates for the Diploma in Journalism will take the prescribed courses and complete special assignments in reporting, writing and editing.

An average of 60% is required for the Diploma.

Principal Courses

Journalism 255, 260, 351, 356, 375, 400, 451, 455.

HONORS COURSES

250. News Writing and Reporting. Introduction to the news media with emphasis on the daily newspaper; newswriting, reporting of specialized fields, ethics of reporting; lectures, workshops, field trips.
5 hours — 24.

255. History of Journalism. A survey of the development of journalism in the British Isles, the United States and Canada.
2 hours (half course) — 25.

260. Law for Journalists. Basic principles of the common law with special emphasis on access to news, legal guarantee, and limits of freedom of the press; defamation; contempt of court and copyright.
1 hour (half course) — 13.

350. Interpretative News Writing and Reporting. Depth reporting; interpreting the news; reporting social developments; news analysis; reviewing the arts and critical writing; editorial and column writing.
Prerequisite: Journalism 250.
4 hours — 12.

351. Newspaper Production. Newsroom organization; copy editing; page makeup; survey of the mechanical phases of newspaper production.
Prerequisite: Journalism 250.
3 hours (half course) — 5.

356. Radio News Writing and Reporting. Comparative study of newspaper and radio writing and news treatment; writing and editing of newscasts; radio interviewing.
Prerequisite: Journalism 250.
2 hours (half course) — 32.

375. Feature and Magazine Article Writing, Magazine Editing. Feature writing for newspapers, article writing for industrial, trade and general circulation magazines, including assignments and a study of freelancing, readership, research, interviewing, organization, rewriting, style. Elements of magazine editing and production.
Prerequisite: Journalism 250.
2 hours (half course) — 35.

400. Newswriting and Reporting. For students registered in the Diploma Program in Journalism. Writing for the mass media, the forms and style of Journalistic prose; reporting methods; news evaluation; interpretative reporting. This course is the equivalent of Journalism 250, 350.
8 hours — 5.

451. Communication Problems. Nature, function, process and effects of communication, aspects of the mass media (newspaper, magazine, radio, film and TV), historic development, general semantics, public opinion, propaganda. Papers and projects on mass communication. Lectures, seminars.
Prerequisite: Journalism 350.
4 hours — 5.

455. Radio Documentaries, Television News and Documentaries. Research, interviewing, tape-recording, writing, TV-scripting; editing and producing programs with use of University closed circuit television facilities; commentary, history of Canadian broadcasting; lectures; workshops. Use of TV film camera.
Prerequisite: Journalism 356.
3 hours — 19.

Department of Political Science

Chairman and Associate Professor

S.J.R. Noel, BA Memorial; MA, DPhil Oxon

Departmental Office: Room 315, Talbot College.

Professors

Barnard, F.M., BA, MA Oxon; PhD Leicester
Beecroft, E., BA, MA Toronto; PhD Yale
Dawson, W.F., BA Toronto; MA Queen's; DPhil Oxon
Hosse, H.A., BA, MA Manitoba; PhD Ottawa

Associate Professors

Cartwright, J.R., BA Queen's; MA, PhD Toronto
Dobell, W.M., BA McGill; MA, BLitt Oxon
Dunlop, C.C., BA, MA Queen's
Kymlicka, B.B., BA British Columbia; MA, PhD Columbia
Melvin, R.A., BA Brandon College; PhD Alberta
Sansom, T.R., BA New Brunswick; PhD London

Assistant Professors

Harvey, T.G., BA Florida State; MA, PhD Hawaii
Khanh, H.K., BA Johns Hopkins; MA Lehigh
Lee, T.H., BA, MA Singapore (Visiting)
McDougall, A.K., BA McGill; MA Carleton; PhD Toronto
Miller, A.J., BSc LSE; MA McMaster; PhD McGill
Vernon, R.A., BA Trinity; PhD London

Lecturers

Chambers, Elizabeth, J. (Mrs.), BA British Columbia; MA Saskatchewan
Cohn, T.H., BA Michigan; MA Wayne State
Craig, A.W., MA Glasgow
Hrabik, Mary J. (Miss), BA Notre Dame; MA Fordham
Leishman, R.J.W., BA, MA Queen's
Murray, G.P., BSc London; MA Lehigh
O'Brien, A., BSc Dalhousie
Sancton, A.B., BA Bishop's; DPhil Oxon
Westmacott, M.W., BA Calgary; MA Carleton
Wright, B.H., BA, MA Toronto

Instructors (Part Time)

Chu, A.C., BA National U (Chang Chi); MA Dalhousie
Leach, Phyllis G. (Mrs.), BA Heidelberg; MA Chicago
Macdonald, I.T.M., BA Alberta
Whittingham, W.M., BA York (England); MA UWO

GENERAL PROGRAM

Politics 20 is prerequisite for all courses in Politics except Politics 30, 31, 36 and 40. Students following the general program may enrol in an honors course if permission of the Department is obtained.

General BA students wishing to elect an area of concentration in Political Science must consult with the Department before enrolling.

GENERAL COURSES

20. Introduction to Political Science. A study of the principal concepts, ideas and analytical methods of modern political science, with emphasis on the political systems of Canada, the United States and Britain.
3 hours.

30. Canadian Government and Politics. A survey of the government institutions and political processes of Canada.
No prerequisite.
3 hours.

31. International Politics. A study of the factors governing international relations: the United Nations; the foreign policies of such countries as the USA, USSR, UK, France, China and Canada.
No prerequisite.
3 hours.

36. Provincial and Local Government. The structure and processes of provincial and local government, including such subjects as provincial-municipal relations, finance, administration and principles of urban and regional planning.
3 hours.

38. Political Parties and Pressure Groups. An analytical and comparative study of political parties and pressure groups.
3 hours.

40. The Politics of Developing Areas. A comparative analysis of social change and political process in developing areas, including Commonwealth countries.
3 hours.

42. The British Political System. A study of the nature and operation of the British political system, with particular attention to the social context within which the institutions of parliamentary government function.
3 hours.

44. American Government and Politics. A study of the American Constitution, institutions of government and political processes.
3 hours.

46. Public Administration. The basic principles of public administration in the modern state, including organization, procedures and the relation of administration to policy making.
3 hours.

47. History of Western Political Thought. A study of the major political thinkers from Plato to Mill and Marx.
3 hours.

48. Western European Political Systems. A comparative study of political institutions and processes in Western European democratic states.
3 hours.

49. European Communist Systems. An analysis of political governmental processes in the Soviet Union and East European People's Republics.
3 hours.

SOCIAL SCIENCE

HONORS PROGRAM

Requirements for Admission. First Year General Program (Arts, Science or Social Science) including Politics 20. All courses will be considered principal courses in first year. Honors students must consult with the Department to ensure that their program includes a well balanced distribution of courses in the following five areas: Canadian Government, Comparative Government, International Relations, Urban and Regional Government and Political Theory.

SECOND YEAR

Principal Courses:

Politics 237 and two additional honors politics courses.

Two options.

THIRD AND FOURTH YEARS

Five senior honors politics courses and five options.

HONORS POLITICAL SCIENCE WITH FRENCH OPTIONS

Requirements for Admission. First year program (Arts, Science, or Social Science) with Politics 20, French 20, and one other course as principal courses.

SECOND YEAR

Political Science: two courses from the 200 series.
French: French 271, 290.
One option.

THIRD AND FOURTH YEARS

Political Science: Politics 351 and five other courses, including 237 if not already taken and the balance drawn from the 300 and 400 series, with 348 and 434 being strongly recommended.
French: Two courses drawn from French 232, 378, 381 (strongly recommended), 396 & 398.
Two options, one of which is to be taken each year.

230. Canadian Government and Politics. An examination of selected problems in Canadian government and politics, such as federalism, political parties and pressure groups.
3 hours.

231. International Politics. A study of the factors governing international relations; the United Nations; the foreign policies of such countries as the USA, USSR, UK, France, China and Canada.
3 hours.

232. Political Analysis. A course in problems in the methodology of political science, in particular: the scope and purposes of normative and empirical political inquiry; the relation of political science to other social sciences; the role of theory and explanation in political analysis; concepts and concept formation; and techniques of empirical political inquiry, including survey research, simulation, content analysis, and the utility of statistical and mathematical formulations in the development of political theory.
3 hours.

237. History of Western Political Thought. A study of the major political thinkers from Plato to Mill and Marx.
3 hours.

239. The Politics of Africa. A comparative analysis of social and political change in African states. Topics covered will include the formation of elites, problems of conflicting identities, and relations between African states and the industrialized nations.
3 hours.

240. The Politics of Asia. A critical examination of the relationships between European imperialism, nationalism and revolutionary movements in Asia, and of theories of "modernization" and "political development".
3 hours.

241. The Politics of Latin America. A comparative analysis of the formal and informal institutions of government, with emphasis also on such themes as nationalism, revolution, democracy, dictatorship, legitimacy and the left.

242. The British Political System. A study of the nature and operation of the British political system, with particular attention to the social context within which the institutions of parliamentary government function.
3 hours.

244. American Government and Politics. A study of the American Constitution, institutions of government and political processes.
3 hours.

333. Canadian Foreign Policy. An examination of the development and character of Canadian external policy.
3 hours.

336. Provincial and Local Government. The structure and political processes of provincial and local government, including such subjects as provincial-municipal relations, finance, administration, and principles of urban and regional planning.
3 hours.

338. Political Parties and Pressure Groups. An analytical and comparative study of political parties and pressure groups.
3 hours.

345. International Law and Organization. A study of the principles and operations of international and regional associations such as the UN and NATO. An introduction to international law, emphasizing its relevance to the resolution of conflicts between nations.
Prerequisite: 231 or permission of the instructor.
2 hours.

346. Public Administration. The basic principles of public administration in the modern state, including organization, procedures and the relation of administration to policy making.
3 hours.

348. Western European Political Systems. A comparative study of political institutions and processes in Western European democratic states.
3 hours.

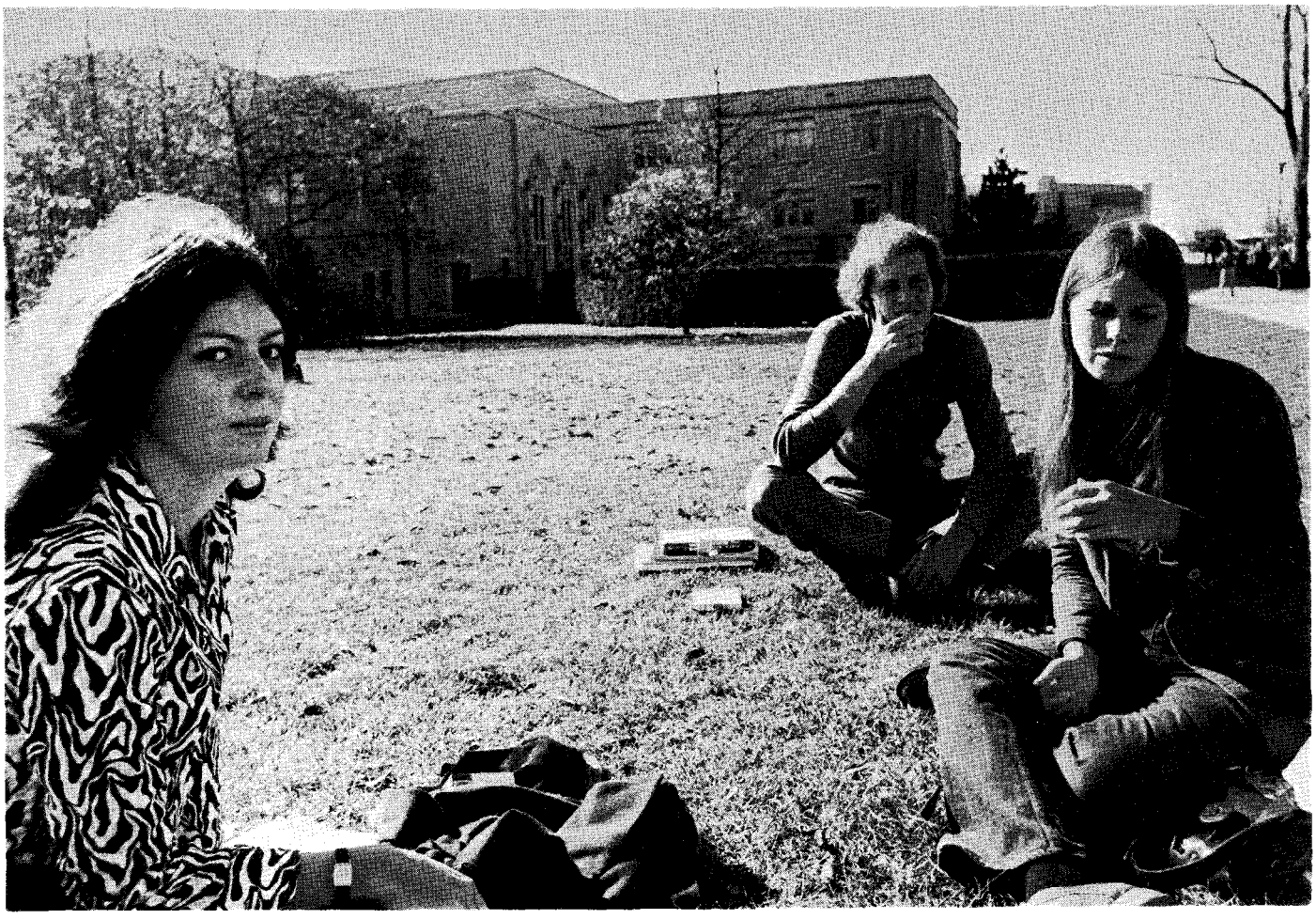
349. European Communist Systems. An analysis of political and governmental processes in the Soviet Union and East European People's Republics.
3 hours.

350. The Government and Politics of a Selected Region of Canada. A detailed analysis of the policy and politics related to a specific region of Canada.
Prerequisite: 230 or permission of instructor.
3 hours.

351. Quebec Politics. An analysis of current political trends in Quebec in the context of comparative government theory.
Prerequisite: 230 or permission of instructor.
3 hours.

353. Political Sociology: Political Theory and Industrial Society. A sociological approach to political theory which, while focusing on contemporary links between industrialization, society and politics, also takes note of the insights of socio-political thinkers since the emergence of industrialization.
Prerequisite: 237 or permission of instructor.

434. Contemporary Political Theory. A study of the chief political doctrines of the present day, such as communism, socialism, fascism and the theories associated with democracy; an analysis of concepts such as the state, liberty, authority, and theories of political behavior.
Prerequisite: 237 or permission of instructor.
3 hours.



447. Intergovernmental Relations. A description, analysis and evaluation of the working relationships between federal, provincial and local governments in Canada. The course will focus on both the processes of interaction and the policy impact of these relationships.
Prerequisite: Politics 230 or 336.
3 hours.

452. Advanced International Politics. A seminar course treating theoretical aspects of international politics in the light of substantive material. Consideration will be given to a selection of normative doctrines and ideologies, conceptual frameworks and theoretical propositions as well as to epistemological and methodological questions with reference to the various modes of international action and interaction, organization and integration.
Prerequisite: Politics 231 or permission of instructor.
2 hours.

462. Metropolitan and Regional Government. An advanced study of the governmental structure, administration, politics, planning and financing of metropolitan and regional communities.
2 hours.

481. Selected Topics in Canadian Government.
Prerequisite: a course in Canadian government or permission of instructor.

489. Political Psychology. An examination of selected topics in the area of political psychology including: the role of attitudes in political behaviour; political ideology; personality and politics; political alienation; political socialization; and individual decision-making.
Prerequisite: permission of instructor.
2 hours.

490. Thesis. With permission of the Department.
Thesis to be submitted by March 15 of the Fourth Year.

Department of Psychology

Chairman and Professor

W.J. McClelland, BA, MA Toronto; PhD London

Departmental Office: Room 109, Middlesex College

Professors

Bartoshuk, A.K., BSc Sir George Williams; MSc, PhD McGill

Gardner, R.C., BSc Alberta; MSc, PhD McGill

Jackson, D.N., BSc Cornell; MS, PhD Purdue

Mogenson, G.J., BA, MA Saskatchewn; PhD McGill

Neal, Leola E. (Miss), BA, MA, PhD Toronto. (DipLClin), (Dean of Women)

Paivio, A.U., BSc, MSc, PhD McGill

Rokeach, M., BA Brooklyn; MA, PhD California (Visiting)

Turner, G.H., BA, MA, PhD Toronto

Williams, D.C., BA Manitoba; MA, PhD Toronto (President and Vice Chancellor)

Wright, Mary J. (Miss), BA UWO; MA, PhD Toronto

Associate Professors

Bucher, B., AB Knox; PhD Princeton; PhD Pennsylvania

Chambers, D.A., BA British Columbia; MSc, PhD McGill

Denny, J.P., BA Toronto; PhD Duke

Kendall, S.B., BA Indiana; PhD Emory

Kimura, Doreen (Mrs.), BA, MA, PhD McGill

Lobb, H.O., BA, BEd, MEd Saskatchewan; PhD Toronto

Murray, H.G., BA, MA UWO; PhD Illinois

Pylyshyn, Z.W., BEng McGill; MSc, PhD Saskatchewan

Reitz, W.E., BA Pennsylvania State; MA Illinois; PhD Pennsylvania State

Roberts, W.A., BSc Maryland; MA, PhD Bryn Mawr

Schnore, M.M., BA, MA UWO; PhD McGill

Siess, T.F., BA Valparaiso; PhD Minnesota

Stennett, R.G., BA, MA UWO; PhD McGill (Part Time)

Taylor, F.W.R., BA, MA, PhD Toronto

Vanderwolf, C.H., BSc Alberta; MSc, PhD McGill

Vidmar, N.J., AB MacMurray; AM, PhD Illinois

Wilkinson, F.R., BA Utah; MA Hawaii; PhD Michigan State

Assistant Professors

Adamowicz, J.K., BA, MSc Calgary; PhD UWO

Baran, D., BA McGill; MA Columbia; PhD Michigan

Boles, J.I., BA Cornell; PhD Indiana

Carlson, P.M., BS Wisconsin; PhD Washington

Chamberlain, L.W., BSc UWO; PhD Keele

Evans, J.P., BA Toronto; MA Ottawa; PhD Toronto

Fay, T.L., BA Michigan; MS, PhD Northwestern

Goodstadt, M.S., BA Manchester; PhD Stanford

Murphy, K.C., BA, PhD Minnesota

O'Neill, B.J., BA Glasgow; MA Guelph; PhD UWO

Pederson, D.R., BA Minnesota; MA, PhD Iowa

Prytulak, D. Susan (Mrs.), BA Toronto; PhD Stanford

Prytulak, L.S., BA Toronto; PhD Stanford

Rollman, G.B., BA Rochester; MA, PhD Pennsylvania

Siegel, Jane A. (Mrs.), BA Purdue; PhD Michigan

Siegel, W., BA Toronto; PhD Michigan

Simner, M.L., BA Syracuse; MSc North Carolina State; PhD Cincinnati

Smeriglio, V.L., BA Brown; MA, PhD Iowa

Sorrentino, R.M., BA SUNY Buffalo; MA American; PhD State University Buffalo

Spence, I., MA Glasgow; MA Guelph; PhD Toronto

Van Fleet, F.M., BA, MA McMaster; PhD Colorado

Lecturers

Aharan, C.H., BA, MA, PhD UWO

Burron, B.F., BA, MA Manitoba

Cole, M.R., BA, MA UWO

Ferguson, D.A., BA, MA UWO

Guthwin, Judith, G. (Miss), BA, MS CUNY; MA UWO

Heapy, N., BSc McGill; MA UWO

Rodensky, R., BA Pennsylvania; MA Rhode Island

Zallen, T., BA California; MA San Jose

GENERAL PROGRAM

Students in the Fifteen-Course Program wishing to graduate with an *area of concentration in Psychology* must receive a grade of at least 60% in Psychology 20 and earn credit in at least four Honors Psychology courses, or their equivalent in half courses. The four Honors courses must include Psychology 281, at least one full laboratory course (Psychology 201a plus 202b or 203b; Psychology 211; Psychology 221a plus 222b; or Psychology 239), and at least one full course (or two half courses) from the series numbered 240-270 and 340-370. General courses in Psychology may be taken as options but may not be substituted for Honors courses.

For students who officially declared Psychology as their area of concentration prior to July 1, 1972, or earned credit in two or more senior courses in Psychology prior to July 1, 1972, the requirements for a Fifteen-Course BA in Psychology are credit in Psychology 20 and in any other four senior Psychology courses (Honors or General), or the equivalent in half courses, and including Psychology 281 if Psychology 63 was not taken previously.

Students in Fifteen-Course programs other than Psychology, as well as "special graduate students" may enrol in any General Psychology course for which they have the prerequisite, but will be admitted to Honors Psychology courses on an individual basis, subject to enrolment limitations and the student's qualifications (i.e., necessary prerequisites and a minimum grade of 60% in Psychology 20).

It should be noted that most of the Psychology courses have been renumbered, e.g., Psychology 241 (formerly Psychology 36, 56, and 236). Credit will be given for only one number per course. Thus, a student who has successfully completed Psychology 36, 56, or 236 will not receive credit for Psychology 241.

GENERAL COURSES

20. Introduction to Psychology. An introductory survey of the methods and findings of modern scientific psychology. The following topics will be covered: history and methodology, biological psychology, sensation and perception, learning and motivation, verbal and cognitive processes, developmental psychology, social psychology, individual differences (intelligence and personality), and clinical psychology. Although there is no laboratory requirement, voluntary participation in approved research projects will be encouraged.
3 hours

56. Child Development. A general survey of developmental psychology with special emphasis on current social issues such as early childhood education, aggression and prejudice and the implications of current research for child rearing practices. (Formerly Psychology 36).
Cannot be taken for credit if Psychology 36, 236 or 241 has been successfully completed.
3 hours.

64. Current Social Problems. Psychological analysis of problems confronting society. Topics may include aggression, intergroup conflict, social movements, prejudice, propaganda, social change, deviant behavior.
Cannot be taken for credit if Psychology 49, 72, 349, or 271 has been successfully completed.
3 hours

71. Human Adjustment. Theories of adjustment and conflict, research findings, and applications. Discussion of variables that affect the behavioral adaptation of humans to their environment. Milder forms of adjustive problems emphasized in terms of their acquisition, maintenance, and change.
Cannot be taken for credit if Psychology 48, 79, 252, or 448 has been successfully completed.
3 hours.

76. Applied Psychology. A survey of applied psychology, emphasizing the techniques of assessment, methods of behavior change, and problems of the design of work or study environments encountered by psychologists working in educational, industrial, or hospital settings.
Cannot be taken for credit if Psychology 261a or 262b has been successfully completed.
3 hours.

80. The Human Animal. A non-technical survey of the applications of physiological psychology, perception, learning and cognition to everyday human behavior. Topics may include biological basis of emotion, the influences of drugs on behavior, illusions, learning, memory, thinking, and problem solving.
3 hours.

81. Humanistic Psychology and its Applications. Emphasis is given to the psychologies of Maslow and Rogers and their implications for personal growth and interpersonal relationships in a wide range of practical settings. (Formerly Psychology 46).
Cannot be taken for credit if Psychology 46, 354, or 446 has been successfully completed.
3 hours.

91a. Special Topics in Psychology. This one-term course will deal with selected topics of *current interest in Psychology*. A list of topics and course descriptions will be available at the time of registration.
Half course, first term.
3 hours.
Not offered in 1972-73.

92b. Special Topics in Psychology. See above.
Half course, second term.
3 hours.
Not offered in 1972-73.

Honors Psychology

Requirements for Admission (or progression).

(a) To Second Year: Grade 13 Mathematics A (or Mathematics 10 or some equivalent Mathematics course), plus First Year General Program in Arts, Science, or Social Science including Psychology 20 as one course. Principal courses will include Psychology 20 plus any other three courses.

(b) To Third Year: a Mathematics course (as above), plus two years in any Honors or General Program which includes Psychology 20. Principal courses will include all Psychology courses plus any other courses to a total of four.

(c) To Fourth Year: a Mathematics course (as above), plus three years in any Honors or General Program which includes Psychology 20 and at least four Honors Psychology courses, as specified for the Second and Third Years of the Honors Psychology program (below). Principal courses will include all Psychology courses plus any other courses to a total of four.

(d) To maintain Honors status, a student must achieve at least a 70% average in all Honors Psychology courses taken in a given year, a 70% average in all principal courses, with a grade no lower than 60% in any principal course.

All Honors courses are scheduled for four hours each week; however, in some cases, at the discretion of the instructor, other requirements such as participation in projects or individual meetings with the instructor may be substituted for part of the formal class time.

SECOND AND THIRD YEARS

PRINCIPAL COURSES

Honors Psychology students must take five courses per year in the Second and Third Years. At least two courses per year must be Honors Psychology courses. To be eligible for admission to the Fourth Year, a student must complete Psychology 281, at least one full laboratory course (Psychology 201a plus 202b or 203b; Psychology 211; Psychology 221a plus 222b; or Psychology 239) and at least one full course (or two half courses) from the series numbered 240-270 and 340-370.

FOURTH YEAR

PRINCIPAL COURSES

Psychology 485
Two Fourth Year level Special Topics half-courses
Three additional Honors Psychology courses, including Psychology 282, if not taken previously.

A student who has previously completed Psychology 282, or who has earned credit in more than four Honors Psychology courses prior to Fourth Year, may substitute other courses for the three additional Honors courses required in Fourth Year. The total number of Honors Psychology courses for Second, Third, and Fourth Years combined must be at least nine.

Students who have successfully completed the Second or Third Year of the previous Honors Psychology program as of July 1, 1972 are automatically eligible to progress into the Third or Fourth Year respectively of the new program. These students may complete the requirements for an Honors B.A. in Psychology by following the Third or Fourth Year programs described above, with the exception that these students will not be required to take Psychology 282.

Students who have completed two years of a Fifteen-Course Program as of July 1, 1972, and wish to transfer to Honors Psychology, will be given credit for Psychology 281 if they have a grade of 60% or better in Psychology 63, and will be given Honors credit for a maximum of one other General course in Psychology in which they have received a grade of 60% or better.

It should be noted that most of the Honors Psychology courses have been renumbered, e.g., Psychology 211 (formerly Psychology 338). Credit will be given for only one number per course. Thus, a student who has successfully completed Psychology 338 will not be given credit for Psychology 211.

HONORS PSYCHOLOGY AND PHYSIOLOGY

Requirements for Admission:

FIRST YEAR

General Program

(Science) with Psychology 20, Biology 22 or Zoology 20, Chemistry 20, Physics 20 as principal courses. Applied Mathematics 20 or Mathematics 24 or 27 is recommended as one option.

SECOND YEAR

Principal Courses

Psychology 201a and either 202b or 203b.
Psychology 281.
Chemistry 203.
Zoology 255 or 270.
One of: Physics 204, 256; Applied Mathematics 20, 200; Mathematics 20, 24, 27, 250.

Subsidiary Course

One option.

THIRD YEAR

Principal Courses

Psychology 211.
Psychology 221a and 222b
Physiology 300, 301
One of: Anatomy 300, Biochemistry 300, or 406.

Subsidiary Course

One option.

FOURTH YEAR

Principal Courses

Physiology 463, 464, 480
Physiology 460 and 466 or 461 and 462
Two of: Psychology 282, 241, 251, 253, 271, 231, 354, 252.

Subsidiary Course

One option.

Students in this program will undertake a major project in behavioral physiology or sensory processes as part of their experimental work in Physiology 480.

HONORS PSYCHOLOGY AND PHILOSOPHY

Requirements for Admission

First Year

General Program (Arts, Science, or Social Science) with Psychology 20, Philosophy 20, and two other courses as principal courses. If Psychology 20 was not taken in the first year, it must be selected as an option in the second year. With permission of the two Departments, a student who has not taken Philosophy 20 may enter the program.

Second, Third, and Fourth Years

After the first year, this program requires seven honors Psychology courses, six honors Philosophy courses, and two options. Some of the options may be additional Philosophy or Psychology courses, and probably should be in the case of a student contemplating graduate work. Psychology courses must include Psychology 201a and 203b, 241, 281, 211, 271, 231, and 485. Philosophy courses must include Philosophy 254, one 400 level course, and four other honors courses. The normal load is five courses each year, including at least two honors Psychology and two honors Philosophy courses. Additional courses may be taken in consultation with and with approval of the two departments. All honors Psychology and honors Philosophy courses taken in any year will be considered principal courses.

HONORS COURSES

201a. Basic Principles of Learning. An introduction to the fundamental phenomena of instrumental learning and classical conditioning, with primary emphasis on laboratory studies of simple learning processes in animals. Major learning theories will be evaluated with respect to how well they account for laboratory findings. (Formerly Psychology 235.)
Cannot be taken for credit if Psychology 35, 51a, 95, 208, or 235 has been successfully completed.
Half course, first term.
4 hours (2 lecture and 2 laboratory).

NOTE: Psychology 201a plus either Psychology 202b or 203b constitutes a laboratory course in learning.

202b. Comparative Psychology of Learning. A comparison of the learning abilities of animals at different levels on the phylogenetic scale. Both laboratory experiments and observations of animals in natural settings will be discussed.
Prerequisite: Psychology 201a.
Cannot be taken for credit if Psychology 52b has been successfully completed.
Half course, second term.
4 hours (2 lecture and 2 laboratory)

203b. Human Learning: Basic Principles. An examination of basic principles of conditioning and learning with special reference to human behavior. Topics will include verbal associative learning; perceptual-motor learning; transfer of training; the role of awareness, intention and motivation in human learning; and the role of simple conditioning in language and semantics. Primary emphasis will be placed on laboratory findings rather than on practical or applied situations.
Cannot be taken for credit if Psychology 53b, 95 or 208 has been successfully completed.
Prerequisite: Psychology 201a.
Half course, second term.
4 hours (2 lecture and 2 laboratory)

204b. Human Learning: Behavior Modification. This course will offer, in addition to a review of basic learning concepts (operant and classical conditioning; imitation and observational learning), a discussion of the application of these principles to the modification of deviant behavior and to education. Topics to be covered will include, among others, systematic desensitization, aversion therapy, and the use of reinforcement systems in various settings.
Cannot be taken for credit if Psychology 54b has been successfully completed.
Prerequisite: Psychology 201a
Half course, second term.
4 hours (2 lecture and 2 tutorial — practicum).

205. Motivation. This course will entail a detailed examination of the activating and sustaining properties of such variables as drive, sensory input, learning, perception, etc. Attention will also be given to the history of motivational concepts, antecedent conditions of drive, instinct theory, and reinforcement and incentive theories of appetitive and aversive motivational states.
Cannot be taken for credit if Psychology 50 has been successfully completed.
4 hours (2 lectures and 2 tutorial).

308a. Special Topics in Learning. One-term course dealing with selected topics of current interest in learning. Topics, course description and prerequisites will be available at registration.
Half course, first term.
(Not offered in 1972-73.)
4 hours.

309b. Special Topics in Learning. See Above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

408a. Special Topics in Learning. One-term course dealing with selected topics of current interest in learning. Topics, course description and prerequisites will be available at registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

409b. Special Topics in Learning. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

211. Principles of Sensation and Perception. A critical examination of methods, findings, and theory in sensation and perception, based on psycho-physics, human and animal psychophysiology, and information-processing.
Cannot be taken for credit if Psychology 38, 61, or 338 has been successfully completed.
4 hours (2 lectures and 2 laboratory).

NOTE: Psychology 211 meets the requirements for a laboratory course in sensation and perception.

212a. Sensory Processes. An examination of vision, audition, touch, taste and smell in the context of relevant physiological and quantitative models.
Half course, first term.
4 hours (3 lecture and 1 tutorial).

213b. Perception. An examination of philosophical issues, experimental approaches, empirical findings, and theoretical formulations concerned with the interaction of the perceiver with his environment. Emphasis will be on examples from visual perception and may include perceptual organization and development, form and depth perception, constancies, illusions, movement, higher-order influences, and information-processing.
Half course, second term.
4 hours (3 lecture and 1 tutorial).

318a. Special Topics in Sensation and Perception. One term course dealing with selected topics of current interest in the areas of sensation and perception. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

319b. Special Topics in Sensation and Perception. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

418a. Special Topics in Sensation and Perception. *One term course dealing* with selected topics of current interest in the areas of sensation and perception. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

419b. Special Topics in Sensation and Perception. *See above.*
Half course, second term.
4 hours.
(Not offered in 1972-73.)

221a. Biological Basis of Behavior. Structure and function of the nervous system in relation to behavior; an introduction to physiological psychology. (Formerly Psychology 343).
Cannot be taken for credit if Psychology 43a, 65a, or 343 has been successfully completed.
Half course, first term.
4 hours.

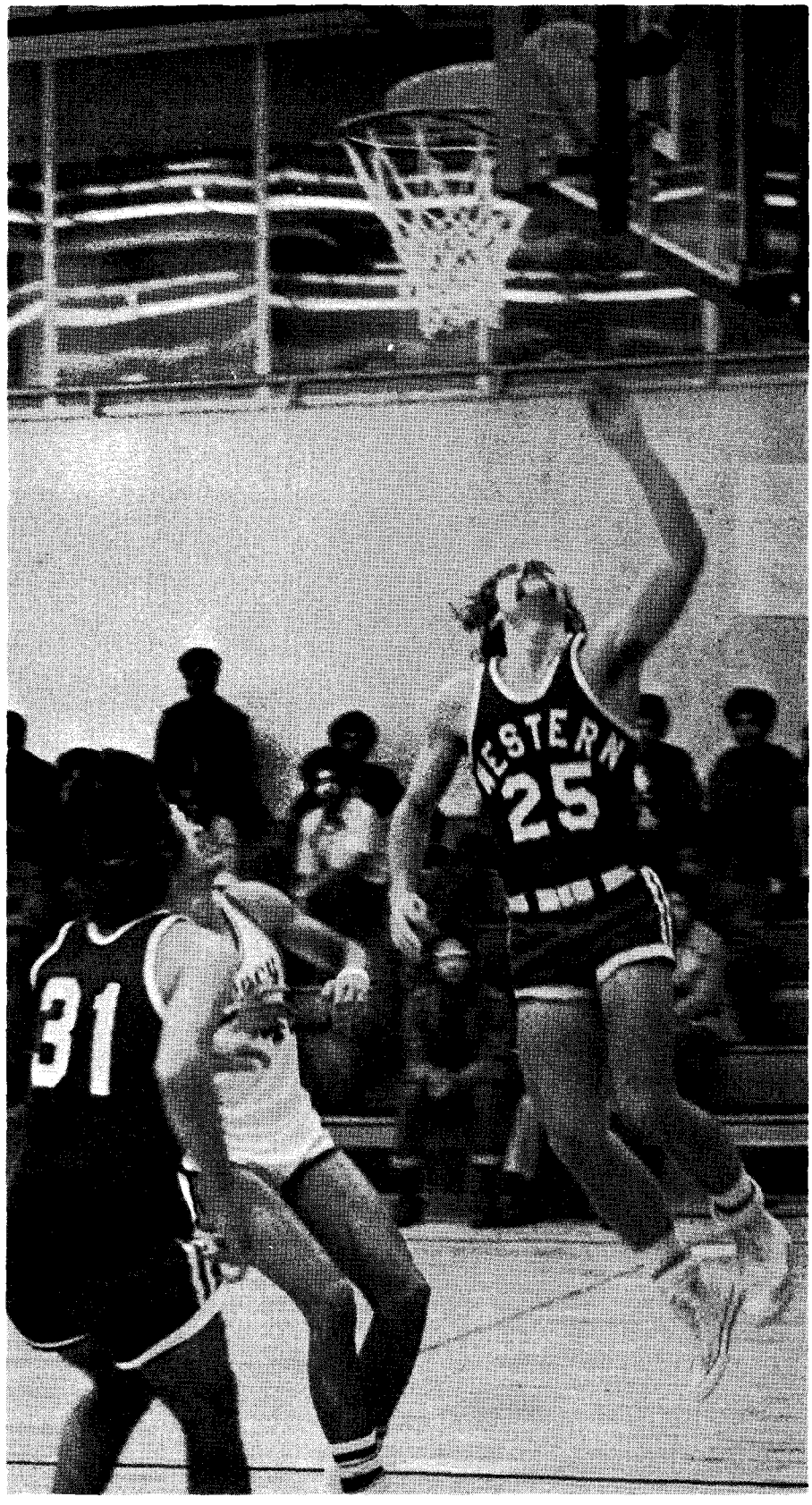
222b. Research Methods in Physiological Psychology. An introduction to techniques used to investigate the neural and endocrine foundations of behavior.
Prerequisite: Psychology 221a, 43a, or 65a.
Half course, second term.
4 hours (1 lecture and 3 laboratory).

NOTE: Psychology 221a plus 222b constitutes a laboratory course in Physiological Psychology.

223b. Sensory Psychophysiology. Anatomy, physiology and electrophysiology of sensory systems e.g., taste, touch, smell, vision, hearing, etc. in relation to animal and human psychophysics. Includes especially receptor-transducer mechanisms, neural pathways and microelectrode studies of neural coding.
Cannot be taken for credit if Psychology 43b has been successfully completed.
Prerequisite: Psychology 221a, 65a, or 343.
Half course, second term.
4 hours.

224b. Neural Basis of Cognitive Processes. Neural mechanisms in perception, spatial orientation, memory and language.
Cannot be taken for credit if Psychology 43b or 67b has been successfully completed.
Prerequisite: Psychology 221a, 65a, or 343.
Half course, second term.
4 hours
(Not offered in 1972-73.)

225a. Animal Behavior. Neural, hormonal, and experiential factors in the development of complex behavior patterns of mammals and other vertebrates.
Cannot be taken for credit if Psychology 44a or 68a has been successfully completed.
Half course, first term.
4 hours.



226b. Neural Basis of Learning. Study of experimental findings on the role of the central nervous system in learning and memory by techniques of ablation, electrical or chemical stimulation, electrical recording, electroconvulsive shock, etc.
Cannot be taken for credit if Psychology 44b or 69b has been successfully completed.
Prerequisite: Psychology 221a, 65a, or 343.
Half course, second term.
4 hours
(Not offered in 1972-73.)

227b. Biological Basis of Motivation. Neural and hormonal mechanisms of motivated and emotional behavior. Topics will include the mechanisms for sleep and wakefulness, hunger and thirst, fear and rage, sexual behavior.
Cannot be taken for credit if Psychology 44b has been successfully completed.
Prerequisite: Psychology 221a, 65a, or 343.
Half course, second term.
4 hours.

328a. Special Topics in Physiological Psychology. One term course dealing with selected topics of current interest in physiological psychology. Topics, course description, and prerequisites will be available at registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

329b. Special Topics in Physiological Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

428a. Special Topics in Physiological Psychology. One term course dealing with selected topics of current interest in physiological psychology. Topics, course description, and prerequisites will be available at registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

429b. Special Topics in Physiological Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

231. Psychology of Thinking. Theoretical and empirical studies of problem solving, reasoning, concept formation, creative thinking and cross-cultural variations in thinking processes. (Formerly Psychology 445).
4 hours

232. Minds and Machines. A review of the importance of the computer metaphor in psychology using as examples the development of information processing approaches in selected areas such as perception, memory and cognition. An examination of the contribution of computer simulation and artificial intelligence research, including a detailed study of at least one example. A discussion of mathematical, automata-theoretic and philosophical ideas relevant to the development of computational theories of intelligence.
Cannot be taken for credit of Psychology 86 has been successfully completed.
Prerequisite: At least one course in each of Mathematics and Computer Science, or permission of the instructor.
4 hours.

233. Psychology of Language. A survey of attempts to understand the nature of linguistic competence and performance. Theories of language acquisition and use. Empirical studies of syntax, semantics and pragmatics of human language. Additional topics may include theoretical and empirical investigations of the relation between language and thought, language and communication, the biological basis of language, and topics of nonverbal and nonhuman communication.
Cannot be taken for credit if Psychology 88 has been successfully completed.
4 hours.
(Not offered in 1972-73.)

237a. Human Information Processing. A survey of research and theory covering such topics as attention, perception, decision making, communication, and skilled performance which emphasizes the information processing level of analysis.
Cannot be taken for credit if Psychology 86 has been successfully completed.
Half course, first term.
4 hours.

238b. Memory. This course will emphasize theories and data bearing on how information is encoded, stored and retrieved in the human memory system.
Cannot be taken for credit if Psychology 88 has been successfully completed.
Half course, second term.
4 hours.

239. Research Methods in Cognitive and Verbal Processes. Laboratory experience in methods of investigation of cognitive problems. Topics may include the use of on-line computers, analysis of verbal reports, linguistic analysis, computer simulation of thinking, reaction time and stage analysis, and verbal learning experiments.
Prerequisite: One of Psychology 231, 232, 233, 237a, or 238b (any of which may be taken concurrently).
4 hours.

NOTE: Psychology 239 meets the requirements for a laboratory course in cognitive and verbal processes.

336a. Special Topics in Cognition and Verbal Processes. One term course dealing with selected topics in cognition and verbal processes. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

339b. Special Topics in Cognition and Verbal Processes. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

438a. Special Topics in Cognition and Verbal Processes. One term course dealing with selected topics in cognition and verbal processes. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

439b. Special Topics in Cognition and Verbal Processes. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

241. Developmental Psychology: Basic Principles. A general survey of theory and research in developmental psychology including learning, cognition, perception, personality, and social development in infancy and early childhood. (Formerly Psychology 236).
Cannot be taken for credit if Psychology 36, 56, or 236 has been successfully completed.
4 hours (2 lecture and 2 seminar)

242. Developmental Psychology: Exceptional Children. Problems and methods in work with mentally deficient, brain-damaged, and emotionally disturbed children with emphasis on behavior abnormalities and behavior change techniques.
Cannot be taken for credit if Psychology 39 or 59 has been successfully completed.
4 hours (2 lecture and 2 seminar)

344a. Developmental Psychology: Social and Emotional. Consideration of processes of socialization in infants and young children. Topics may include analysis of infant-mother interaction systems, peer relations and imitation.
Prerequisite: Psychology 241 or 236 or permission of instructor.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

345b. Developmental Psychology: Language and Cognition. An analysis of the development of the structure and function of language, the development of cognitive processes, and theories of intellectual development.
Prerequisite: Psychology 241 or 236 or permission of instructor.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

346. Early Childhood Education. A survey of various approaches to early education including Montessori, day care, nursery school, and various compensatory education programs. Factors that may determine the influence of early education on cognitive and social development.
Prerequisite: Psychology 241 or permission of instructor.
4 hours (2 lecture and 2 seminar-practicum)

347a. Special Topics in Developmental Psychology. An in depth analysis of research in selected areas of developmental psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.

348b. Special Topics in Developmental Psychology. See above.
Half course, second term.
4 hours.

447a. Special Topics in Developmental Psychology. An in depth analysis of research in selected areas of developmental psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.

449b. Special Topics in Developmental Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

251. Personality Theory and Research. Research-oriented analysis of representative personality theories; examination of typical personality assessment techniques; consideration of methods and findings of research on personality. (Formerly Psychology 331 and 450).
Cannot be taken for credit if Psychology 31, 94, 253, 77b, 78a, 331, or 450 has been successfully completed.
4 hours (lecture/demonstration)

252. Abnormal Psychology. An introduction to psychopathology. General principles such as description and classification, development and dynamics, causation, evaluation, treatment, research design. Application of these principles to the analysis of the main syndromes of abnormal behavior. (Formerly Psychology 448).
Cannot be taken for credit if Psychology 48, 71, 79, 352, 450 or 448 has been successfully completed.
Prerequisite: Psychology 251.
4 hours

353. Tests and Measurements. Basic considerations in the measurement of human differences, the development and use of psychological tests, and description and evalution of typical measuring instruments. Discussion of persistent problems in the field of measurement. (Formerly Psychology 337).
Cannot be taken for credit if Psychology 37, 62, or 337 has been successfully completed.
Prerequisite: Psychology 63, 255, or 281.
4 hours (2 lecture and 2 laboratory).

354. Applied Humanistic Psychology. Emphasis is given to the psychologies of Maslow and Rogers and their relevance to the understanding of personal growth, interpersonal relations and behavior in groups. The student is expected to be personally involved and to examine the material in relation to his own attitudes and behavior. Opportunities for encounter and other forms of practical experience are available. (Formerly Psychology 446.)
Cannot be taken for credit if Psychology 46, 81, or 446 has been successfully completed.
Prerequisite: Psychology 251, declared Honors status, and permission of instructor.
4 hours (2 lecture and 2 laboratory).

455. Undergraduate Field Work. Practical experience in the application of psychological principles to behavioral problems.
4 hours (3 field work and 1 seminar)

358a. Special Topics in Personality. One-term course covering selected topics of current interest in personality. Topics, course description, and prerequisites will be available at time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

359b. Special Topics in Personality. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

457a. Special Topics in Personality. One-term course covering selected topics of current interest in personality. Topics, course description, and prerequisites will be available at time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

458b. Special Topics in Personality. See above.
Half course, second term.
4 hours.

261a. Educational Psychology. The use of behavioral principles in school. Human learning and instruction. Appraisal of student motivation, ability, and performance.
Half course, first term.
4 hours (2 lecture and 2 tutorial).
Cannot be taken for credit if Psychology 76 has been successfully completed.

262a. Industrial Psychology. The use of behavioral principles in industry. Problems in personnel selection, employee morale, human engineering, and organizational psychology.
Half course, first term.
4 hours (2 lecture and 2 tutorial).
Cannot be taken for credit if Psychology 76 has been successfully completed.
(Not offered in 1972-73.)

263b. Occupational Psychology. An appraisal of the relationship between human abilities and personality and occupational choice, performance and tenure.
Half course, second term.
4 hours (2 lecture and 2 tutorial).

368a. Special Topics in Applied Psychology. Selected topics of current interest in applied psychology. Course description and prerequisites will be available at registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

369b. Special Topics in Applied Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

468a. Special Topics in Applied Psychology. Selected topics of current interest in applied psychology. Course description and prerequisites will be available at registration.
Half course, first term.
4 hours.

469b. Special Topics in Applied Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

271. Social Psychology. An introduction to the theories, methods, findings, and problems encountered in the study of man as a social being. Emphasis will be placed on laboratory and field research. Substantive areas to be covered include the following: socialization; social factors in perceptual-cognitive processes; attitudes, prejudice,

and propaganda; social influence; group dynamics; leadership; intergroup relations. (Formerly Psychology 349).
Cannot be taken for credit if Psychology 49, 64, 72, 97, 275 or 349 has been successfully completed.
4 hours.

272a. The Psychology of Prosocial and Antisocial Behavior. The course will consider the social, situational and personality factors responsible for the occurrence of violence, aggression, and several forms of prosocial behavior. Consideration will be made of the role of frustration, social norms, the mass-media and other possible instigators of violence. Prosocial behavior will be examined with special attention being given to altruism, helping, responses to emergencies and disasters, and the socialization of children with respect to prosocial behavior. Emphasis will be placed on experimental data where this is available.
Cannot be taken for credit if Psychology 73a has been successfully completed.
Half course, first term.
4 hours.

273b. The Psychology of Persuasion. An examination of the many aspects of attempts to persuade others to change their attitudes and behavior. Consideration of the importance of the form of the communication, the media, the target of the communication as well as the problems of experimental control and measurement. Different persuasion contexts will be considered including advertising, brainwashing, psychotherapy, race relations and conversions. The problem of the ethics and social responsibility of persuasion attempts will also be examined. Emphasis will be placed on experimental data where these are available.
Cannot be taken for credit if Psychology 74b has been successfully completed.
Half course, second term.
4 hours.

374a. Social Issues (Seminar). Analysis of social issues which may include such topics as urbanization, minority group relations, drug abuse, psychology and the law, and violence. Enrolment will be limited, and a major project will be required of each student.
Cannot be taken for credit if Psychology 75a has been successfully completed.
Prerequisite: Permission of instructor.
Half course, first term.
4 hours.

378a. Special Topics in Social Psychology. One-term course dealing with selected topics of current interest in the area of social psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

379b. Special Topics in Social Psychology. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73.)

478a. Special Topics in Social Psychology. One-term course dealing with selected topics of current interest in the area of social psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73.)

479b. Special Topics in Social Psychology. See above.
Half course, second term.
4 hours.

281. Research Methods and Statistics. Characteristics of science, with particular reference to psychology; research methodology and design; theory and explanation; statistical treatment of psychological data.
Cannot be taken for credit if Psychology 63, 283a, or 255 has been successfully completed.
4 hours.

485. Advanced Research Methods. Advanced statistics and research design; discussion, preparation, and completion of Honors Thesis. (Formerly Psychology 459).
4 hours.

282. History and Systems. A study of persistent problems in the history of psychology and an introduction to traditional systems in psychology, such as Structuralism, Functionalism, Behaviorism, Gestalt Psychology and Psychoanalysis. (Formerly Psychology 234).
4 hours.

383a. Mathematical Psychology I. Topics in measurement theory, scaling, and decision theory (including signal detection theory and game theory). Applications to psychophysics and other areas of individual and group behavior.
Prerequisite: Permission of instructor; generally Psychology 281 plus one university level mathematics course.
Half course, first term.
4 hours.

384b. Mathematical Psychology II. More specialized topics in mathematical modelling. Topics will vary from year to year and may include mathematical learning theory, information theory and human operator models, deterministic theories, including graph theoretic and set theoretic models.
Prerequisite: Permission of instructor; generally Psychology 281 plus one university level mathematics course.
Half course, second term.
4 hours.
(Not offered in 1972-73).

388a. Special Topics in Theory and Research. One-term course dealing with selected topics of current interest in the area of theory, research, and statistics in Psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.
(Not offered in 1972-73).

389b. Special Topics in Theory and Research. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73).

488a. Special Topics in Theory and Research. One-term course dealing with selected topics of current interest in the area of theory, research, and statistics in Psychology. Topics, course description, and prerequisites will be available at the time of registration.
Half course, first term.
4 hours.

489b. Special Topics in Theory and Research. See above.
Half course, second term.
4 hours.
(Not offered in 1972-73).

398a. Independent Study. Individual reading and research at an advanced level under faculty supervision.
Prerequisite: Permission of instructor and an "A" average the previous year.
Half course, first term.

399b. Independent Study. Individual reading and research at an advanced level under faculty supervision.
Prerequisite: Permission of instructor and an "A" average the previous year.
Half course, second term.

498a. Independent Study. Individual reading and research at an advanced level under faculty supervision.
Prerequisite: Permission of instructor and an "A" average the previous year.
Half course, first term.

499b. Independent Study. Individual reading and research at an advanced level under faculty supervision.
Prerequisite: Permission of instructor and an "A" average the previous year.
Half course, second term.

Department of Secretarial Science

Acting Chairman and Assistant Professor
Patricia F. Davis (Miss), BA UWO

Departmental Office: Room 74, University College.

Associate Professor
Waller, Roma L. (Mrs.), BA UWO; MA Columbia

Assistant Professors
Hartry, Marilyn J. (Mrs.), BA UWO
Hedley, Joan E. (Miss), BA SFX; MA North Dakota
Seldon, Betty D. (Mrs.), BA UWO

Instructor
Hayman, Lenore, BA UWO

Requirements for Admission. Grade 13 standing (with a minimum average of 60%) in English and five other credits.

The Department of Education of Ontario accepts a degree in this program as the academic qualification for entry into a college of education. Upon successful completion of a one-year program at a college of education the student receives the High School Assistant's Certificate, Type B, for teaching in the Secondary Schools of Ontario.

FIRST YEAR

Secretarial Science 25.
Business 20.
English 20, 24 or 26.

Two Options*

*The Department suggests Computer Science 21 as a possible choice for one of these options provided the student has the appropriate background.

SECOND YEAR

Secretarial Science 35, 37.
Economics 20.
A Senior English.
Two options.

THIRD YEAR

Secretarial Science 30.
Secretarial Science 45, 47.
A Senior English.
Two Senior options.

COURSES

25. Shorthand. A thorough training in the principles of Pitman Shorthand: dictation at a speed of 60 words a minute with typed transcription of notes.

Typewriting. Mastery of the keyboard; training in speed and accuracy; letter styles; display; simple tabulation; manuscripts.
One full course credit.
11 hours.

30. Accounting and Bookkeeping. Prescribed for Secretarial Science students. Provides practical and basic applications of accounting relating to the sole proprietorship form of business organization, as well as to the partnership and corporate types of organization.
3 hours.

35. Shorthand. Emphasis on speed building and vocabulary development with typed transcription of notes; office style dictation and transcription given weekly.

Typewriting. Further emphasis on speed and accuracy; letter composition; advanced tabulation; financial statements; organization charts; graphs.
Prerequisite: Secretarial Science 25.
8 hours.

37. Office Practice. Lectures in routine office procedures including letter composition, filing, postal and telephone services, methods of duplicating, etc.
Prerequisite: Secretarial Science 25.
1 lecture and 2 hours practical work — 3 hours.

45. Shorthand. Further speed development to 130 words a minute on 3-5 minute "takes"; typed transcription of notes.

Typewriting. Further speed and accuracy development in typing.
Prerequisite: Secretarial Science 35.
6 hours.

47. Office Practice. Students apply their skills and knowledge to realistic office situations both in University offices and in their own student office. This work is supplemented by lectures, with emphasis on law and human relations, given by visiting professors and members of the business community.
Prerequisite: Secretarial Science 35, 37.
2-hour lecture and 7 hours practical work — 9 hours.

Department of Sociology

Chairman and Professor

John H. Kunkel, BA Pomona; MA, PhD Michigan

Departmental Office: Room 237 Talbot College (Music Annex).

Professor

Balakrishnan, T.R., BA, MA Madras; PhD Michigan

Associate Professors

Basavarajappa, K.J., BSc Mysore; MSc Karnatak; PhD Australian National

Ebanks, G.E., BA London; MA, PhD Cornell

George, P.M., BA Earlham; MA Boston; PhD North Carolina

McCormack, Thelma H. (Mrs.), BA Wisconsin (Visiting)

Pryor, E.T., BA St. Thomas Aquinas; MA Michigan; PhD Brown

Rinehart, J.W., BA, MA Michigan State; PhD Ohio State (Visiting)

Singer, B.D., BA Wayne State; MA, PhD Pennsylvania

Assistant Professors

Ball-Rokeach, Sandra J. (Mrs.), BA, MA, PhD Washington (Visiting)

Boydell, C.L., BA Rutgers; MA, PhD Massachusetts

Grindstaff, C.F., BA Wayne State; MA, PhD Massachusetts

Henshel, R.L., BA Texas; PhD Cornell

Jackson, J.E.W., BA, MA Manitoba; PhD Washington

Jarvis, G.K., BA Brigham Young; MA Michigan

Marin, I.C., BA CUNY; MA, MS, PhD Michigan

Nobbe, C.E., BA, MA, PhD Washington

Okraku, I.O., BA Ghana; MA, PhD Cornell

Osborn, R.W., AB Michigan; PhD Brown

Silverman, R.A., BA Toronto; MA, PhD Pennsylvania

Stelling, Joan G. (Miss), BA Michigan, PhD Chicago

Teevan, J.J., BA SUNY-Binghamton; MA, PhD Indiana

Whitehead, P.C., AB Providence College; MA, PhD Massachusetts

Wien, F.C., BA Queen's; MA, PhD Cornell

Williams, J.I., BA Nebraska Wesleyan; MA New Hampshire; PhD Florida State

Lecturers

Hayes, A.C., BSc, MA Leicester

Rawkins, P.M., BA Leeds; MA UWO

Veevers, Jean (Miss), BA, MA Alberta

Instructor

Cohen, A.M., BA, MA UWO

GENERAL PROGRAM

General BA students wishing to elect an area of concentration in Sociology must earn credit in Sociology 20, 30 and 31 plus the equivalent of two full senior Sociology courses numbered 32 or above and must have his program approved by the Department.

GENERAL COURSES

NOTE: Courses numbered a. or b. are half courses. "a" course first term, "b" course second term.

20. Introduction to Sociology. An examination of the major theoretical perspectives in the field of Sociology, methods of empirical investigation of social phenomena, socialization, group structure, principles of social organization, community structure, population and social change.
3 hours — 35.

30. Sociological Theory. A study of the history of sociological thought leading to an appraisal of contemporary theoretical perspectives in relation to their logical adequacy and heuristic value.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 14.

31. Research Methods and Statistics. An introduction to empirical methods in Sociology, including elementary statistical methods, experimental design, and basic techniques for the measurement of sociological variables.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 12.

32. Demography and Population Studies. An introduction to the dynamics of population through the study of change in patterns of fertility, mortality and migration. Emphasis is given to the determinants and consequences of current population growth in both developed and underdeveloped areas of the world, and to efforts being made to control this growth.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 1.

33. Social Psychology. Analysis of the theories and research of human conduct in social settings with emphasis on symbolic interactionism, cognitive consistency, socialization, attitude change, and related topics.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

34. Community Structure. A general introduction to human community from the perspective of sociology, demography, ecology and history, with an emphasis on city planning.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 23.

SOCIAL SCIENCE

35. Social Stratification. An analysis of social ranking systems of class, status and power. Topics will include: theoretical and methodological problems in ranking, political and sociological perspectives on community and national power structures, and social mobility in industrialized societies. Emphasis will be placed on the comparison of alternative stratification systems.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 9.

36b. Political Sociology. An analysis of voting behaviour, voluntary associations, and the social aspects of power and political behaviour in contemporary society.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

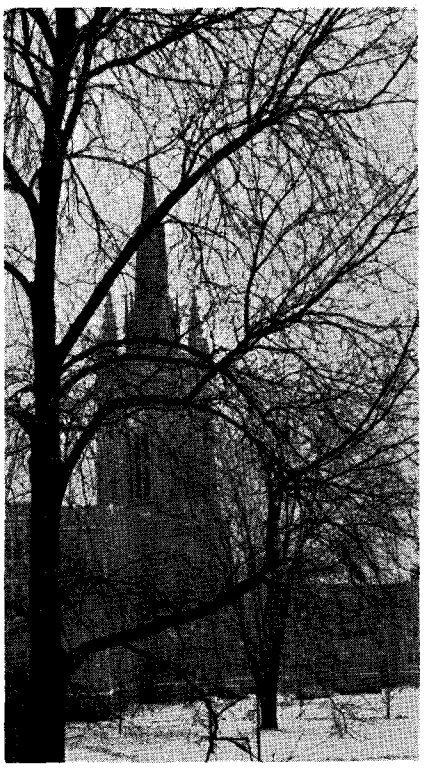
37a. Sociology of Religion. An analysis of the functions of religion, the relationships between religion and other social institutions, and organized religious bodies.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

38b. Social Change. A study of the sources, pattern and consequences of social change. The views of classical and modern theorists will be evaluated in relation to patterns of change exhibited at group, community and cultural levels. Problems encountered in attempts to induce change with respect to economic development, urban planning, population policy, etc. will be surveyed.
Prerequisite: Sociology 20 or permission of the Instructor.

39. The Family. Sociological, psychological, and other research perspectives on family structure and functioning.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 8.

40. Social Problems. Study of theories of deviant behavior and of social disorganizations, with particular attention to certain specific problems of the contemporary period.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 21.

41a. Communication and Social Character. Analysis of attitude formation and the role of symbolic systems on social character and collective behavior. Utilizes sociological, communication and general social psychological theory dealing with the function of communications media in society and the effects of patterns of communication upon members of different social groups. Considers research findings on media content, opinion formation and change, propaganda and advertising.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 31.



42b. Small Groups. An analysis of the methodological and substantive issues in the study of small groups. Topics to be emphasized include stages of groups, encounter groups, group structure, conformity, leadership, and group size.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

43. Minority Groups. The analysis of racial, ethnic, political and religious minority groups in terms of their relationship to each other and to society at large. Pluralism, assimilation, competition, conflict, prejudice and discrimination are among the concepts to be studied.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 36.

44b. Collective Behavior. Basic forms of collective behavior including social crowds, publics, and the mass society will be examined in terms of their structural and social psychological consequences. The focus of the course will be the analysis of the relationship between human problems and collective attempts to resolve them.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 4.

45b. Applied Sociology. The application of sociological theory and method to selected problems in urban society.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 20.

46. Medical Sociology and Public Health. The study of the sociological nature of health and illness, medical establishments and professional roles. The definition and measurement of health and community and national solutions to health problems will be considered.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 17.

47a. Group Behavior. Psychoanalytic, cognitive and behavioral theories are evaluated in relation to selected topics including motivation, traits, attitudes, conformity, prejudice and group behavior.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours — 13.

48a. Sociology of Education. A comprehensive examination of educational systems in Canada as they relate to mobility, the family, and other social institutions.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

49a. Criminology. The theoretical and empirical study of Canadian crime and delinquency with emphasis on measurement problems and the theories and research on crime.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

50b. Bureaucracy in Modern Society. An examination of alternative theories of complex organizations, the nature and types of organizations, their relationships to modern society, aspects of their internal differentiation, and processes or organizational change.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

51a. Industrial Sociology. An analysis of the development, structure, and operation of industrial organization including a discussion of the sociological aspects of labour-unions and management-labour relations.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

52. Mathematical Sociology. An evaluation of the feasibility and utility of using mathematics as a tool for representing individual, group, and societal structures and processes.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

53b. Sociology of Corrections. An analysis of the criminal justice system, prisons, other correctional institutions and prediction techniques.
Prerequisite: Sociology 20 and 49 or permission of the Instructor.
3 hours.

HONORS PROGRAM

Requirements for Admission. First Year General Program (Arts, Science or Social Science) including Sociology 20. At the end of the first year, the student must have an overall average of 70 and at least 70% in Sociology 20. All courses are to be considered principal courses.

SECOND YEAR

Principal Courses

Sociology 230, 231.
One of: Sociology 232, 233, 236.

Subsidiary Courses

One other Sociology course.
One option.

THIRD YEAR

Principal Courses

Two of: Sociology 232, 233, 236.

Subsidiary Courses

One Sociology course
Two options.

FOURTH YEAR

Principal Courses

Sociology 400, 402 and 404.
Three other half-courses in Sociology at the 400 level.

Subsidiary Courses

Two options (full courses or equivalent).

The programs of all Honors students must be approved by the Honors Program Adviser.

HONORS COURSES

NOTE: Honors students from other disciplines or general students with 70 averages may enrol in Sociology Honors Classes provided they have had Sociology 20.

230. Advanced Sociological Theory. The analysis of the major contributions of sociological theorists with particular attention paid to the works of Marx, Weber, Durkheim, Simmel, Parsons and Homans.
3 hours — 4.

231. Methodology and Statistics. A survey of basic procedures used in the collection, reduction and statistical analysis of data.
3 hours — 9.

232. Population Studies. A study of the major population trends and their impact upon industrialized and developing societies.
3 hours — 20.

233. Social Psychology. The study of the relationship between the individual and society and of the social determinants of personality, attitudes, language and group dynamics.
3 hours — 24.

236. Social Organization. A comparative analysis of terms of association and group structure from primary groups to complex bureaucratic structures.
3 hours — 28.

334. Sociology of the Community. A theoretical focus on urban growth, urbanization, and city systems. Students will participate in basic research to be undertaken in urban communities.
Prerequisite: Sociology 20 and 231 or another Honors Sociology course.
3 hours — 10.

335. Social Stratification. An analysis of ranking systems of social class. Topics will include functional arguments of social class, social mobility, and alternative stratification system.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

339. Sociology of the Family. An empirical and theoretical analysis of changing family structure in contemporary North America, with special reference to interdependencies with other major social institutions.
3 hours — 16.

340. Sociology of Deviance. An examination of some basic approaches to the study of deviant behavior with special emphasis on problems in concept termination, measurement and theory construction.
3 hours — 27.

343. Minority Groups. The study of racial, religious, ethnic, sexual and other minority groups in terms of the differences and similarities of their relationships to the larger Canadian society.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

346. Medical Sociology. The study of the social components of health, illness, and patienthood with an emphasis on the nature of health institutions and professions and current issues of lay or professional concern.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

399. Selected Topics in Sociology. Reading and discussion in selected topics in Sociology.
3 hours — 36.

400a. Advanced Statistics. Parametric and non-parametric social statistics. Tests of significance and measures of association, analysis of variance, correlation, regression and probability will be studied extensively.
Prerequisite: Sociology 231 or another Honors Sociology course.
Half course, first term.
3 hours.

402a. Research Methodology in Empirical Sociology. A comprehensive study of the problems of methodology and research design. The methodology of major studies in sociology will be critically examined.
Prerequisite: Sociology 231 or another Honors Sociology course.
3 hours, half course, first term.

404a. Historical Sociological Theory. A survey of historical and contemporary sociological theory.
Prerequisite: Sociology 230 or another Honors Sociology course.
Half course, first term.
3 hours.

406a. Population and Social Structure. The relevance of demographic processes to social organization and the interrelation of fertility, mortality and migration with social psychological and structural variables.
Half course, first term.
3 hours.

434b. Human Ecology. The consideration of the concepts of human ecology as applicable to the interrelationships of population, environment, technology and organization in society.
Half course, second term.
3 hours — 16.

436b. Selected Topics in Social Psychology. Topics of current interest to social psychologists will be the focus of discussion and individual research.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

437a. Selected Topics in Deviant Behaviour. A focussed examination of specific topics in deviant behaviour. Canadian research will be examined in areas such as mental illness, delinquency, crime, and sexual behaviour.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

438a. Canadian Society. The structure and functioning of Canadian society. An examination of the political, economic, cultural and value structures and processes.
Half course, first term.
3 hours.

441a. Small Groups. Empirical study of social psychological phenomena with an introduction to empirical laboratory and field methods used in social psychology.
3 hours, half course, first term.

444a. Sociology of Addictions. Theoretical, methodological, and epidemiological issues and perspectives in the study of the sociological aspects of addictions are examined relative to the implications of sociological research for understanding, treating, and preventing problems of addiction.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.

450a. Sociology of Law. An analysis of the legal institutions and processes in contemporary society.
Half course, first term.
3 hours.

451b. French Canadian Society. An analysis of the structure and functioning of French Canadian society with emphasis on politics, religion, social structure and values.
Half course, second term.
3 hours — 20.

452a. Political Sociology. An analysis of social stratification research and theory as related to the role of power and politics in contemporary society.
Half course, second term.
3 hours — 28.

453b. Sociology of Occupations and Professions. An analysis of the development and structure of occupations and professions.
Half course, first term.
3 hours.

454b. Industrial Sociology. An inquiry into the development and structure of major industrial organizations, labor unions, and management-labor relations.
Half course, second term.
3 hours — 4.

456b. Sociology of Religion. An analysis of the interactions between religious belief systems and institutions and the major institutional areas of society.
Half course, second term.
3 hours — 18.

457b. Sociology of Education. A comprehensive study of educational institutions in modern society.
Half course, second term.
3 hours — 13.

461b. Communications. The study of patterns of mass culture, mass media and their relationship to social factors.
Half course, second term.
3 hours — 10.

465b. Sociology of Corrections. A review of the theory and research concerning correctional institutions, penology, treatment of crime, and the correctional process.
Prerequisite: Sociology 20 or permission of the Instructor.
3 hours.



Althouse College of Education

ALTHOUSE COLLEGE OF EDUCATION

Althouse College of Education of The University of Western Ontario, London, was first opened in September, 1965. The college is located on the University Campus at 1137 Western Road. It is equipped to allow for the implementation of new concepts in teacher training. The basis of the program offered in the college is a lecture-seminar-tutorial method placing emphasis on small-group instruction.

The college facilities provide special instructional areas in keeping with new developments in secondary education including a language laboratory, a data-processing area, a business machines laboratory, a teaching-aids centre, three modern laboratories, four well-equipped technical shops, an occupational training area, a steno-training laboratory, outstanding gymnasium facilities, provision for instruction by close-circuit television, a fine professional library and reading room.

In order that each part of the program in education theory will be a challenging and a useful experience, the courses are offered at different levels which take into account the differences in academic specialization of the students.

The college is an integral part of The University of Western Ontario and offers a one-year program of post-graduate teacher education leading to a Diploma in Education granted by the Senate, University of Western Ontario and to certification to teach in the secondary schools of Ontario.

Students in the College are full students of The University of Western Ontario and have all of the rights and responsibilities that this implies.

For the Academic Session 1972-1973 the enrollment at Althouse College of Education will be restricted to a total of 800 students. It is expected that approximately 2,000 candidates will apply. Acceptances will be granted based on academic standing with quotas placed on specific options. No application received after May 1, 1972 will be considered.

Administrative Staff

Dean of the College

Stabler, E., BA Queen's; MA McGill; EdD Harvard

Assistant to the Dean

Casaubon, T. J., BA Laval

Acting Associate Registrar

Hartsell, G.L., BA UWO

Assistant Registrars

Chapman, C.G., BA McMaster

Galpin, D. E., BA UWO

Librarian of the College

McCrae, Sally E. A., BA, BLS Toronto

Nurse

Boughner, Jennie S., Reg N

Althouse College of Education

Communications regarding admission to the Althouse College of Education should be addressed to:

The Acting Associate Registrar,
Althouse College of Education,
The University of Western Ontario,
1137 Western Road,
London 72, Ontario.

MEMBERS OF THE FACULTY OF ALTHOUSE COLLEGE OF EDUCATION

ART

Professor

Logan, A.D., BFA, AOCA, OIP Toronto

BUSINESS AND COMMERCE

Associate Professor

Kaluza, H. J., BA McMaster. Chairman of Department.

Assistant Professors

Bailey, R. H., BA Toronto

Westgate, D. G., BA UWO

CLASSICS

Professor

Lambert, G. R., BA, MA Toronto

COMPUTER STUDIES

Associate Professor

Walsh, H. E., BA UWO; BEd Toronto

ELEMENTARY TEACHING

Professor

Kenney, K. W., BA UWO; MEd Toronto. Chairman of Department

Associate Professor

Hardy, Madeline, BSc Columbia, MEd, DEd Toronto (Leave of Absence)

Assistant Professors

Park, P. B., BA UWO

Sorrill, P. W., BA UWO; MEd Toronto

Sessional Lecturer

Ferguson, Bette (Miss)

ENGLISH

Professor

Smallbridge, J. E., BA, MA Toronto. Chairman of Department

Associate Professors

Dow, Marguerite R., BA, MA Toronto, BEd Toronto

Linden, P. J., BA, MA UWO

Procunier, E. R. BA UWO; MA Queen's

Assistant Professor

Gutteridge, D. G., BA UWO

GEOGRAPHY

Professor

Langman, R. C., BA, MA Toronto. Chairman of Department

Associate Professor

Inch, R.S., BA Mt. Allison

GUIDANCE

Associate Professors

Schmidt, P. K., BA UWO; BEd, MEd Toronto

Hallberg, E. T., BA Idaho; MA, EdD Arizona State

Hassard, J. H., BA UWO; MEd Ottawa

Sessional Lecturers

Clute, F. J., BA Western

Young, R. A., BA Loyola, BEd Montreal, MEd McGill

HISTORY

Professor

Millburn, G., BA Durham; BEd Toronto; MA Durham. Chairman of Department

Associate Professor

Gray, D. M., BA, MA Queen's

Assistant Professor

Clark, R. J., BA McMaster; MA UWO

Sessional Lecturer

Aldred, R.W. BA UWO, MA UWO

HISTORY OF EDUCATION

Associate Professor

Hamilton, W. B., BA, MA, BEd Acadia; PhD UWO. Chairman of Department

Assistant Professors

Gidney, R.D., BA, MA McMaster; BEd Toronto; MPhil London

Lawr, D. A., BA, MA UWO

Purdy, J. D., MA New Brunswick; PhD Toronto

Radcliffe, D. J., BA Cambridge; MA, PhD Wisconsin

Ray, D. W., BA, MEd Alberta; PhD London

Stevenson, H. A., BA, MA UWO

HOME ECONOMICS

Associate Professor

Porterfield, Grace, BHSc Guelph

MATHEMATICS

Professors

Harris, A. W., BA UWO. Chairman of Department

Campbell, D. R., BA UWO

Lawson, G.B., BA Queen's; BEd Toronto

MODERN LANGUAGES

Professors

Kieser, W. E., BA Leeds and London. Chairman of Department

Baldwin, Margaret M., BA, MA UWO

Associate Professor

Boyd, J. A., BA Toronto

MUSIC

Associate Professor

White, J. H., BA UWO; Mus. G. Paed. UWO; ARCT Toronto; MM *Eastman*

PHILOSOPHY

Assistant Professors

Howard, V. A., BA Maine; PhD Indiana. Chairman of Department

Burke, D. R., BA, MA New Mexico, Albuquerque; PhD Michigan State

Koutsouvilis, A. P., BA, MAT Michigan; PhD London

O'Leary, P. T., AB Boston; MA Toronto

Lecturers

Houston, Barbara E., BA, MA UWO (On leave of Absence)

McPeck, J. E., BA, MA UWO

PHYSICAL AND HEALTH EDUCATION

Professor

West, N. W., BA, BEd, BPHE Toronto. Chairman of Department

Associate Professors

Paterson, W., BPHE Totonto

Wigston, Frances A., BA UWO. Chairman of Women's Department

Assistant Professor

Bliss, Iris, BSc, BEd New Brunswick

PRACTICE TEACHING

Bass, R. W., BA UWO. *Director*

Stevenson, N. H., BA MEd Toronto. Assistant Director

PROFESSIONAL PRACTICE AND ADMINISTRATION

Professor

Allison, G. F., BA Queen's; MA, MEd Toronto

Assistant Professors

Hay, G.C., BA, MEd Toronto

McLeish, E. A., BA UWO; MEd Toronto

Menear, D.W., BA, BEd Toronto; MEd Alberta; FCCT

PSYCHOLOGY

Professor

McMurray, J. G., BA, MA UWO; PhD Toronto. Chairman of Department

Associate Professors

Harper, F. G., MA Glasgow; PhD California

Slemon, A. G., BA Manitoba; MA UWO; PhD Toronto

Assistant Professors

Bergering, A. J., BA, MA UWO

Sanders, J. T., AB Harvard; MA, PhD Ohio State

Lecturers

Andreseno, M. J., AB Canisius College; MA Teachers' College Columbia; MA Ohio State

Anderson, Nadine R., BA Washington

SCHOOL LIBRARIANSHIP

Associate Professor

Gordon, Elsie R. M., BA UWO; BLS Columbia

SCIENCE

Professor

Wright, J.S., BA Toronto

Associate Professor

Webber, H.D., BSc, MSc UWO (On leave)

Assistant Professors

Cunningham, D.N., BA Queen's; MSc Cornell

Ogletree, J. F., BSc UWO

Sessional Lecturer

Huston, P., BA UWO; MA Mich. State; PhD Mich. State

TEACHING AIDS

McKeon, P.J., BA UWO. Director

Crisp, E.V., BSc UWO. Assistant Director

VOCATIONAL EDUCATION

Professor

Beatty, H.W., BPHE Toronto. Chairman of Department

Assistant Professors

Hall, E. J.

Harland, R.

Hey, M.

Moro, R. E.

ACADEMIC CALENDAR

1972

May 1	Final date for receipt of applications
July 1	$50 non-refundable deposit required.
July 4	Beginning Summer School
September 6, 7, 8	Registration.
September 11	First term begins
October 9	Thanksgiving — no lectures
October 16 November 3	First block of Practice Teaching.
December 4- December 15	Second block of Practice Teaching.
December 15	Last day preceding Christmas break.

1973

January 3	Lectures resume.
January 12	End of first semester.
January 15	Beginning of second semester.
Feb. 5- March 2	Third block of Practice Teaching.
March 19-23	Winter break.
April 20	Good Friday.
May 4	End of second semester.
May 7-9	Examinations

Minimum Requirements

Interim High School Assistant's Certificate Course, Type B

(a) An acceptable university degree containing at least five undergraduate courses to support your first teaching option and two undergraduate courses to support your second teaching option.

(b) Canadian Citizenship or Landed Immigrant Status.

(c) Twenty years of age as of October 1, 1972.

Minimum Requirements

Interim High School Assistant's Certificate Course, Type A

(a) An acceptable honors degree with an average of 66% or B standing whichever is the higher in a program that meets the requirements as set forth by the Department of Education. Specifics with respect to particular subjects are available from Mr. G. L. Hartsell, Acting Associate Registrar, (Advanced Standing), Althouse College of Education.

(b) Canadian Citizenship or Landed Immigrant Status.

(c) Twenty years of age as of October 1, 1972.

Specific Requirements

(a) No undergraduate courses are required to elect School Librarianship and Theatre Arts options.

(b) To elect the Elementary Education Option one should have at least five courses in the Social Sciences or five courses directly related to a specific area of the elementary school curriculum.

(c) Physical Education courses or related courses should have been taken to support this subject, however, a candidate may be permitted to enroll in this option as either his first or second option choice without previous undergraduate courses.

(d) To elect the Guidance option one must have at least five courses in the Social Sciences of which three must be Psychology, and successfully pass a personal interview with a member of the Guidance Department.

(e) Notwithstanding the necessity to elect two options, a candidate may elect Business & Commerce as his option and have a double timetable in that field.

(f) Students choosing one or more curriculum and instruction options from among the offerings of the Science Department, *must consult the Althouse calendar very carefully* concerning restrictions placed on the choice of these options, particularly as they apply to a special pilot project for the academic year, 1972-73.

Application Procedures

(1) *The final date for receipt of applications is May 1, 1972.*

(2) Upon the receipt of acceptance the candidate must submit a deposit of $50.00 within two weeks. Failure to do so will make the acceptance void and the position will then be offered to another candidate.
The deposit will be non-refundable and applicable to fees.

(3) A personal interview is required of all candidates. This interview *will be arranged with the members of the departments of his first* and second curriculum and instruction option choices. The interview should not be arranged until after the application has been submitted. It is the responsibility of the candidate to arrange for the interview.

Certification

General Information Concerning Certificates Valid in Secondary Schools in Ontario

NOTE: Any information with respect to certification in Ontario set forth in this calendar is subject to alteration by the Department of Education that may supersede any regulation described below.

For Academic and General Subjects

(a) The basic Certificate is the Interim High School Assistant's Certificate Type B. This certificate may be obtained by completing the professional course of training at a College of Education during the regular winter session.

This certificate qualifies the holder for five years as an assistant teacher. It may become a Permanent High School Assistant's Certificate upon the completion of two years' successful teaching experience in a Secondary School in Ontario.

(b) Endorsement of the High School Assistant's Certificate Type B is possible under the following conditions:

A candidate who has obtained second class standing or better in approved university courses to a total of 15 credits in one secondary school academic subject, or 24 credits (12 credits each) in two related academic subjects, and who completes a year of successful teaching certified by the inspector concerned subsequent to the date of his Type B certificate in such subject(s), is eligible for endorsement of his Type B Certificate. A candidate must apply to the Registrar's Office, Althouse College of Education for approval of his credits and subsequently to the Registrar, Department of Education.

(c) The higher Certificate is the Interim High School Assistant's Certificate Type A. This certificate may be obtained by completing the professional course of training for his certificate at a College of Education either through
(i) the regular winter session at the colleges or
(ii) the regular winter session leading to the Interim Type B *Certificate plus attendance in an additional summer course* (6 weeks) in a Type A Seminar after having met the academic qualifications as set forth by the Department of Education.

Certificates valid in Elementary Schools in Ontario

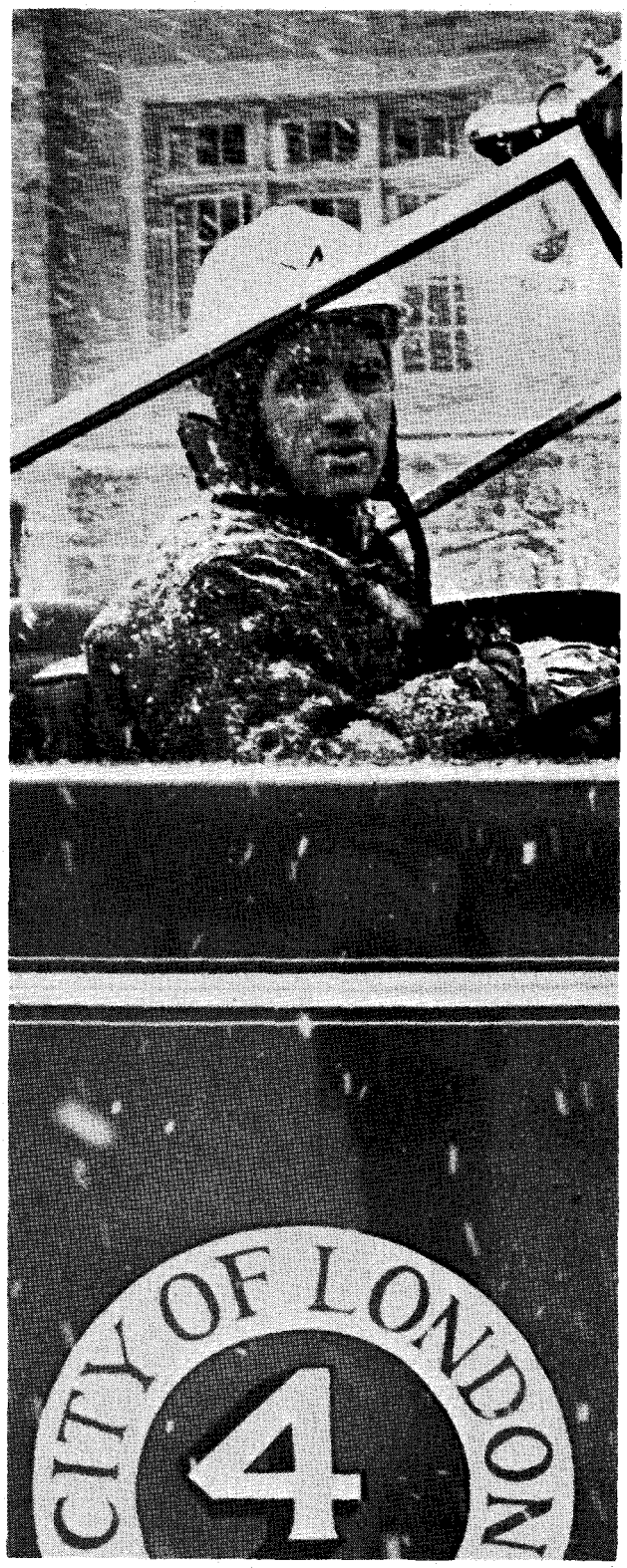
For candidates who hold a degree of Bachelor of Arts or the equivalent from an Ontario university or equivalent degree from another province or country the basic certificate is the Interim Elementary School Teachers' Certificate Standard Four.

This certificate qualifies the holder to teach in an elementary school in Ontario for five years. It may become a Permanent Elementary School Teachers' Certificate during this period upon the completion of two years' successful teaching in the elementary schools of Ontario.

(See Circular 614 (a) of the Ontario Department of Education for further details regarding certification.)

These certificates qualify the holder for five years as an assistant teacher. The Type A may become a Higher School Specialist's Certificate (which is a permanent certificate and qualifies the holder to become a Head of a Department in a Secondary School) upon the completion of two years' successful teaching experience in Ontario.

ALTHOUSE



Academic Program

The program for each student consists of five and a half courses or sixteen and a half credits. Each candidate must elect a half course in Professional Practice and Administration in either the first or second semester. A full course in Psychology is also compulsory unless the student has at least two acceptable Psychology courses in his undergraduate program. Two courses in Curriculum and Instruction are required of each candidate. The remaining two or three courses necessary to make up the total of five and a half must be selected from the offerings of the college exclusive of Curriculum and Instruction courses with the only restrictions being that no more than three half courses must be taken in total with Professional Practice and Administration being one of the three.

Curriculum and Instruction

Curriculum and Instruction Options

Art	A, 1-1
Biology	A, B
Business & Commerce (Accountancy, Data Processing, Marketing & Merchandising, Secretarial)	S, 1
Chemistry	A, B
Computer Studies	A, B
Economics	A, B
Elementary Option	EST 4
English	A, B
Environmental Science (Agriculture)	A, B
French	A, B
General Science	B
Geography	A, B
German	A, B
Greek	A, B
Guidance	
History	A, B
Home Economics	A, 1
Latin	A, B
Mathematics	A, B
Music	A, 1-1
Physical Education	A, 1, 1-1
Physics	A, B
Political Science	A, B
School Librarianship	1-1
Spanish	A, B
Theatre Arts	Basic

Codes

Type A Level	A
Type B Level	B
Intermediate Certificate Level	1
Intermediate Certificate Park 1	1-1
Specialist Certificate Level	S
Certificate, Standard 4	EST 4

Elementary Education Option E120

To be certified to teach in both elementary and secondary schools in Ontario, students may choose the course in Elementary Education as one of the two required Curriculum and Instruction options. Admission is based on academic achievement, evidence of work experience involving young children and personal aptitude.

The minimum academic admission requirements are five courses from the social sciences or five courses directly related to a specific area of the elementary school curriculum.

The course deals with Instructional Organization for Learning in a combination of subjects related to the elementary school curriculum. Content study and methodology applicable to children at different levels of achievement will be considered in Language Arts, Social Studies, Mathematics, Science Art, Music, Physical Education and Health. Current trends in elementary school organization and classroom administrations also constitute part of the course.

The approach for presentation of this course emphasizes practical involvement, spontaneous interaction and consistent, direct contact with children. Major stress is placed on the growth of positive attitudes towards the education of children, where the school is considered a laboratory for the development of human relationships.

A minimum of ten hours of instruction per week will be required in the Elementary Education course and consequently a student enrolled in the course may not choose a course in another faculty, a third option or a double option.

The minimum weekly instructional time for a student enrolled in the Elementary Education option is outlined below:

Elementary Education	10 hours
Alternate Academic Option	4 hours
Elective Courses	10 hours

No candidate upon successful completion of the Elementary Education Course will be recommended for the Interim Elementary Teacher's Certificate before recommendation for an Interim High School Assistant's Certificate.

FOUNDATIONS

Compulsory

Professional Practice and Administration

E120a or b

PSYCHOLOGY

E121. Introduction to Educational Psychology
E130. Psychology of Effective Teaching

Electives

HISTORY OF EDUCATION

E180. Introduction to Canadian Educational History
E181. Education in the Development of the Canadian Educational History — Social and Cultural Development of Ontario, 1791-1960
E183. The Classical Heritage in Western Education
E185. History of British Education
E187. History of American Education
E190. Comparative Education
E195. Contemporary Trends in Education

PHILOSOPHY

E120. Introduction to Philosophy
E132. The Philosophy of History
E134. Logic and the Philosophy of Science
E135. Aesthetics
E138. Phenomenology and Existential Philosophy
E142. Ethics
E143. Philosophy of Religion
E144. Seminar in Special Topics
E145. Philosophy and Education

PSYCHOLOGY

E120a. Sociology and Education
E134b. Education of Exceptional Children
E135a. The Psychology of Early Childhood Education
E136b. The Adolescent in the Secondary School
E140b. Intercultural Psychology of Education
E141a and b. Program Instruction
E144a. Behaviour Theory and Its Application to Classroom Problems

AUDIO VISUAL

E120a and b. Audio Visual Instruction
E125b. Advanced Audio Visual Instruction

COMPUTER STUDIES

E131a and b. Introduction to Computers

ENGLISH

E131b. Creative Process in Art
E132a and b. Children's Literature

GUIDANCE

E130a and b. Tests and Measurements

HISTORY

E135b. Advanced Curriculum Planning in History
E136a and b. Canadian Studies

PHYSICAL AND HEALTH EDUCATION

E131a and b. An Introduction to the Scientific Principles of Modern Sports Training for Schools

Observation and Practice Teaching

It is recommended that prospective candidates spend some time during May or June in a secondary or elementary school observing teaching techniques, daily routine and school organization. The candidate should make his own arrangements with the principal of a convenient school for this period of observation.

During the College year, for periods to a total of nine weeks, student teachers will be assigned to schools in the counties of Brant, Bruce, Elgin, Essex, Grey, Huron, Kent, Lambton, Lincoln, Middlesex, Niagara South, Norfolk, Oxford, Perth, Waterloo and Wellington. During these periods, student teachers observe the operation of the school and teach lessons in their respective options under the guidance of capable Associates of Althouse.

ALTHOUSE

Intercultural Teacher Education Program (ITEP)

Aims: The College proposes to offer a special program, in 1972-1973 for teachers who, while able to function well in any school, would be particularly well prepared for schools in which they would be concerned with pupils from a different culture, or from a variety of differing cultures. This program is primarily designed for two broad groups of students: those who intend to devote themselves to the educational needs of Canadian Indians, and those who plan to teach overseas in developing areas, possibly as CUSO volunteers.

Qualifications: The program is built within the framework of the existing winter calendar at Althouse. Students must meet the normal admission requirements and, at the end of the year, will have to satisfy the existing regulations for certification. Enrollment in ITEP will be limited. Students who intend to participate should have a firm commitment to intercultural education, and their acceptance and final program will depend upon consultation with the members of the faculty involved.

Requirements: (1) Intercultural Courses. ITEP students will be advised in the selection of courses in the College Calendar which are pertinent to the aims of this program. For example, the Department of History of Education recommends Comparative Education, Sec. C. (Intercultural Problems), and the Department of Psychology, in addition to the half-course in Intercultural Psychology which will be required, recommends the Sociology of Education.

(2) Curriculum and Instruction. Students will enrol in the regular courses appropriate to their subjects.

(3) Teaching Practice. Students will complete the normal teaching practice assignment. Where possible, however, students will be placed in school where pupils present a variety of cultural backgrounds, and by virtue of their origin, are fluent in a language other than English.

(4) Additional Requirements. From the foregoing outline, it will be evident that an ITEP student's program is not necessarily distinguished in any way from the program which might be selected by any student in the college, except by a concentration on specific relevant courses and by a more defined sense of purpose.

In addition, however, members of the ITEP will be required to meet together on a regular but extra-curricular basis throughout the year, to discuss common problems and special practices in intercultural educational situations. Plans are also being made for the development of a complementary summer program of four or five weeks. This program will be an essential part of ITEP and will follow the winter program. It will cover additional requirements of a teacher who is to function effectively in an intercultural situation; the use of English as a foreign language, Basic Skills in Non-European languages, and a period of supervised orientation in an intercultural situation.

Summary of Requirements

Regular

Curriculum and Instruction — 2 credits in subjects appropriate to the student's own training.
P.P.A. — 1/2 credit.
Psychology — 1/2 credit in Intercultural Psychology, plus one other 1/2 course as recommended by the Department unless excused by previous background. 2 credits from any combination of courses offered, as recommended by Departments for ITEP students.

Additional

(1) Regularly scheduled ITEP group meetings throughout the year.

(2) A Complementary Summer Course.

General Information Concerning Vocational and Occupational Teaching Certificates

(a) The following basic certificates may be obtained by candidates who satisfy the appropriate admission requirements and who complete successfully the winter session of professional training, which extends from mid-September to mid-May, at a College of Education.

(1) Interim Vocational Certificate, Type B (Technical Subject named)
The holder qualifies to teach the technical subject, which is named on the certificate, in the Colleges of Applied Arts & Technology, the vocational and composite secondary schools and the special vocational schools in Ontario.

(2) Interim Occupational Certificate, Type B (Practical Subjects)
The holder qualifies to teach the practical subject of the Occupations and Service Trades Program in the composite schools and special vocational schools in Ontario.

NOTE: The above interim certificates are valid for a period of five years. An interim certificate may become permanent upon the completion of two years' successful teaching experience in the subject(s) concerned.

(b) The following higher certificates may be obtained by teachers of Technical or Occupational subjects who successfully complete a special two-summer sequence of courses after first obtaining

(i) the permanent Vocational Certificate, Type B, or the permanent Occupational Certificate, Type B, as explained above.

(ii) the academic requirements for up-grading, as outlined in the Department of Education Circular 30, formerly Circular 612(g), dated November 1967.

(iii) the recommendation of the Regional Director of Education or the Director of Education for the Board of Education concerned.

(1) Interim Vocational Certificate, Type A (Technical Subjects named)
The holder qualifies to teach the technical subject named on the certificate and may qualify for appointment as a Technical Director. The interim certificate is valid for five years during which time it may become a Vocational Specialist Certificate upon completion of two years' successful teaching in the senior grade levels of the subject named on the certificate.

(2) Interim Occupational Certificate, Type A (Practical Subjects)
The holder is qualified to teach the practical subjects of the Occupational and Service Trades Program and may qualify for the appointment as Head of Department. The interim certificate is valid for five years during which time it may become a permanent Occupational Specialist Certificate upon completion of two years' successful teaching in the senior work of the subjects concerned.

Requirements for Admission to Vocational and Occupational Certificate Programs

Admission Procedures

(1) An applicant who feels he may meet the admission requirements, as set out below for the Vocational or Occupational Certificates, is advised to contact the Associate Registrar of the College to arrange an interview appointment. Application should be made as early as possible, and not later than July 1.

(2) At the time of the interview the applicant should present all necessary documents, diplomas and statements in support of the admission requirements as set out below. (Photostatic copies are acceptable.) Official translations must be presented for any documents in a language other than English.

(3) Following a satisfactory interview the applicant will receive a Letter of Provisional Acceptance. He will then be permitted to attempt the Technical Proficiency Examinations, as explained in A5 below.

(a) General Conditions of Admission to the Winter Session (mid-September to mid-May)

(1) Age. The Applicant shall show proof of date of birth. Male applicants shall be at least 23 and female applicants at least 21 years of age.

(2) Citizenship. The applicant must be a Canadian citizen or show proof of landed immigrant status.

(3) Education. The applicant shall show proof of the required academic standing, as outlined in the following sections B or C, and be able to communicate fluently in English.

(4) Employment Experience. The applicant shall submit statements from each of the persons or firms with whom he has been employed, verifying the length of each period of employment and describing the nature of the work performed in each case. The experience should be such as to ensure that the applicant is a skilled craftsman, competent in the main branches of his subject field, and familiar with recent developments.

NOTE: A minimum of two (2) of the required years of employment experience, as listed below in sections B and C, must have been obtained recently in Canada.

(5) Technical Proficiency Examination. Subsequent to obtaining a Letter of Provisional Acceptance from the College the candidate will be required to prove his subject ability by means of Technical Proficiency Examinations. The examinations are scheduled several times in each year and candidates must successfully attempt them prior to enrolling on a program of professional training. A candidate who is unsuccessful in his first attempt may make application to repeat the examinations when next scheduled. No candidate will be permitted to attempt the examinations more than twice.

(b) Education and Employment Experience Required for Admission to the Interim Vocational Certificate Type B Program

Candidates for Vocational teaching certificates, normally must document a minimum of seven (7) years of acceptable wage earning experience in their respective fields. However, the required experience may be reduced for persons who have educational qualifications in excess of Grade 12 Ontario standing as follows:

(1) For applicants who have appropriate degrees. (a) two (2) years of acceptable experience, subsequent to graduation, is required of graduates from approved four-year degree programs in Architecture, Engineering and Nursing.

(2) For applicants who have appropriate diplomas from approved post-secondary institutes.

(a) three (3) years of acceptable experience, subsequent to graduation, is required of graduates from approved three-year diploma programs of an Ontario Polytechnical Institute or College of Applied Arts and Technology.

(b) three (3) years of acceptable experience, subsequent to graduation, is required of persons qualified with the Associate of the Ontario College of Art diploma.

(c) five (5) years of acceptable experience, subsequent to graduation, is required of persons qualified with the Registered Nursing diploma.

(d) five (5) years of acceptable experience for persons who have successfully completed approved two-year diploma programs at an Ontario Polytechnical Institute or College of Applied Arts and Technology.

(e) six (6) years of acceptable experience for persons who have successfully completed approved one-year diploma programs at an Ontario Institute of Technology, College of Applied Arts and Technology or other accredited institute.

(3) For applicants who have Ontario Grade 12 standing

(a) seven (7) years of acceptable experience is required.

NOTE: The experience requirement, in (3) (a) above, is reduced by one (1) year for persons who graduated from an Ontario Secondary School technical program with a major credit in the subject concerned.

(c) Education and Employment Experience Required for Admission to the Interim Occupational Certificate, Type B Program

(1) Ontario Grade 12 standing

(2) Seven (7) years of approved wage-earning experience distributed over three (3) occupational or service trade subjects.

Candidates must document all experience and undertake proficiency examinations in each of the three subject areas for which they wish to qualify. Each examination will consist of written and practical sections.

Note 1: Although the acceptable minimum academic qualification for technical and occupational teaching candidates is Ontario Grade 12, or its equivalent as approved by the Associate Registrar of the College, preference on admission will be given to those applicants who have attained standing in advance of the minimum requirement.

Note 2: An applicant who may meet the conditions of admission listed above in section A, B, or C, but who, because of lack of fluency in English or for any other reason, may be considered a poor prospect for secondary school teaching in Ontario, may be asked to meet the Dean's Advisory Committee on Admission. On recommendation of this committee, a candidate may be refused final admission.

ALTHOUSE



Program of Studies for the Vocational or Occupational Type B Certificate

A: The program leading to the above certificates consists of three obligatory parts:

Part 1:	Professional Foundation Courses
Part 11:	Subject Foundation Courses
Part 111:	*Observation and Practice Teaching*

Fees

Fees for the winter session are due and payable in full on registration day. If necessary, fees may be divided into two instalments payable on the first day of each term. The extra charge for this division of fee is $5.00.

The $50.00 deposit required as outlined in the application brochure will be deducted from your fee. If you divide your payment into two instalments the $50.00 will be deducted from the first instalment. This deposit will not be refunded if you do not register at Althouse College in September 1972 and must be paid in the form of a certified cheque or money order no later than July 15th, 1972.

Winter Session

Full-time students $534.00

This amount includes a student activity fee of $54.00

If paid in two instalments

Registration Day 300.00

First day of second term (Includes a $5.00 deferred payment charge) 239.00

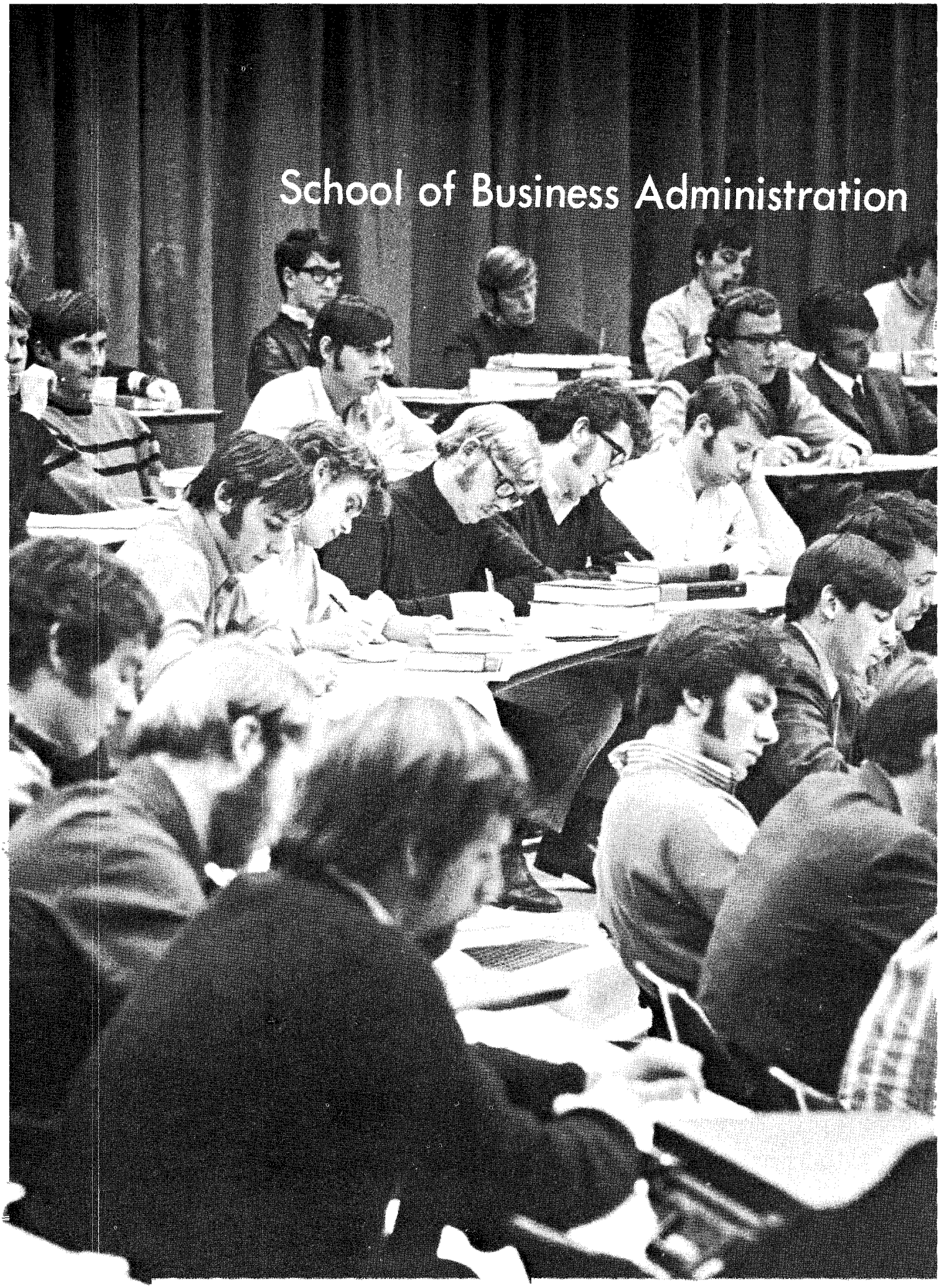
Official student tax certificates may be obtained in February from the Cashier, Office of the Comptroller, Stevenson Hall.

Summer Session

All five week courses $103.50

All six week courses 123.50

NOTE: The Board of Governors reserves the right to amend fees after the printing of this calendar.


School of Business Administration

ADMINISTRATION OF THE SCHOOL OF BUSINESS ADMINISTRATION

J.J. Wettlaufer, BA, MBA, LLD. Dean

Walter A. Thompson, AB, MBA, LLD. Associate Dean; Chairman, Continuing Education Program

Neil M. Armstrong, BA. Director of Administrative Services

A. Mikalachki, BComm, MBA, PhD. Chairman, MBA Program

C.B. Johnston, BA, MBA. Chairman, Undergraduate Program

M.R. Leenders, BScEng, MBA, DBA. Director, PhD Program

J.N. Fry, BSc, MBA, PhD. Chairman, Research and Publications Division

School of Business Administration

Members of Faculty of the School of Business Administration

Professor John J. Wettlaufer, B.A., M.B.A. (Western), LL.D (W.L.U.), Dean, School of Business Administration.

Professor W. A. Thompson, A.B. (Drury), M.B.A. (Harvard), LL.D (W.L.U.), Associate Dean

Professors

Grindlay, A. A., B.Sc (Sask.), M.B.A. (Western), Ph.D. (Calif.)

Hodgson, R. C., B.Sc., M.Sc. (McGill), D.B.A. (Harvard)

Johnston, C. B., B.A., M.B.A. (Western)

Jones, F. W. P., B.A. (Western). Part-time

Martin, S. A., C.A. (Man.), M.B.A., D.B.A. (Harvard)

McDougall, W. J., B.A., (Western), F.C.A. (Ont.)

Nicholson, J. T., S.B. (Cornell), M.B.A., D.B.A. (Harvard)

Taylor, J. C., B.A. (Western), F.C.A. (Ontario) Senior Professor

Thain, D. H., M.B.A., D.B.A., (Harvard)

Wood, A. R., B.Sc., (Queen's), M.B.A., D.B.A. (Harvard)

Associate Professors

Archibald, T. R., B.A. (Western), M.B.A., PhD. (Chicago), C.A. (Ont.)

Britney, R. R., B.Eng. Sc. (Western), M.B.A. (Bowling Green), D.B.A. (Indiana)

DiStefano, J. J., B.A. (Rensselaer), M.B.A. (Harvard), M.A. Ph.D. (Cornell)

Fry, J. N., B.Sc. Eng. (Alta), M.B.A. (Western), PhD. (Stanford)

Gordon, J. R. M., B.A.Sc., (B.C.) M.B.A. (Queen's), PhD. (M.I.T.)

Haehling von Lanzenauer, C., Diploma, Ph.D. (Bonn)

Hicks, B. E., B. Com. (Toronto), M.B.A. (McMaster), Ph.D. (Illinois), C.A.

Humphrey, J.A., B.A., M.B.A. (Western), D.B.A. (Harvard)

Kennedy, J. R., B. Com. (Man.), M.B.A. (Western), Ph.D. (Stanford)

Kuechle, D., B.A., J.D. (Wisconsin), M.B.A., D.B.A. (Harvard)

Leenders, M. R., B.Sc. (Alta), M.B.A. (Western), D.B.A. (Harvard)

Little, B., B.Comm., (U.B.C.), D.B.A. (Harvard)

Mikalachki, A., B.Com., (Sir George Williams), M.B.A., Ph.D. (Western)

Nourse, R. E. M., B.Sc. (Queen's), M.B.A. (Western), D.B.A. (Harvard)

Portis, B., B.A., M.A., Ph.D. (Harvard)

Shaw, D. C., B. Com. (Dalhousie), M.B.A., Ph.D. (Penn.), C.A. (Nova Scotia)

Sproule, R. E., B. Com. (McGill), M.B.A. (Western), Ph.D. (M.I.T.) On leave

Zabransky, F., B.A.Sc., (Toronto), M.A., Ph.D. (Western)

Assistant Professors

Bishop, P. M., B.S.A., (O.A.C.), B.A.Sc. (Toronto), M.B.A. (UWO), D.B.A. (Harvard)

Bobele, H. K., B.S. (UCLA), Ph.D. (UCLA)

Boersema, J. M., B.A. (Western)

Burgoyne, D. G., B.A., M.B.A. (Western)

Crookell, H., M.B.A. (Western), R.I.A. (Alta), Ph.D. (Western)

ffolliott, J. D., B. Com. (Rhodes), M.B.A. (Western), C.A., (D.B.A. candidate Harvard)

Forsyth, G. R., B.In.Eng. (Georgia Tech.), M.B.A. (Western), Ph.D. candidate Western)

Graham, J. F., B.A. (Assumption), M.B.A. (Western)

Hardy, K. G., B.A. (Western), M.B.A., Ph.D. (Mich.)

Hatch, J. E., B. Com. (Sask.), M.B.A. (McMaster)

Howard, J. H., B.E.Sc. (Western), M.B.A. (Western)

Kinnear, T. C., B. Com. (Queen's), M.B.A. (Harvard)

Kirkham, P. G., B.A.Sc., (U.B.C.), M.B.A., M.A. (Western), Ph.D. (Princeton)

Knight, R. M., B. Eng. (McGill), S.M. (M.I.T.)

Long, R. A., C.A., B.Com. (U.B.C.), M.B.A. (Washington)

McKibben, W. L., A.B. (California)

Newson, E. F. P., B.A.Sc. (Alberta), M.B.A. (Western)

Nobbs, R. A., B.Sc. (Alberta), M.B.A. (Alberta)

Peach, D. A., B.Sc., M.B.A. (Ohio), D.B.A. (Harvard)

Rowland, F. H., B.A. (Western)

Smith, D. B., C.A. (Ont.), (D.B.A. candidate Harvard)

Williamson, D. R., B.A. (Liverpool), M.A. (Econ.) (Western)

Lecturers

Dundas, K. N. M., A.C.A. (England), M.B.A. (Western)

Heffernan, J. J., B.Sc. Chemical Eng. (Alberta), M.Sc. (Alfred P. Sloan School of Management M.I.T.)

Lambert, D. N., B.A., M.B.A. (Western)

Lebner, S. D., B.Sc. (McGill), M.B.A. (Western)

Lemmon, J. C., B.A. (Queen's), M.B.A. (Western)

Marples, L. W., B.Sc. (Delaware), M.B.A. (Stanford)

Ouellette, G., B.A., M.B.A. (Western)

Wrigley, L., B.Sc. (London School of Economics), D.B.A. (Harvard)

Instructors

Bolli, O., B.A. U.B.A., M.B.A. (Western)

Malanchuk, R. C., B.A., M.B.A. (Western)

Oliver, R. D., B.A., M.B.A. (Western)

BUSINESS

Undergraduate Program

The purpose of The University of Western Ontario School of Business Administration is to provide an opportunity for young men and women to prepare themselves for administrative responsibilities. In general the administrator makes and executes policies, both of which functions consist of making decisions. Therefore, the ability to define problems, to see all the implications, to weigh the merits of alternate courses of action, and to provide wise and understanding leadership, must be combined with specialized knowledge necessary to the functioning of an organization.

In 1959, two large American educational organizations, the Ford and Carnegie Foundations, commissioned studies to assess the type of program that would best enable young Canadians and Americans to take their places in the dynamic and complex business world of the 20th century. Both reports recommended that university business students should have an adequate grounding in the basic subjects such as English, Economics, Mathematics and Social Sciences. These, the reports recommended, should represent at least 50% of the course studies. The other half of the program, the Business Administration courses, should be centralized around such fundamental activities as Marketing, Finance, Production, Mathematical Analysis, Management Control, and Human Relations, with the content of these courses concentrating on problem solving and decision-making.

The recommendations of these two eminent educational foundations have long been in practice at The University of Western Ontario School of Business Administration. The broad base of training given to the student at the Business School enables him to adapt his knowledge to the variety of conditions and problems present in the business world. This liberal education, focusing on management and administration, will enable a graduate to meet the demands placed on him both in his career and as a valuable member of the community.

The School and its Facilities

INAUGURATION OF THE SCHOOL

The teaching of Business Administration, which has always received strong support from the University Board of Governors, was begun at the University in 1923 through a Department of the Faculty of Arts and Science. The first graduate courses were offered in 1932. On July 1, 1949, an important milestone in the history of Western was reached when a separate School of Business Administration was founded on the campus.

The decision to establish the School was made only after careful consideration of all its implications by University authorities and by leading Canadian businessmen. Both groups, meeting together, agreed (1) that Canada needed, and would continue to need, capable administrators; (2) that this need could in large part be met by assuring an adequate supply of young men college-trained for management and administration; (3) that this training should rest on a broad background in the arts and sciences, coupled with a thinking attitude toward administrative problems and a sure knowledge of the basic skills; and (4) that the elements of business administration could best be learned in a School whose place in educational circles was well-defined and whose professional status was unmistakably clear.

SCOPE OF THE SCHOOL

The School offers a variety of programs for training in business. The undergraduate Program, built on a broad foundation of the liberal arts, makes special provision for depth in English, and recognizes the importance of mathematics and psychology to the future business executive.

At the end of the first two years, which are normally in the Faculties of Arts, Science or Social Science, a student shifts to the basic fundamentals of Marketing, Finance, Operations Management, Planning, Information and Control Systems, Management Science, and Administrative Practices. In the final year he has a choice of concentrating in one of these fields or, if he wishes an even broader program, he may take advanced courses in several areas. A course in Executive Problems represents an important part of the final year. Full details of the course are contained in other sections of this bulletin.

ENVIRONMENT

In 1957 the School of Business Administration was housed in a new building designed to facilitate the teaching of Business Administration. The School has fourteen large U-shaped amphitheatre classrooms and eight seminar rooms especially designed for case discussions; extra-wide corridors in the classroom area, for afterclass discussion; forty other student areas, including a library, reading room and student lounges. A special feature is the 475-seat theatre, which is equipped with a sophisticated television system, along with a full range of other audio-visual educational media. A recent addition to the School, more than doubling the 1957 structure, has created one of the best-equipped business schools in North America, yet the primary emphasis remains on working in small groups and high faculty-student interaction. The building is air conditioned.

Placement of graduates, an important function of the School, has been adequately provided for in comfortable interviewing rooms where prospective employers may talk to students. The students in the School have access, either directly or through time-sharing terminals, not only to the School's own computing facility, but also to the more extensive equipment to be found in both the University Computing Centre and in external computing centers which provide time-sharing services on a rental basis.

REPORT WRITING PROGRAM

The requirement of written reports has been a prominent feature of the School's instruction for many years. The purpose of the Report Writing Program is to develop the student's skill in written communication and analytical and decision-making ability in business situations. The presentation of the report (organization, style, grammar, syntax, etc.) is graded as intensively as is the content (analysis, insight, calculations etc.) so that the student receives an evaluation of his ability to combine keen analysis and sound judgment with a clear, concise, and convincing method of expression. The School reserves the right to refuse to grant a degree to any student who has not attained a satisfactory level of achievement in the Report Writing Program.

ORIENTATION PROGRAM

The first few weeks after registration are planned in detail to give a student entering the School an opportunity to acclimate himself fully to the case method of study. While this will not be wholly new for students who have taken introductory business courses; nevertheless, for the first time they will learn to organize small groups for case discussion and become generally oriented to working in this way. During the introductory weeks, professors seek to give the students an outline of the subject matter to be covered during the year. Just as important is the opportunity to meet members of the faculty informally during the discussion groups and formally in the classroom. The orientation period enables the student to make an early adjustment to a new method of teaching. The staff, in co-operation with the Student Council, will assist students in registration, housing, books and course materials.

RESEARCH WORK

The School is very active in both Case and Project Research. The Case Writing Program develops material for classroom use, emphasizing those aspects of business administration which are peculiar to the Canadian situation. In Project Research, one or more faculty members are freed from teaching assignments for a year to concentrate on some area of business.

THE UNDERGRADUATE PROGRAM

The program leading to the degree of Bachelor of Arts in Honors Business Administration has three objectives: to contribute to the liberal education of the student, to help the student acquire an administrative point of view, to acquaint the student with the modern body of knowledge and techniques for management.

The successful administrator must know people, must see events in perspective, must develop flexibility in thinking; in short, he needs a general education. Accordingly, the first two years of the four year program, in which the student is enrolled in a general program, are designed to give a broad education in the humanities as well as the social and natural sciences. Because of this general foundation, if the student later finds that he has mistaken his aptitudes or tastes he may transfer with little loss of time to another program. The last two years, in the School of Business Administration, are a rigorous period in which the student becomes acquainted with each of the major fields of business and is prepared for positions of eventual responsibility in management. Because the demand for specific skills has a tendency to shift, it has been found most valuable to concentrate training on general administrative and executive skills applicable to all business. At the same time training is given in such specific subjects as accounting, marketing, production management and financial management.

Enrolment in the last two years at the School of Business Administration is intended to be limited, in order to give the maximum individual attention to each student.

Credit is given by the Institute of Chartered Accountants and other accounting bodies for work done in this program.

Students who complete the required courses with the grades demanded will receive an Honors B.A.

THE SCHOOL AND CANADIAN BUSINESS

A great asset has been the keen interest which business corporations, private foundations and government institutions from coast to coast have shown in the School's work. Since the inception of the School, their handsome contributions have made it possible to have a modern building, especially designed for the case method of teaching, to build a diversified and highly competent faculty, to engage in business research and to keep the library abreast of development in the academic world and in industry. The interest of Canadian business and government, however, has gone even farther in allowing the School to compile case histories from their experiences to enrich its teaching. They have welcomed students into their plants and offices for field trips so that they might be given a working knowledge of assorted types of operations. Many senior executives and administrators visit the School each year to speak, lecture, take part in seminar discussions and to head panels on Canadian problems of management and administration. These companies and institutions also offer a very important experience to students in summer employment between their academic terms.

METHODS OF INSTRUCTION

A variety of teaching methods is currently being used at the School. Many courses given by the School are taught by the case method, under which students are presented with a series of situations or problems taken from actual administrative situations, to be analyzed and discussed. The number and the variety of cases presented give ample opportunity to develop thinking in terms of the effective treatment of management problems. At the same time, a considerable knowledge of management practices and techniques is acquired.

THE LIBRARY

The Business School Library is the largest library in Canada devoted solely to material in the field of Business Administration. In addition to its rapidly growing collection of books, monographs, pamphlets, and Dominion Bureau of Statistics publications, it contains more than 450 periodicals, both general and specialized, and the annual reports of over 700 Canadian and 2,000 U.S. companies. Many services such as the Financial Post Corporation Service, Moody's, Standard Rate and Data, and the CCH Tax Service are available. Special emphasis is given to the collection of resources dealing with Canadian business.

The library has a reading room which accommodates 300 students, twenty-eight carrels in the stacks, and space for 100,000 volumes. Microfilm and microcard readers are provided as more and more material is being acquired in microphotographic form.

Elsewhere on the campus are extensive library resources. The book collections of the University total more than 500,000 volumes, with over 4,000 periodicals in all subjects and many languages being received annually. While the general library, located in the D. B. Weldon Library Building, houses the main collection, others can be found in Biological and Geological Sciences, Law, Engineering, Medicine, Music, Nursing, Education, and the Natural Science Centre. These resources are designed primarily for the use of students in these fields, but may, of course, be consulted by any registered student.

Admission Requirements to the Honors Program in Business Administration

Admission to the Honors Program in Business Administration is possible after the successful completion of the first two years of any general or honors Program in Arts, Science or Social Science. There are three required courses the first two years. These courses are Mathematics 20 or 24 or Applied Mathematics 20, Economics 20, and Business 250.

Applicants who have completed the first two years with an overall average of 70% or better, and no grade below 60%, will generally be admitted to the Honors Program. Students with two year averages between 60 and 69% are eligible to apply for admission.

Grade 13 (Ontario)

An applicant wishing to pursue studies in Business Administration at The University of Western Ontario must complete the first two years of a general or honors program in Arts, Social Science or Science. A suitable Grade 13 program should include Mathematics A, together with other credits to meet the requirements for First Year admission. Specific requirements are outlined in the General Information booklet which may be obtained from the Registrar's Office.

Mature Applicants desiring to enter a program leading to studies in Business Administration must be 23 years of age. They must have standing in Mathematics at least at the Grade 12 (Ontario) level and are urged to complete Grade 13 Mathematics A (or equivalent). Complete details concerning Mature Applicant admission may be found in the General Information booklet which may be obtained from the Registrar's Office.

Applications: *Students registered in Ontario Grade 13 must* complete the General Application Form supplied by their high school guidance counsellor. All other applicants must complete the application form provided by the Registrar's Office, Stevenson Hall, The University of Western Ontario, London 72, Canada. The application deadline for students wishing to begin their studies in the Winter Session is July 1st.

BUSINESS

ADMISSION WITH ADVANCED STANDING

Students from other universities and colleges may be admitted to programs at The University of Western Ontario with advanced standing if they are eligible to continue and advance at the institution from which they wish to transfer.

Undergraduate credits obtained while in attendance at another university will be assessed in terms of advanced credit at this University by the Admissions Committee. **Advance credit will not be granted for courses in which the mark obtained was less than one full grade above the minimum passing grade.**

The amount of advance standing that may be granted is limited by the residence requirement of The University of Western Ontario.

Each application for admission with advanced standing will be dealt with individually by the Admissions Committees.

THIRD YEAR

Principal Courses

Business 351	Marketing
Business 353	Finance
Business 354	Production
Business 355	Management Science
Business 357	Planning Information and Control Systems
Business 358	Organizational Behavior

Neither a seventh course nor a substitution for any of the above courses will be permitted under any circumstances.

FOURTH YEAR

Requirements for Admission

To enter fourth year a student must:

(a) pass all courses in the third year.

(b) obtain an average of 60% or better in the third year.

(c) obtain 70% or better in at least one course.

(d) have no more than one course below 60%.

Principal Courses

Business 478 **Executive Problems;**

Plus the equivalent of two full year courses from among the optional courses offered by the School of Business Administration.

The equivalent of two full year courses which may be selected from among the option courses offered by the School of Business Administration or from among any senior courses offered by the University, after consultation with the Program Chairman.

The Student also has the option of taking up to the equivalent of one half course each term in the Faculty of Law. Requirements for Graduation

To graduate a student must:

(a) pass all courses taken in the senior year,

(b) obtain an average of 60% or better in all courses,

(c) obtain a grade of 70% or better in at least one full course or two half-year courses,

(d) obtain, for each grade of less than 60%, a balancing grade of 70% or better in courses of equivalent weight. One full-year course will be weighted equivalent to two half-year courses.

COURSE DESCRIPTIONS

Business 20. Introduction to Business. This is an introductory survey course which assumes no prior study of business administration.

The course is designed to present an opportunity for students to examine and discuss a broad range of business cases involving situations where analysis and decision-making are required. Emphasis is placed on developing an understanding of the nature and scope of the field of business administration; the various knowledge, attitude, and ability factors involved in administrative effectiveness in the functional areas of business; the management decision-making process, business terminology; and general information about various industries and types of organizations.

While the student is expected to learn much about the problems which managers face, the major benefit that he will receive from the course should be a feeling for, and an understanding of, the environment in which the manager must make his decisions. The course should teach him something of what is involved in good judgment as against bad; and above all, it should develop the capacity for forming sound decisions on the basis of the information available. The course continually stresses that it is management's function to make decisions, to make them promptly, and to make them on the basis of what is known, with no more than a proper respect for what is unknown.

The course is divided into five parts: (1) financial function, (2) personnel administration, (3) production, (4) marketing, and (5) general management.

The first part of the course, dealing basically with the financial function — figure management aspects of administration and the management of the funds that must be invested in a business in order to achieve its objectives — is concerned with legal and financial implications of different forms of business organization, analysis of balance sheets and profit and loss statements. Special attention is paid to the flow of funds resulting from a company's operation, formulation of policies in regard to the nature and timing of capital expenditures, sources of capital in Canada and the methods whereby it may be obtained.

In the second section of the course, an opportunity is provided for the student to develop an awareness of the administrative practices and human relationships that form the core of any business. Cases and readings in this area consider the importance of people in administrative situations, the motivations, actions, and relationships of people in various levels of a business and the conflicts that may stem from differing individual and group characteristics, attitudes, and value systems. The material deals primarily with the problems arising from the interpersonal relationships of people in working situations and emphasizes working relationships, selection and placement, training and evaluation, salary and wage administration, union-management relations, and personnel department operations.

Topics studied in the production section of the course include plant location and layout, equipment installation, inventory control, methods for controlling the amount and quality of the product(s) being produced, decisions as to whether a product should be made by a company or purchased from an outside manufacturer, and the many different overall problems involved in organizing the manufacturing function of a company.

The cases in the marketing section of the course present problems involving consideration of the characteristics and buying habits of consumers; determination of the types of products that should be sold; choice of distribution channels; use of promotional tools such as personal selling, advertising, and special sales promotion methods; pricing, marketing research and the planning of marketing programs.

The fifth and concluding section of the course focuses on general management problems. It enables the student to become acquainted with the problems of a business as seen from the level of top management where company-wide objectives are set and departmental policies and operations are coordinated.

One course.

Business 250. While this course is designed primarily as a preparation for entry to the School of Business Administration, it has wider applicability for the understanding of data flows in the business sector.

The course is composed of 3 inter-related parts.

(1) Financial Accounting. Develops the Financial Accounting model used in **public reporting;** in particular it examines generally accepted methods of presenting the economic status and performance of the firm. The uses and limitations of financial statements are assessed, so that the student can read and interpret the published financial reports, and can also gain an appreciation of the important types of information which financial statements do not contain.

(2) Management Accounting. Approaches the accounting model from the point of view of the **management of the firm.** Develops methods of internal reporting and assesses the types of data relevant to typical decision-making situations facing managers.

(3) Data Analysis. Deals with the development, interpretation and use of Statistical information to isolate, quantify and communicate facts and opinions. This part of the course is taught by the use of actual information gathered in on-going projects.

The course includes a student team project which interrelates the three parts of the course and exposes students to actual proposals for new business ventures.

One course

Business 351. Marketing. The Basic course in marketing introduces the major problems encountered by business when they decide what products and/or services to sell, how to distribute them and how to promote them to potential customers.

Since the seller should make all of these decisions after considering the wants and needs of these potential customers, the course begins with a study of the consumer. Then, after examining the many factors which influence consumer buying decisions, the impact of these factors on the nature of the products to be sold is studied.

The next section of the course deals with the formulation of distribution channel strategies to move the product from producer through wholesalers, retailers, etc., to the final buyer; it also deals with promotion programs to supply the incentive to the consumer in order to achieve a favorable sales volume. The concluding section of the course deals with the development of overall marketing programs where the individual elements must be fitted into a meaningful whole.

The point of view taken is that of the marketing manager. The student is continuously asked to recommend the decision which should be taken in each of the many cases studied. This procedure necessarily involves studying the economic social and political framework surrounding the seller, as well as detailed marketing research with more operational objectives.

Cases and readings are used as the basis for classroom discussion.

One course

Business 353. Business Finance. The first half of the course is concerned with working capital, the day to day use of funds in producing and selling a product or a service. The influence of seasonal fluctuations in cash requirements and the financial implications of growth, contraction, and changes in business conditions are explored in a series of cases selected to highlight variations in the need for current funds. Major types of loan arrangements are discussed and an understanding of the bargaining process between the lender and the borrower is developed through the shifting of the point of view from that of the financial representative of the company to that of lending officer of the institution involved.

The second part of the course deals with the financing of long run needs. The financial characteristics of securities are illustrated by having the student consider different situations where the capital structure of the companies is planned with due regard for the interests and right of the various participants. A series of cases is presented to show how securities are planned and sold. Regulation of security dealers is discussed, and the effect and treatment of subscription rights is dealt with in several cases. Reserve and dividend policy is treated in a number of cases and the concluding section on Promotion, Expansion, and Combination treats briefly the more complicated and legalistic side of finance.

One course

Business 354. Operations Management. Operations management is a course that emphasizes the management of productive activities in organizations. The activities include any task that incorporates moving or operating on materials and/or information in manufacturing, service, institutional or governmental organizations. The course focuses on the analysis of situations, the selection of techniques for analysis, and on the development of the systems approach to thinking about the structure and interrelationships of productive activities within the total organization.

A key objective is to remove the strangeness that many people feel towards the operations management area while helping to prepare them for a management career generally. Students will, therefore, be exposed to relevant knowledge about the economic, organizational and technical aspects of operations management and decision-making. Thus they will deal with problems ranging from job design through to the planning and operation of systems producing goods and services.

Necessary concepts and techniques will be taught and applied so that students may effectively analyze specific types of problems. However, the course emphasis will not be on the techniques themselves but on their application to improve overall organization performance. Systems analysis and the increasing importance of electronic computers as analytical tools will also be emphasized.

One course.

Business 355. Management Science. The course in Management Science introduces some of the mathematical and statistical methods available to the decision maker. It is designed to provide a level of understanding which will help the student follow developments in his own field of specialization and to make use of the techniques in his analysis of business problems.

The emphasis of the course is on decision analysis under uncertainty, statistical distributions, linear programming, model building and simulation.

A portion of the class time is devoted to teaching the student the use of the computer. This will require him to learn FORTRAN and BASIC programming and run programs on the school's computers.

One course.

Business 357. Planning Information and Control Systems. This course examines the operating, capital-expenditure and responsibility budgets as they relate to the management cycle of planning, comparing results with plans and replanning.

Within this context the course emphasizes the use of figure data — first in making management decisions and then in appraising the results; the method of the accountant and statistician are both considered in assessing the quantitative aspects of management's problem-solving. In addition, focus is placed upon the need to isolate those factors which cannot be measured quantitatively. The aim is to make the student aware of the usefulness of figure data accumulation and presentation from the manager's point of view; but the student is not expected to acquire the skills of the staff specialist in accounting.

The course should improve the student's ability to isolate the relevant data, to prepare presentations so as to motivate people in the desired direction and to understand the uses to which figure data may be put.

The course accents the limitations in all data collections and the need to spell out the basic assumptions underlying any data so that all people may have an inquiring attitude towards all figure data which come to their attention.

One course.

BUSINESS

Business 358. Organizational Behavior. This course is concerned with the major forces that affect or determine behavior in a business organization. The course is so organized as to delineate these forces and to consider them individually and in relation to each other. The goals of the course are twofold:

(i) to communicate to the student a coherent body of knowledge and theory relating to behavior in organization.

(ii) to develop in the student a capacity to utilize this knowledge and theory in the formulation, diagnosis and resolution of administrative problems prevalent in organizations.

The course material consists of cases and assigned readings. The readings provide the knowledge and theory relating to organizational behavior. The cases provide exercise material for students to formulate and diagnose administrative problems as well as to present a reasoned course of action. The case analyses and readings will be augmented by periodic lectures aimed at integrating various diverse viewpoints presented by the readings and class discussions.

One course

Business 401. Advertising Management. Advertising Management will be concerned with the broad range of management decisions involved in the conception and implementation of successful advertising programs. The course will focus its attention on two levels of decision-making. Level one the operational level, will deal with the major issues associated with the development of an advertising campaign itself, largely within the context of a given marketing strategy. Level two, the senior executive level, will center around the relationships between client and agency and the organizational problems of agencies and client advertising functions.

At the operational level the specific types of problems to be covered will fall into the following categories: budgeting, developing advertising objectives, developing advertising strategy, development of the advertising programs within the agency, testing advertising programs, implementation of the program and control and evaluation of the advertising program.

At the senior executive level, the issues examined will revolve around agency selection and termination, client agency operational policies, organization and control within the agency, and termination of the client/agency relationship.

Half course.

Business 441. Marketing Planning. Rapid changes in the economic, social, and technological environment make it imperative that marketing managers develop operating programs with consideration for future events. Developing such programs is the marketing planning function. Marketing planning is viewed in this course as a continuous process involving: 1) Setting company marketing goals, 2) Assessing market opportunities, 3) Developing a marketing strategy, 4) Developing a set of integrated action programs, 5) Monitoring the implementation of programs and adjusting the marketing plan. The course addresses all steps in the process but emphasis is given to steps 4) and 5). Within step 4) emphasis is given to new product programs. Throughout the course attention is given to the development of marketing planning systems — organizations and procedures — to make marketing planning a formal, co-ordinated, continuous process. Problems of implementation of new plans and systems in an ongoing organization are highlighted.

During the term, students will work in groups and individually to prepare realistic, detailed plans and planning systems in a variety of problem contexts. There will be a number of comprehensive presentations by students that will be critically reviewed by other students in the class. It is expected that operating business managers will take part in a number of the discussions.

Half course.

Business 443. Financial Management. This course is concerned primarily with the financial implications of various kinds of business decisions. Although the point of view of the financial officer is emphasized, the students are expected to consider the views of other executives including the top officer. The course begins with an analysis of the problems of financial control and then examines the basic concepts of investment worth and cost of capital from the standpoint of both the individual concern and the community. Representative problems depicting the fundamental issues at stake and the conflicting interests of the parties involved as well as the complex nature of the under-lying assumptions constitute the balance of the course. While stress is placed on the responsibility of the financial officer for assembling and presenting quantitative data as a focus for the discussions, the prime emphasis is on the decision-making process.

An important objective of the course is to reinforce the student's understanding of the principles discussed in the Junior program and add to his appreciation of the broad scope of the subject.

Half course.

Business 444. Manufacturing Operations. Management of a productive facility of necessity involves a number of repetitive planning decisions. These short run policy and operational problems are functions of the work force, production rate, inventory position, forecasts and sales. The manager's ability to develop a decision system that will fit today's shipping, production, work force and purchasing needs and characteristics has substantial impact on the firm's operating and income statements.

Mathematical and statistical methods are tools of manufacturing operations and are used to reduce costs through improved production planning and inventory control systems. Students in the course develop appropriate operating policies using the above tools of analysis. Competence in the application of decision rules are developed using simulation techniques and electronic computers.

Half course.

Business 450. Industrial Accounting. This course is designed to develop in the student an understanding of the problems of controlling production and distribution through the use of budgets, accounting procedures and reports. The course provides practice adequate to develop in the student some skill in handling the figure work; it also provides general discussions to prepare him to approach each new situation realistically in terms of its own particular needs.

Emphasis is placed upon the accumulation and uses of operating data for control purposes. Problems of inventory valuations, relevant costs, and joint and by-product costing, process job costing and analysis of variance are dealt with.

The course is designed to meet the needs of those who are interested primarily in the use of accounting data in handling general administrative problems.

Half course.

Business 451. Sales Management. The objective of this course is to develop student understanding and decision-making skills in the building and maintenance of an effective sales organization. Conceptually, materials utilized in the course are organized around three separate, though interrelated, sections of approximately equal duration:

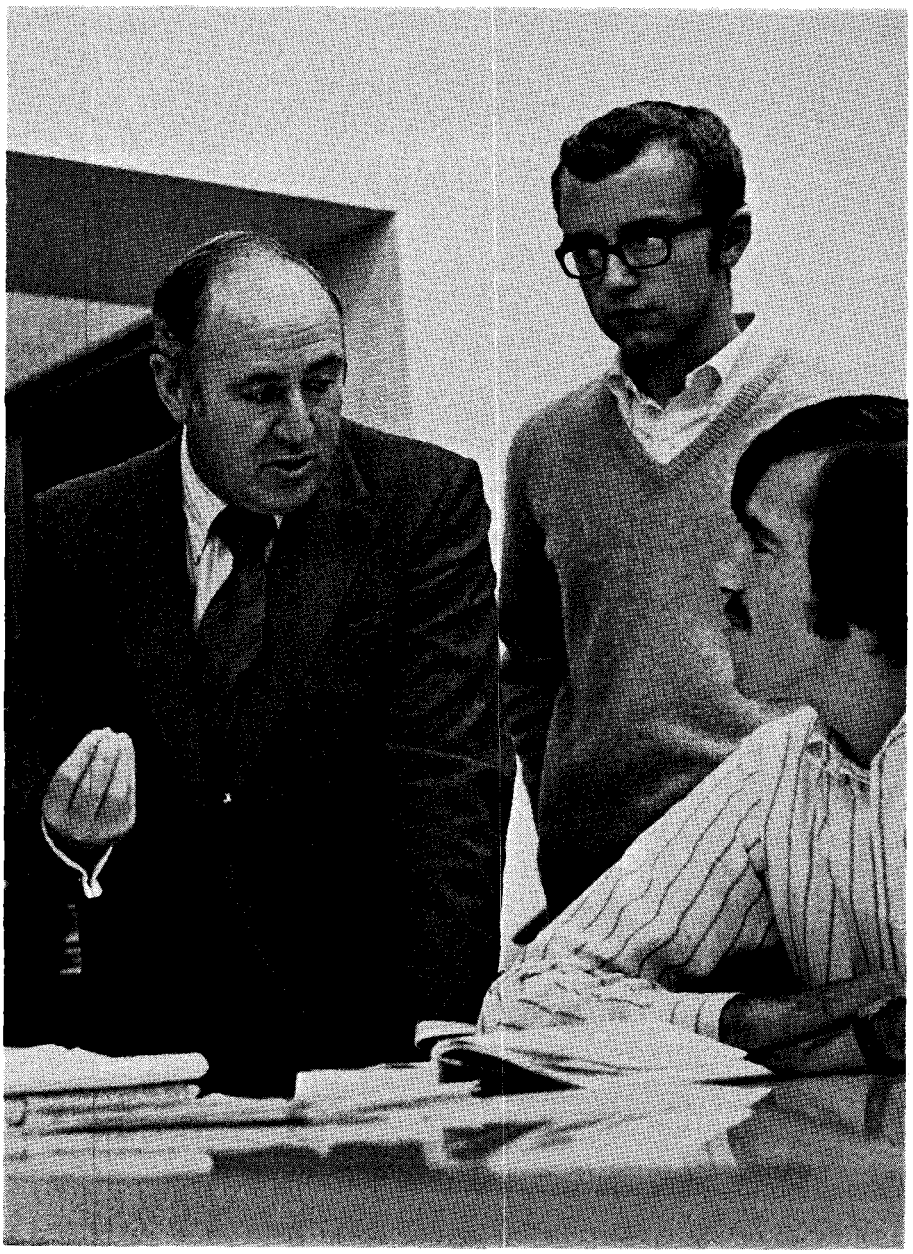
(a) **The Salesman:** This introductory portion of the course is designed to increase student understanding of the role of the salesman in the marketing mix, of the elements of an effective sales presentation, and of the nature of the transactional process of selling.

(b) **The Field Manager.** This section is designed to familiarize the student with the role and importance of field management in the activities of the sales force direction at the supervisory level.

(c) **The Sales Executive.** This section is designed to increase skills in analyzing and planning effective selling strategy, and in selecting and implementing policies which foster the achievement of marketing objectives.

To achieve these ends, case materials covering industrial and consumer sales organizations are supplemented in the classroom by appropriate readings and films.

Half course.



Business 452. Personnel Administration. This course is concerned with the design of personnel policies and procedures and their practical implementation. The course is planned for students of general management on the premise that personnel matters comprise an important part of most managerial decision processes. Particular attention is given to the role of the personnel function. The first part of the course gives an overview of traditional funtions such as recruiting, interviewing, training, management development, performances appraisal, pay systems and the administration of descipline.

A major part of the course concerns the personnel function as a motivator. Problems of motivation are considered in both union and non-union settings, with particular concern for isolating the elements of success and failure which accompany such programs and the impact thereof on organizational effectiveness.

Half course.

Business 453. Investment Management. The primary concern of this course is to introduce the student to the analytical techniques available to both select a security and to develop a conceptual framework for establishing and maintaining a portfolio of securities. The emphasis throughout the course is on the personal requirements and objectives of an individual investor and the problems he faces in the Canadian environment.

The course is devoted solely to the study of marketable securities rather than the broader area of investments which would include such areas as real estate, life insurance and so on. As a result, about one third of the course is concerned with bonds and preferred stocks as investment vehicles, about one third in common stock investments and about one third on such collateral areas as portfolio planning, investment counselling, investment funds, formula plan investing etc.

The particular thurst of the course, then, is to study the investment problems that will probably face an individual during his lifetime. It is not a course aimed at investment management in an institutional environment.

Half course.

Business 454. Production Policy. This course approaches production management from the viewpoint of the vice-president of manufacturing. Emphasis is on the making of production decisions in the light of marketing, financial, organizational, and general economic aspects as well as the more purely "production" factors.

The course material is oriented around several industries selected from furniture, oil, textiles, plastics, electronics and steel. The material on each industry comprises notes and pictures on the manufacturing processes; notes on the general economic structure, problems, and trends in the industry; and three to five cases on companies in the industry. Three industries are studied in any one year.

This approach provides the student with the opportunity to analyze a variety of production problems involved in integrated and nonintegrated structures, centralized and decentralized organizations, conventional and unique marketing ventures, old and young, stable and unstable, multi-company and few-company industries, and industries in which legal pressures may be strong or weak. The task of the student is to recognize the problems and to come to production decisions, harmonious with the situation in the company and with the industry as a whole.

Half course.

BUSINESS

Business 455. Probability and Statistics. Recent developments in statistical decision theory provide the manager with a framework for dealing with problems which involve decisions under uncertainty. The main focus of the course is application of decision analysis to managerial decision problems. Probability and utility assessments are applied to such decisions as mergers and acquisition, competitive bidding, forecasting and oil exploration. Multiple regression and correlation applications will also be covered.

Case applications are examined in depth and students are required to submit project reports on a case situation or a decision problem of special interest to them.

Half course.

Business 456. Business Law. This course will be offered in the first semester only. Instead of trying to cover every aspect of the law which might touch upon the field of commerce, we shall deal basically with the general principles of the Law of Contract. One object is to impart some knowledge of the substantive law in a subject fundamental to business transactions. Another is to introduce the business student to the terminology and techniques of legal analysis, and thus enable him to take full advantage of the opportunities for cross registration in the Faculty of Law. With this end in mind a collection of case materials and problems has been prepared and in their selection particular emphasis has been placed on business situations.

Half course.

Business 457. Management Planning and Control Systems. The course is designed for students who have had a course in management accounting and who wish to study management control in greater depth.

The material is concerned with those areas of management control that are less well developed as opposed to such areas as standard costs and variance analysis. In particular, the course is concerned with the control of costs and operations by the use of budgets and expense, profit and responsibility centres. These concepts are dealt with from the perspective of the total system.

Half course.

Business 459. Research. The purpose of the research course is to provide students with the opportunity of learning the research process by undertaking an individual project and preparing a research paper. The experience of conducting an individual project can be useful to persons considering further academic work or doing special projects in industry.

Specific topics and activities are developed between the student and a faculty member of the student's choosing, who agrees to supervise the student's work. For example, a topic may be chosen on the basis of previous work experience, special interest in research techniques, or particular academic interest.

In order to make best use of the research course the student is advised to plan his research and contact a faculty member in the spring or early summer of the calendar year in which the research course is to be started. Faculty member approval of the research proposal must be obtained before the start of the term in which the course is to be taken.

One course.

Business 460. Auditing. The techniques that have been classified under the general heading of auditing have expanded to such an extent that they are now included in almost every phase of management control. This course is designed to examine the whole area of auditing as it affects and can be used by the modern business administrator.

The first part of the course will deal with case studies on topics such as budgeting, decentralization, internal control and internal audit. These topics will be studied as tools which can be used in establishing intelligent company goals and measuring management performance. Certain specific audit areas with a general discussion as to audit techniques will also be examined.

In the second part of the course, case studies will be examined to develop the role and function of the external auditor as it is related to the shareholders, management, board of directors and the public. A review will be made to current accounting and auditing research recommendations as they relate to the cases being studied. Special emphasis will be placed on the role of E.D.P. systems audit and the related area of flow charting and statistical sampling.

A project on a current audit development will form part of the course.
Half course.

Business 462. Industrial Relations. (full year course, Industrial Relations I may be taken separately)

This is a survey course designed to explore the state of labor-management relations in Canada and the United States and its impact on management. The course presumes that all executives must consider issues of labor-management relations from time to time as they discharge their decision-making responsibilities. Hence, this is a non-legalistic, non-technical survey of the day-to-day problems connected with collective bargaining relationships with emphasis on decision-making skills.

Industrial Relations I considers the following topics: union organization, grievance handling, arbitration, collective bargaining and public interest disputes. Special attention is given to administration of collective agreements, to management rights, union security, technological change, featherbedding, dicipline, pay systems and concepts of seniority. The course includes case analyses, lectures, audio-visual presentations, and mock sessions in collective bargaining and arbitration. Attention is devoted throughout to relevant current happenings - especially as they relate to issues of public policy.

Industrial Relations II has two parts. The first is an in-depth simulated experience in designing and implementing industrial relations policies. This involves work as members of management and as union representatives engaged in union organizing efforts. It features a close look at certification procedures, representation elections, picketing, injunctions, wildcat strikes, mediation, conciliation, and unfair labor practices. The second part considers comparative industrial relations systems, government involvement in the bargaining process and emerging characteristics of labor relations.

Half course

Business 464. Purchasing. This course recognizes the increasing importance of purchasing as one of the major functions of business, and seeks to develop currently useful principles upon which sound procurement policy and its administration are based.

There are two major sections to the course. The first is designed to establish a good understanding of basic concepts and techniques in the field of materials management. This takes approximately two thirds of the course. The remainder is devoted to a series of options selected by the class from topics like personal buying, negotiation, plant visits, reports, selected commodity studies, etc.

The introduction to the basic section is devoted to the relationships between the purchasing department and other departments of the business. It is designed to indicate the nature and scope of the purchasing function especially as it affects the profitable operation of a business. Subsequently attention is devoted to problems involved in determination and description of proper quality, including the relation of price to quality; materials management, including inventory control; value analysis; source selection and the assurance of supply; price policies; procurement by manufacture and leasing as alternatives to purchasing.

The course concludes with problems requiring an appraisal of the effectiveness with which the purchasing function is being performed. Study materials consist of readings and cases taken from business situations involving an array of purchasing problems. The point of view is essentially that of top management.

Half course.

Business 468. Human Relations. This course has a twofold purpose: to develop increased self-awareness and to develop understanding and skill in interpersonal behaviour. The first part of the course stresses personal growth and development. The second section emphasizes sources of misunderstanding between people, understanding others from their point of view, helping another understand his own behaviour and the consequences of such efforts. Throughout the semester students will be expected to draw on diverse disciplines, materials and experiences to expand their source of useful and relevant information for their growth as individuals and professional managers.

In addition to classroom discussion, exercises of various types will be used. Time and instructor guidance will be provided for pursuit (individually or in groups) of a topic of special interest to the student.

Half course.

Business 470. Financial Accounting. This course is concerned primarily with accounting as a means of communicating financial facts to various interested groups such as owners, analysts, and government officials, outside the immediate business organization. Its secondary concern is with further development of the student's knowledge of certain accounting techniques and principles which were introduced in the Control course.

After a review of fundamental accounting techniques and a critical examination of some company annual reporting, several cases concerned with the measurement of business income are discussed. These cases are selected with the objective of illustrating the variety of ways in which the computation of business income may be made, all within the framework of generally accepted accounting principles.

Subsequent cases deal with special problems of widespread importance in accounting for changes in the equity accounts of a business, and in accounting for various intangibles. The course also considers problems arising from mergers, holding companies, and the preparation of consolidated financial statements.

Since the course is concerned with communication of financial facts to outsiders, considerable attention is devoted to company annual reports and to the bulletins and regulations of the professional accounting bodies, the securities exchanges and various government agencies. The course is based primarily on case discussions, but a substantial amount of reading of appropriate literature is an integral part of the course.

Half course.

Business 471. Marketing Communication. The objectives of the course are to develop (1) the concept that advertising, personal selling, and other promotional activities have a common objective — the communication of incentives to buy, (2) specific models of the buying decision process and the communication process which can provide a framework for the analysis of promotional problems and the evaluation of promotional activities, (3) student skills in analysis and decision making.

Both readings and cases are used in development of the topics considered in the course. These topics include: opportunities for, and limitations of promotion; the buying decision process; the communication process; the promotional job; creative strategy and the promotional mix; consideration of the effect of the source, the medium, and the message on the successful implementation of creative strategy; and evaluation of promotional effort.

Half course.

Business 473. Financial Institutions. This course has two broad objectives. The first is to study the organization, co-operation and regulation of the money and capital markets in the Canadian economy. The second is to analyze the effectiveness of banks and financial intermediaries in influencing the flow of funds as well as the problems of the businessman in making maximum use of the services they provide. The course is designed to be of interest and value to those who are considering careers with such firms. It should also be of benefit to those who desire to develop their understanding of the world of finance for a career in nonfinancial firms.

During the course the following kinds of questions will be discussed: What is the structure of Canada's financial community in terms of legal organization, locus of voting control, distribution of equity ownership, availability and adequacy of coverage of financial services? What are the kinds and magnitudes of the various fund flows through different classes of financial institutions? How does the Bank of Canada regulate the flow of funds? How can financial managers anticipate monetary and debt policies and guard against adverse consequences of sudden reversals in policy?

Particular attention will be given to an evaluation of the institutional strategies used in competing for deposit and other funds, and on the effective employment of these funds in the financing of business and individual capital needs. An examination will be made of the extent to which trust and loan companies, consumer and industrial finance companies, and industrial development corporations facilitate the business operation of nonfinancial firms. Also examined is the role of investment bankers in developing opportunities for the temporary investment of idle balances in the short term money market, as well as their activities in private and public placement of securities. Of overriding concern throughout this course is the reconciliation of the objectives of various financial institutions with the demand for funds by the business community, the requirements of supervisory authorities, and the public interest.

Half course.

Business 474. Management of Technology. The impact of technological change on the manufacturing facilities of the firm is far-reaching in its implications. For management the penalties of poor decisions about production technology rise quickly with technological sophistication. This course focuses on management of technological resources with some emphasis on production facilities. Its objectives are (1) to improve student analysis of economic and technological factors relevant to management decisions about uses and control of technological change within the firm, (2) to increase student understanding of technological change as a factor in business activities, and (3) to develop approaches to managing production processes under conditions of technological change.

Half course.

Business 475. Planning Models in Production Systems. The essence of this course is the examination of management science applications in the planning and design of production systems. Production is viewed as a complex man-machine system, operating in an organizational environment with cost as a significant criterion of success. Techniques involving information systems, decision processes, and mathematical models are studied in terms of improving the preformance of this system.

Specifically, the course adopts a systems approach to production built on a basic economic model of the production function. The role of formal models such as mathematical programming, network analysis and queuing, and techniques such as simulation, are related to the design of the production system. Developments in behavioral models related to decision processes and information systems are studied for their managerial implications. Throughout, the emphasis is on the application of planning models in production systems as opposed to their theoretical derivation or degree of complexity.

Half course.

Business 478. Executive Problems. The course in Executive Problems will focus on business problems faced by executives at the top administrative levels of business organization. In most cases these will be general management problems. The purpose of taking such a frame of reference is to help the Student develop better ways of seeing, describing, and thinking about:

(a) the interrelatedness of functional problems in business—those that we traditionally break down into financial, marketing, and production problems;

(b) the mutual dependence of the external economic survival and expansion of a business organization and its internal social stability and growth; and

(c) the knowledge, ability, and other human qualities required for exercising effective leadership of a business organization as a whole.

Case materials will draw on executive situations in companies both large and small.

One course.

Business 480. Taxation. The course has two major objectives. The first is to gain a broad understanding of the Canadian tax system in its economic, legal and accounting settings. Fundamental, legal and economic concepts will be studied as well as specific provisions and problems that commonly arise. The second objective is to relate the provisions of the taxing statutes to common business situations and problems. Emphasis here is on tax planning and the responsibilities of management to live within the tax law.

Half course.

Business 481. Marketing Research. In marketing, as in any other aspect of business, the manager must develop relevant information to support decisions. Planning and controlling marketing programs requires a variety of facts - from data on the needs, habits and attitudes of customers, to information on the effectiveness of promotional efforts. The manager must understand and contribute to marketing research designed to provide such information, if he is to ensure a flow of appropriate information and its proper use.

The Marketing Research course has been designed with three aims in mind:

(1) developing skills in defining and placing priorities on information requirements.

(2) providing familiarity with the basic methods used to gather and analyse marketing data,

(3) developing skills in interpreting research results and applying them in specific marketing situations.

An important aspect of the course is the project work done by students. Experimental and survey studies are carried out in a number of marketing problem areas with a view to establishing firsthand acquaintance with the research process.

Half course.

Business 485. Operations Research - Methodology. The objective of this course is to develop the student's understanding of the more frequently used concepts of operations research. The course is designed to achieve this in the following way:

First, the theoretical background and important assumptions of operations research concepts are discussed. Then the basic models and solution procedures are developed. Second, with this background, the developed model will be applied to various administrative problems in which decision making is required. In many situations elaboration of the basic model is necessary in order to cope with the problem. In all situations high emphasis is placed on the interpretation and reliability of the solution.

The subject areas covered are competitive bidding, linear programming, dynamic programming, queuing theory and Markov chains. Students will be expected to use the computing facilities in solving some of the problems.

Half course.

Business 486. Operations Research - Applications. The course is offered for students having some background in the methodology of Operations Research and will introduce a wide spectrum of actual Operations Research work. The objective is to concentrate on the use of Operations Research by analysing, modelling and solving management problems. The students are required to analyse the various stages of an Operations Research project and the implications of the solution. The course is designed to broaden the student's knowledge in Operations Research, to enable him to better evaluate Operations Research work and to improve his ability to communicate effectively with management and Operations Research analysts. The topics discussed will cover areas such as forecasting models, transportation systems, problems in insurance and banking, corporate planning models and Operations Research in the public sector.

Prerequisite: Business 485 or equivalent.

Half course.

Business 489. International Business. The emphasis of this course is on the management problems that arise when firms do business across national boundaries. A central concept of the course is that corporate committment to international markets evolves in stages, beginning with simple export operations and culminating in a global "multi-national" stance. The corporate skills and resources required for success differ at each stage, highlighting the need for managerial awareness and readiness to change.

The course also pays attention to the issue of investor-host country relationships. This is examined from the point of view of less-developed countries in need of economic assistance, and from the Canadian point of view as a major user of foreign capital. Other issues touched upon include taxation of multi-national corporations, hard currency problems of less-developed countries, and problems of cultural adaptation inherent in crossing some national boundaries.

The course utilizes the case method for the most part, but this is supplemented by occasional debates, lectures and films.

Half course.

Business 493. Capital Markets. The objectives of the course are to (1) define Canada's capital markets, (2) describe and analyze the flow of funds within these markets, (3) analyze the basic determinants of value, expected return and risk, in the context of financial assets, (4) establish the premises underlying the concept of an efficient market and compare the actual situation to the model and (5) develop the basic relationships between market prices and other economic data in order to explain and predict.

The topics are developed by reading assignments followed by classroom discussion. In addition, students develop and undertake short research projects on financial markets for presentation in class.

Half course.

Business 495. Mathematical Programming. Mathematical programming is one of the many facets of Operations Research. This course will deal with the mathematical theory behind the various optimization techniques for linear and non-linear systems.

Throughout the course theory and applications will be intermingled. The depth of which each topic will be covered will depend on the students in the course. The areas treated will be introduction to linear algebra and functional analysis, extensions to linear programming and various topics in non-linear programming.

Half course.

Business 496. Computers and Information Systems. The course is designed to give the student an understanding of Computer Systems design and implementation in relation to Management Information Systems.

One of the comments heard most often about computers and their relation to management is that the aspiring manager should be a knowledgeable consumer of computers. The student will be given a background which will enable him to participate effectively in the design of an information system, the acquisition of an appropriate computer, and the operation of a computer installation. He will also be given some insight into the impact of computers on organizations.

Half course.

Topics Courses

These courses are offered in different areas each year, depending on the interests of the students and faculty and are intended to cover areas not covered by other courses.

In the past, courses such as Topics in Management Science, Topics in Finance, Topics in Financial Accounting and Topics in Organizational Behavior have been offered.

Half courses.

The Advisory Committee As At January 1, 1972

J. W. Adams, Vice-President-Finance, Emco Limited.

A. K. Adlington, Vice-President, Administration and Finance, The University of Western Ontario.

Ralph M. Barford, President, General Steel Wares Limited.

W. A. Bean, Deputy Chairman and Vice-President, Canada Trust.

J. E. Brent, Chairman of the Board, IBM Canada Limited.

G. Allan Burton, Chairman of the Board, Simpsons Limited.

Paul Desmarais, Chairman, Power Corporation of Canada Limited.

H. George Deyoung, Industrialist.

J. S. Dinnick, Chairman of the Board, McLeod, Young, Weir & Co. Ltd.

J. C. Eaton, Chairman of the Board, Eaton's of Canada Limited.

J. N. Fry, Associate Professor, Chairman Research and Publications Program, School of Business Administration, The University of Western Ontario.

Eric L. Harvie, Q.C., Barrister.

J. Claude Hebert, President, Warnock Hersey International Limited.

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R. G. Ivey, Q.C., Barrister, Ivey & Dowler.

Richard M. Ivey, Q.C., Barrister, Ivey & Dowler.

Joseph Jeffery, Q.C., Chairman of the Board of Governors, The University of Western Ontario.

J. H. Moore, Chairman, John Labatt Limited.

Trevor F. Moore, Industrialist.

Alfred Powis, President, Noranda Mines Limited.

W. Harold Rea, Chairman of the Board, Great Canadian Oil Sands Ltd.

E. R. Rowzee, Chairman of the Board, Polymer Corporation Limited.

Karl E. Scott, Chairman of the Board, The Ford Motor Co. of Canada Ltd.

A. E. Shepherd, Q.C., Barrister.

Frank T. Sherk, Industrialist.

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W. J. Stenason, Vice-President, Transport & Ships, Canadian Pacific.

James A. Stewart, Executive Vice President, Continental Can International Corp.

J. A. Taylor, Chairman and President, Canada Trust.

R. B. Taylor, Vice-President and Treasurer, The Steel Company of Canada Ltd.

W. A. Thompson, Professor and Associate Dean, School of Business Administration, The University of Western Ontario.

The Hon. K. R. Thomson, Times Newspapers Limited.

Marcel Vincent, Chairman, Bell Canada.

J. L. Walker, President, Bank of Montreal.

David B. Weldon, Chairman of the Board, Midland-Osler Securities Ltd.

J. J. Wettlaufer, Professor and Dean, School of Business Administration, The University of Western Ontario.

W. P. Wilder, President, Wood Gundy Securities Ltd.

D. Carlton Williams, President and Vice-Chancellor, The University of Western Ontario.

R. B. Willis, Vice-President, Allpak Products Ltd.

SPECIAL FACILITIES OF THE SCHOOL

The Placement Office

The conditions of study in the program place a premium on free time. Most of each day is spent in the serious study of business problems. Each student must, therefore, plan his placement program in order to use his free time as economically as possible. It must be understood that the effective placement of each student is wholly his own responsibility. The Placement Office endeavours to assist each student to make the most of his efforts.

During a six-week period in January and February each year, all interested companies are invited to visit the School for the purpose of discussing employment with graduating students. During the fall term, the School provides opportunities for students to participate in meetings dealing with career counselling, effective placement procedure, resume writing and general orientation to effective placement.

Continuing efforts are made to advise industry and business, both large and small, of the pool of manpower offered by each class. Information about the class is forwarded to over 5,000 top management people across the country. Over 200 companies and institutions recruit regularly at the School.

The success of each student's job-seeking activity is in direct relationship to the effectiveness of the personal effort he makes toward placement. The Placement Office plays a significant role in helping each student to set career goals, develop job strategy and make the whole process as effective as possible.

The Business Council

The School of Business Administration sees extracurricular activities as an important part of college living and encourages its students to participate. The Undergraduate Business Council is the organization which governs undergraduate student activities within the Business School. The Council makes arrangements for social events and co-operates with the MBA Association and the Faculty in sponsoring many extracurricular activities. Through the Council, undergraduate students can participate in the Business Forum, Marketing Club, Investment Club and the student newspaper "Dollars and Sense" as a means of rounding out their education program. The Association works with the Placement Office to provide knowledge of career opportunities and actively assists in the placement function, both at the summer and permanent levels.

The Business Quarterly

The Business Quarterly is in its thirty-seventh year of publication as a professional management journal. It is published by the School of Business Administration as an extension classroom for the continuing education of Canadian businessmen.

The Business Quarterly contains articles and special features written by business men and academics recognized in their fields of special interest. Its articles are directed to those in positions of administrative responsibility. High quality work submitted by students is considered by the Editorial Advisory Board for publication. This Board is comprised of faculty members and Canadian business men. An honorarium is paid for all articles accepted and a $500 award is made to the author of the article judged to be the best in the current year. Reprints of most articles are available.

The Business Quarterly has grown rapidly in recent years with a paid circulation in excess of 6,000.

The majority of these subscribers are in upper and middle management.

BUSINESS

FEE SCHEDULE

Annual Tuition and Prescribed Accessory Fees. For full-time intramural undergraduate students. The annual sum includes Student Activity and Health Services Fees.

First, Second, Third and
Fourth Years, each $542.50

Fees are paid in full on registration, but if necessary, they may be divided after consultation with the Comptroller, into two instalments. The extra charge for this division is $5.00. Students must pay their fees as above before attending any lectures or examinations, except by permission of the Dean of the School and the Comptroller. No student shall be recommended for any certificate, diploma or degree until his tuition fees and other accounts owed to the University are paid.

The Board of Governors reserves the right to amend fees after the printing of this list.

EXPENSES

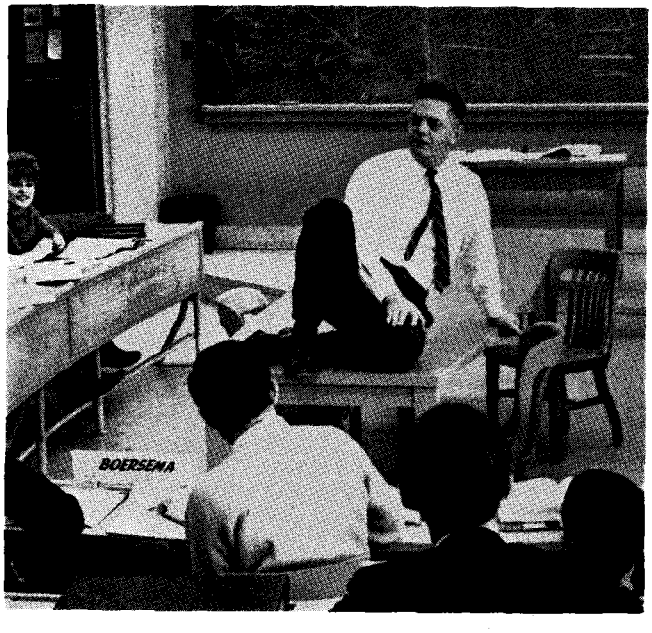
The following estimates are based on an academic year of 33 weeks:

	Single Student	Married Student with wife working no children
Tuition	$542.50	$542.50
Housing and Food	1,000.00	2,000.00
Books and Supplies	310.00	310.00
Other Expenses	750.00**	900.00**

The above may be varied by the type of accommodation chosen and/or paying for meals in conjunction with accommodation.

There are good cafeterias on the main campus and adequate lunch can be purchased for a very reasonable price. Students of Business Administration should not count on cutting expenses by using secondhand books. Secondhand casebooks, where exhibits often have been removed or answers supplied, are of little value.

The University provides a wide range of facilities: e.g., student government and student publications such as Folio, Gazette and Occidentalia offer several responsible posts; such groups as the Players' Guild, the Debating Society, the Political Economy Club, the International Affairs Society and the U.W.O. Choir are all active bodies. For those interested in sports, there is a particularly well-rounded program; facilities and instruction are available for football, soccer, hockey, basketball, skiing, boxing, wrestling, badminton, tennis, golf, bowling and swimming. The gymnasium in Thames Hall is one of the best-equipped in the country.



GRADUATE COURSES IN BUSINESS ADMINISTRATION

In addition to its undergraduate program, the School of Business Administration offers the opportunity for graduate work in the field of business administration. The Master of Business Administration program is designed to cover two academic years and requires for entrance a recognized under-graduate degree from an accredited university plus an undergraduate record which demonstrates the ability to do good graduate work.

In 1960, the School instituted a program leading to the Doctor of Philosophy degree in Business Administration. It is the stated purpose of this course to train prospective teachers and researchers of business administration. Admission procedures will be highly selective.

Further information on the MBA and PhD programs may be obtained from the Admissions Office, School of Business Administration.



School of Library and Information Science

History of the School of Library and Information Science.

The School was established by the Board of Governors and the Senate of the University in response to a proposal from the Ontario Provincial Government. The Senate asked the Faculty of Graduate Studies to appoint a Committee to formulate a broad program for the new School. Professor J. A. F. Stevenson of the School of Medicine nominated Chairman of this Committee. The advice of three specialists was sought. They were: Dr. George Bonn who was Chief of the Science and Technology Division of the New York Public Library and author of Science and Technology Literature Resources in Canada; Professor Leon Carnovsky of the Graduate Library School at the University of Chicago and, at the time, Chairman of the American Library Association's Committee on Accreditation; and Dr. Neal Harlow, Dean of the Graduate School of Library Science at Rutgers University and formerly Librarian of the University of British Columbia. On the advice of these experts Dr. Stevenson's Committee recommended a Master's program for the new School. Also on this Committee's recommendation Dr. Andrew D. Osborn was appointed Dean, and took up the position in July 1966. On his retirement in June 1970, the present Dean, Dr. William J. Cameron, was appointed.

The Province provided funds for a well equipped temporary building of 18,000 square feet which was designed to meet the special needs of the School. Studies began in September 1967; and the first students finished their MLS work the following August. In October 1968 the School was visited for accreditation purposes by a Committee of the American Library Association. The Committee on Accreditation of the American Library Association is the accrediting agency for both Canada and the United States. In January 1969 it accepted the visiting Committee's report and accredited the School's MLS program, which thus became the fourth accredited program in Canada.

The building was expanded by 3,072 square feet at the beginning of 1970. The School also has storage space in two buildings on Western Road opposite Althouse College of Education.

In 1971 a Ph.D. program (in the fields of Bibliography and Bibliographical Control of Information) was approved for introduction in September 1972, subject to the availability of funding.

Courses of Study, 1971-72

The School has three programs, two of them in being and one about to be introduced.

(1) The pre-requisite year

(2) The MLS program

(3) The Ph.D. program

Courses of study and regulations concerning admission and degree requirements for the Ph.D. program are available from the School upon request.

School of Library and Information Science

Members of Faculty of the School of Library and Information Science

Professors Emeritis

Colvin, Laura C., A.B., William and Mary; ABLS, AMLS Michigan.
Reitman, E., Les L Paris.

Professors

Cameron, W.J., BA, MA Victoria, NZ; PhD Reading.

Hotimsky, C.M., ACIA Shanghai; MA Waterloo.

Lee, R.E., BA Guilford; BSLS, MFA North Carolina; PhD Chicago.

Prodrick, R.G., BA Toronto; MS Columbia; MA Toronto.

White, Janette H., BA Toronto; MS Columbia.

Associate Professors

DeHart, Florence E., AB College of St. Elizabeth; MA Seton Hall; MLS, PhD Rutgers.

Fyfe, Janet, MA Edinburgh, FLA.

Jamieson, Alexis J., BA, BLS McGill; MA McMaster.

Neill, S.D., BA, BLS, MEd Toronto.

Pendrill, G.R., BA, MA Cantab; Dip Lib London; FLA.

Tague, Jean M., BA Alberta; BLS McGill; PhD Western Reserve.

Assistant Professors

Bird, D.A., BA Queens; BA Waterloo; MLS UWO.

Strathern, Gloria M., BA New Zealand; Dip NZLA.

Schulte-Albert, H., BA, BS Kent; MA, MS, PhD Case Western.

Lecturers

Hansen, Kersti, BA, BLS McGill; MLS Toronto.

Janes, Donna Jean, BA Toronto; MLS UWO.

Ketchum, Elizabeth, BA, BLS Toronto; MLS UWO.

McCamus, Betty M., BA Toronto; MLS UWO.

Sprovieri, Carmen L., BA, MA Gonzaga; BLS UBC; MLS UWO.

Stuart, Nancy, BSc, Victoria; MLS UWO.

Warden, Carolyn, BSc Furman; M.A.T. Emery; MLS UWO

Honorary Lecturers

McNamara, Carolyn, BA Hunter; MA Toronto; MLS UWO.

Plotkin, H.N., BA Michigan; PhD John Hopkins.

Priestly, Diana M., BA, LLB, UBC; MLL Washington.

Richardson, R.A., BA Sir George Williams; MA McGill; PhD Wisconsin.

Stierwalt, R., BA Fresno State; MLS Univ. of California, Berkeley.

Visiting Lecturers

Beacock, S., BA Queens; MLS Toronto.

Black, J.B., BA, SthB, BLS, MLS, Toronto.

Belzer, J., BA, BSEE Cooper Union.

Debenham, W.S., AB, MLS Pittsburgh.

Donnelly, Eleanore C., BA, BLS, MLS Toronto: MA UWO.

Kalia, D.R.

Ready, W.B., BA, DipEd Wales; MA Manitoba; MLS UWO.

Swarthout, Charlene, BA, MS, EdD, Wayne State.

FEES

All full-time graduate students are assessed an annual tuition fee, which is paid in two installments. The activity fee provides funds for a graduate student society, The University Community Centre, Athletics, and Health Services.

The annual tuition fee for the 1972-73 academic year is $485

FULL-TIME GRADUATE STUDENTS

	First Term Installment	Second Term Installment	Third Consecutive Term *	Annual Total
Tuition Fee	$242.50	$242.50	$ Nil	$485.00
Activity Fee	17.50	17.50	17.50	52.50
TOTAL PAYMENT	$260.00	$260.00	$17.50	$537.50

QUALIFYING YEAR STUDENT

Tuition Fee	$244.25	$244.25	$488.50
Activity Fee	26.25	26.25	52.50
TOTAL PAYMENT	$270.50	$270.50	$541.00

* Graduate students who have paid the above full-time fees for two consecutive terms are entitled to register for the third CONSECUTIVE term without payment of additional tuition fees. In order to receive academic credit for this third term, however, the student must complete the other registration procedures by the date designated in the Academic Calendar.

PART-TIME GRADUATE STUDENTS

Part-time graduate students will be assessed a fee per term — $75.00

NOTE: Only those students who, by reason of their employment or by reason of their absence from the campus, are ineligible to register as full-time students, may enrol as part-time students.

STUDENTS ARE NOT REGISTERED UNTIL THEY HAVE PAID THEIR FEES. Fees are payable in full on or before the date designated in the Academic Calendar.

Students may not be recommended for a degree until tuition fees and other accounts owing to the University are paid.

THE BOARD OF GOVERNORS RESERVES THE RIGHT TO AMEND FEES AFTER THE PRINTING OF THIS ANNOUNCEMENT.

Registration Procedures

From the office of the Registrar students will receive a registration package prior to each semester that will give details as to the last date of registration, fees to be paid, etc. Course selection will take place at the School and all course enrollment cards must be signed by Dean or designate.

Application forms may be obtained from the School of Library and Information Science. They should be returned for initial processing to the School, together with the required transcripts and letters of recommendation. It is the Registrar who issues Permits to Register for both MLS and any possible prerequisite-year courses. If an applicant is not approved for admission to the Faculty of Graduate Studies, he will receive notification from the School of Library and Information Science.

Admission

A candidate for the degree of Master of Library Science must be a graduate of a recognized university or hold equivalent qualifications and must have demonstrated ability to succeed in graduate work.

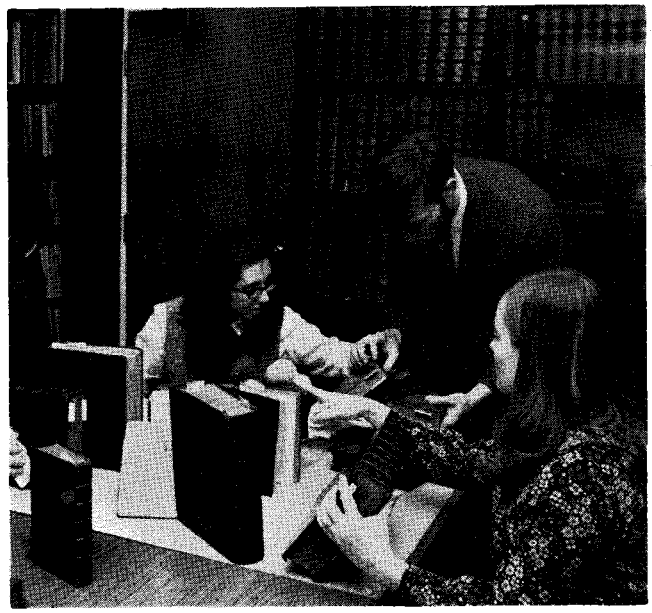
Required courses are: 501 or 502, 511, 512, 513, 521, 522, 523, 551, 552, 553 and 580. The School requires students to obtain a grade of at least B (70%) in each of these courses. Other courses may be required in a particular program by decision of the School's Council.

For two-term students, 552, 553, and 580 are required, and others may be required in individual cases.

All courses are technically half-courses, i.e. they are completed within one term. Every elective is not necessarily offered in any one term. A full-time student normally takes five courses in any one term. A student in the two-term program thus needs 10 courses to complete the M.L.S., and one in the three-term program needs 15.

There are seven ways in which a person can be admitted to the School.

1. Candidates who have an honors degree with at least second-standing, and those who have a graduate degree with at least B standing, will be admitted to the School's three-term program of fifteen courses; they may commence their studies in any term they wish. Some students elect to spread the fifteen courses over four terms; and candidates from non-English-speaking countries will in many cases be required to follow that pattern.
2. Candidates who have a three-year Bachelor's degree with at least B standing may undertake a prerequisite year (two terms of undergraduate studies in the area of undergraduate studies in the area of undergraduate concentration. They should apply to the appropriate Department for advice on the honors courses that would be necessary to raise their degree to the necessary standard for admission to the Faculty of Graduate Studies. Upon successful completion of this prerequisite year, they may apply for admission to the three-term program.
3. A candidate whose undergraduate preparation falls below B standing may undertake a year of university study as a Special Student and must obtain at least a B in each of the five courses (preferably honors) taken. On the satisfactory completion of this year of study, application may then be made for admission to the three-term program.
4. Candidates who have a three-year or four-year Bachelor's degree with at least B standing may also be considered for admission to the prerequisite year program of the School. This consists of three (preferably honors) courses in other Departments on campus and four half-courses within the School. Special arrangements must be made through the School when those admitted are determining their program.



5. By agreement among Canadian library schools, a student who has completed two terms of study towards the M.L.S. (with at least a B average) at one accredited school may transfer to another at the end of the second term and receive full credit for work done in the school of first choice. Such a transfer student will be admitted to the second and third terms of work at the School. Transfer of other credits may be permitted on appeal to the Council of the School.
6. Candidates with a B.L.S. (with at least a B average) from an accredited school or its equivalent will be admitted to the second and third terms of study.
7. Applicants who do not have a degree can be admitted to the School as special students. In unusual circumstances they may be admitted as degree candidates on the recommendation of an *ad hoc* University Committee.

Candidates who elect to choose (2), (3), or (4) can earn the MLS in five consecutive terms. Courses in the prerequisite year or special student year should be chosen with the aim of preparing the candidate for eventual masters work in both the professional and academic areas of concentration. Thus, the MLS graduate may, after a period of professional work, be better able to return to University to undertake masters work in this subject field.

Candidates who are admitted to (4) are advised to include additional work (preferably honors courses) in the area of undergraduate specialization, particularly in the form of twentieth-century studies; additional language studies because of the value of language competence in the library and information field; and, possibly, a general introduction to the computer.

Since languages are important in the School's professional field, a reading knowledge of at least one language other than English is expected. The second language must be one useful in study and research in library and information work.

Prerequisite Year

At least three of the four half courses in the School's prerequisite year that are taken within the School must be selected from the "Foundation Studies" group. One other may be selected from electives in the MLS program. No more than two half-courses may be taken in any one term of the prerequisite year.

500-509 Foundation Studies

A group of courses designed to give historical and philosophic perspective to the central concerns of library and information science. The courses are enrichment courses to help prospective librarians to place current theories and practice into broad intellectual and cultural patterns of the past and the present, and to bridge the gap between a subject discipline and the broad, interdisciplinary nature of the MLS degree.

500 Foundation Studies/Staff

501 Old World Intellectual and Cultural Foundations /H. Schulte-Albert, E.J. Ketchum.

502 New World Intellectual and Cultural Foundations S.D. Neill, W.B. Ready.

503 Bookcollecting and Librarianship/W.S. Debenham, C.M. Hotimsky, J.H. Fyfe.

504 Bibliography and Librarianship/C.M. Hotimsky

505 Intellectual and Cultural Foundations of Classification/S.D. Neill.

507 Systems Analysis and Libraries/Staff.

508 Guided Reading/Staff.

509 Education for Librarianship/Staff.

Similar courses are grouped within eight areas of common concern, and each group reflects a special aspect of the School's philosophy of education for librarianship. Three basic series of courses in the 510's, 520's, and 550's are intimately related and form the foundations of the curriculum. Individual courses in other groups and within the same groups provide enrichment, some degree of specialization, or some specialized approach to the general body of knowledge and theory upon which the profession of librarianship is based. All students are required to take 501 or 502 from the "foundation studies" group of courses but may not take more than two half-courses from that group for credit towards the MLS program. Students who have already taken 501 or 502 requirements, may not include any other "foundation studies" course in their MLS program.

510-519 Professional Theory and Methodology

A group of courses that includes the series 511, 512, 513. This series is normally taken in successive terms in the order given. In accordance with the philosophy of the School, they are organized from the point of view of the user of libraries, and not from the point of view of the librarian. Therefore, professional theory and methodology is not taught by traditionally dividing the subject into courses devoted to book selection, cataloging, classification, and reference. This technical approach is rejected in favor of the user's normal subject approach. Thus, fundamental aspects of the acquisition, organization, and use of resources in each subject are treated simultaneously while considering the needs of users. The other courses in this group allow for further study in depth, or for special attention to specific problems.

510 Professional Theory and Methodology

/Staff.

511 Humanities

/A.J. Jamieson, J.H. Fyfe, F. DeHart, N. Stuart.
Required for all three-term students.

512 Social Sciences

/K. Hansen, C.M. Hotimsky, A.J. Jamieson, D.J. Janes, J.H. Fyfe, J.H. White.
Required for all three term students.

513 Science and Technology

/G.R. Pendrill, J.H. White.
Required for all three-term students.

514 Special Topics in the Humanities

/Staff.

515 Special Topics in the Social Sciences

/Staff.

516 Special Topics in Science and Technology

/Staff.

519 Problems in the Organization of Information

/F. DeHart.

520-529 Administrative Theory and Practice

Because professional librarianship implies eventual involvement in administrative roles, courses 512, 522, and 523 are required for all three-term students. 521 and 522 may be taken in a beginning term, and 523 in a subsequent term. The point of view of the practising librarian, but special emphasis is placed on the community served by libraries. Other courses in the group allow students to compare specific applications of general principles of administration in specialized circumstances.

520 Administrative Theory and Practice

/Staff.

521 Principles of Administration

/R.D. Prodrick.
Required for all three-term students.

522 Library Planning

/J. Black.
Required for all three-term students.

523 Library Theory and Practice

/S.D. Neill.

525 Services to Children and Young Adults

/E. Donnelly.

527 Community Services: Local, Regional, National

/E.J. Ketchum.

528 Higher Education

/R.G. Prodrick, W.B. Ready, W.S. Debenham.

529 Special Libraries

/G.R. Pendrill, J.H. White.

530-539 Research Principles and Practice.

This group of elective courses is intended both to draw attention to the specialized needs of users with research interests and to introduce prospective librarians to the principles and practice of research. A broad subject approach emphasizes the essential relationship of acquisition, organization, and use of the special resources to the particular needs of such users.

530-539 Research Principles and Practice

/Staff.

531 Research Principles and Practice in the Humanities

/W.J. Cameron.

532 Special Research Topics in the Humanities

/W.J. Cameron.

534 Research Principles and Practice in the Social Sciences

/J.H. Fyfe, R.G. Prodrick.

537 Research Principles and Practice in Science and Technology

/G.R. Pendrill.

539 Guided Research

/Staff. Course weight varies with each project. Application to take this course must be made in writing a month before the end of the term preceding the one in which the work will be done.

540-547. Special Topics

This group of elective courses is primarily concerned with problems posed by special bodies of knowledge, and the acquisition, organization, and use of materials relevant to them.

540. Special Topics

/Staff.

540. Special Topics in Librarianship

/A visiting lecturer.

542. Periodical Literature

/J.H. White, E.J. Ketchum.

543. Historical Development of Children's Literature

/E.C. Donnelly, C. Swarthout.

544. Canadiana

/G.M. Strathern.

545. Slavic Libraries and Librarianship

/C.M. Hotimsky.

547. History of Science

/H. Plotkin, R.A. Richardson.

The following courses may be taken in other departments:

French 560.

Literature of French Canada.
(Full course.)

English 537.

Renaissance Bibliography.
(Full or half course.) Other courses may be added to this list from time to time.

550-559. Information and Communication Studies.

Courses 551, 552, and 553 form a series which is normally taken in three successive terms. They are concerned fundamentally with the knowledge and theory necessary for insight into the newly conceived discipline of information science. The courses attempt to transcena technological preoccupation with both manual and computer systems: (1) by focussing on the problems and principles underlying current concern with gathering, storing, and retrieving information; and (2) by a searching enquiry into the nature of information and communication. Other courses in the group are centered upon the creation of resources for use in experimental work in the subject, and in exploring special aspects.

550. Communication Studies

/Staff.

551. *Linguistic and Communication Studies*

/C.M. Hotimsky, H. Schulte-Albert, J.H. White, and Staff.
Required for all 3-term students.

552. Introduction to Information Science

/D. Bird, G.R. Pendrill, J. Tague.
Required for all students.

553. *Problems in the Computer Control of Information*

/J. Belzer.
Required for all students.

557. Mathematical Models

/J. Tague.

558. Special Topics in the Computer Control of Information

/J. Belzer, D. Bird, J. Tague.

559. Audiovisual Theory and Practice

/S.D. Neill.

560-569. Special Services

This group of elective courses is primarily concerned with users of libraries (usually members of a profession or followers of a discipline) whose special needs require special services.

560. Special Services

/Staff.

561. Art Libraries and Information

562. Business Libraries and Information

566. Law Libraries and Information

/D. Priestly.

567. Medical Libraries and Information

/G.R. Pendrill.

569. Music Libraries and Information

570-579 Cognate Studies

This group of elective courses is primarily concerned with professional disciplines closely related to, but not included within library and information science.

571. Archives Theory and Practice

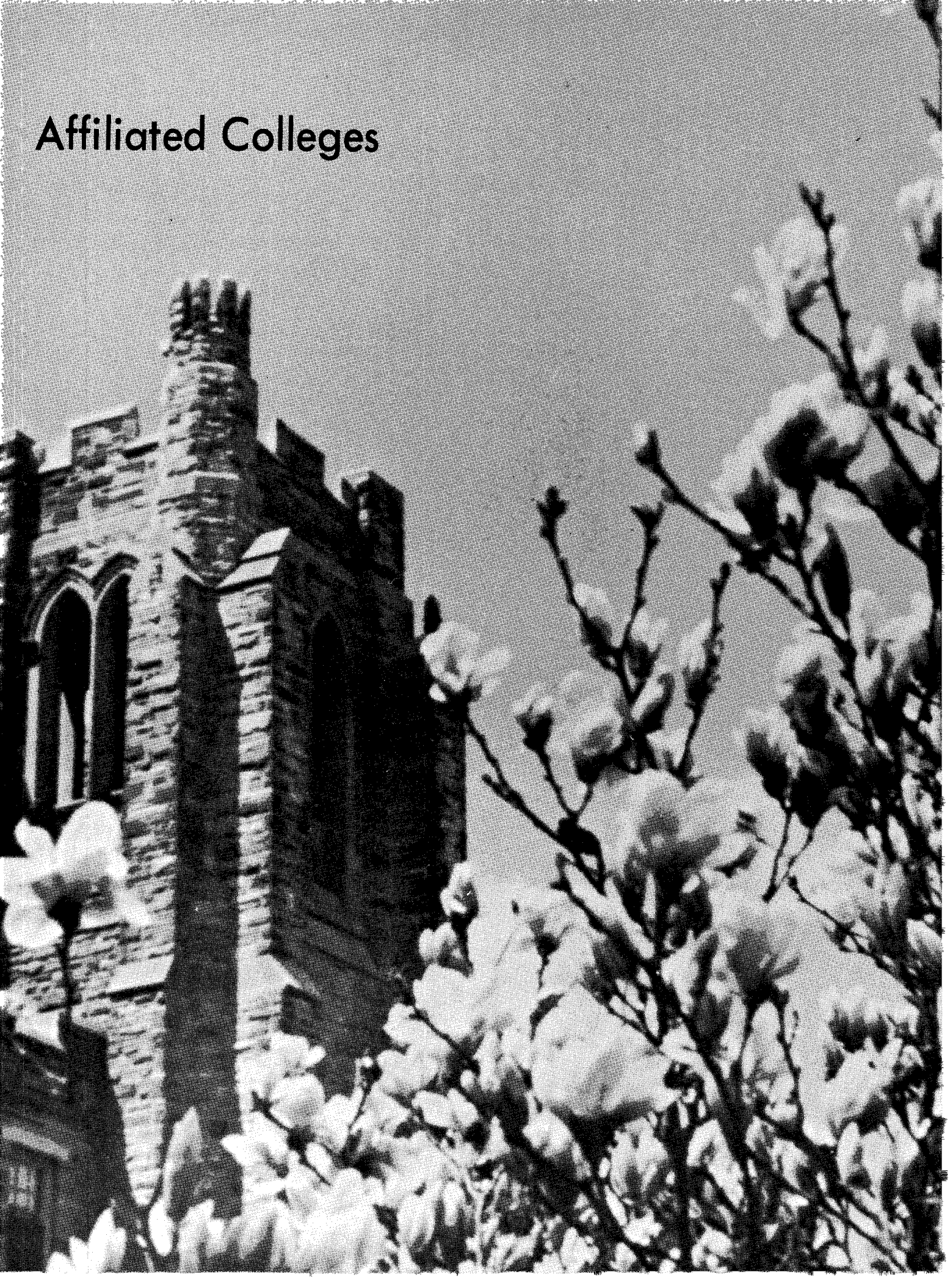
/G.M. Strathern.

580 Masters Seminar

/W.J. Cameron, R.E. Lee, R.G. Prodrick, R. Stierwalt.

The Masters Seminar is required for all students in their final term, and is intended to encourage students to develop a philosophy of librarianship that will provide a broad base for professional life after graduation.

Affiliated Colleges



BRESCIA COLLEGE

Dean
Sister Arleene Walker, M.A. Catholic U. of America

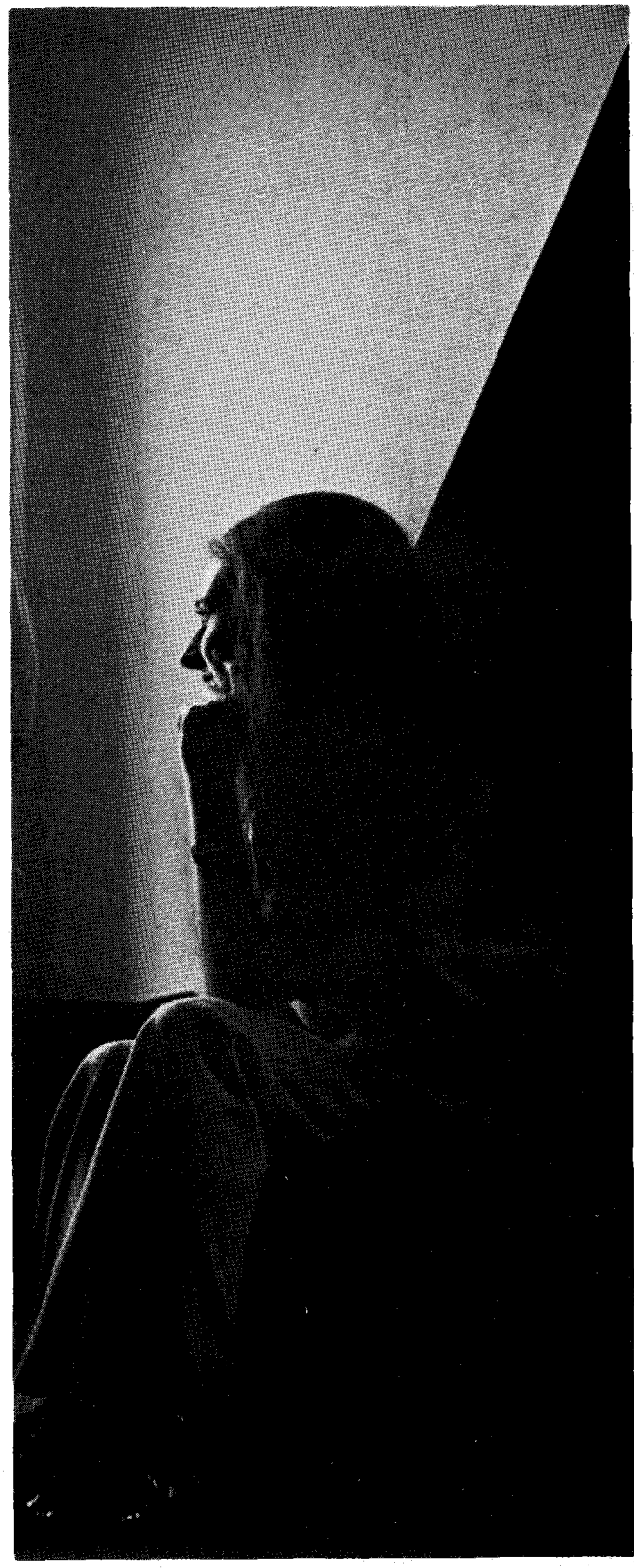
Registrar
Mrs. E. M. Arnold

Business Administrator
Mr. N. Crack

Librarian
Sister Pierina Caverzan, M.A.L.S. Rosary College

Dean of Students
Sister Mary Patrick Curry, B.A. U.W.O., M.Ed. Toronto

Alumnae Advisor
Sister Margaret Hanley, M.A. Detroit



BRESCIA COLLEGE OFFERS-

In an age of overcrowding and pollution, the College offers a beautiful campus with space for quiet reflection and a comfortable residence. Opportunities for Christian worship and for service to people in need are available. Brescia students share in all University activities: academic, social, athletic and cultural. Certain courses are taken at the University or other affiliated colleges. Some classes in the College are co-educational. Student government is divided into the Brescia College Council, which administers student affairs within the College as a whole and sends representatives to the University Student Council, and the Brescia Residence Council, which concerns itself with residence life. Owing to its exceptional position in Canada, Brescia College offers to women students unique opportunities in leadership and self-government.

BRESCIA COLLEGE IS

A residential women's college under Catholic auspices affiliated with the University of Western Ontario that has given over half a century of service to the communities of London, of Canada and of the world. Alumnae of the College have distinguished themselves in such fields as education, work with the aged and the handicapped, scientific research, music, business, social work and the foreign and civil services. The University has honoured two of the former Deans of the College with honorary doctor's degrees.

BRESCIA COLLEGE STRIVES

Because of its student-centred approach to education, the College selects the PERSON from the mass. It strives for better education through personal contacts, professional excellence, academic counselling, small classes and seminars. An academic community of students, professors, counsellors and librarians is an ideal of the College. Original thinking and independent research are goals of the person-oriented search for knowledge and its use in living. Truth, beauty and goodness are valued as the ends of a liberal education.

AFFILIATES

MEMBERS OF FACULTY

CLASSICAL STUDIES

Assistant Professor

Turner, Mary (Sister), B.A. U.W.O.; M.A. Notre Dame

ECONOMICS

Instructor

Casas, Francisco, M.S. Southern Illinois University

ENGLISH

Professor

Sharp, Corona (Sister), B.A. U.W.O.; M.A. Ph.D. Notre Dame

Assistant Professors

McKenzie, Mary Louise (Sister), B.A., M.A. U.W.O.

Zoll, Allan Roy, B.A. Michigan; M.A. New Mexico; Ph.D. Michigan

Instructor

Lancaster, Olive (Mrs.), B.A. U.W.O.

FRENCH

Assistant Professor

Carter, Carol, B.A. M.Ed. Arkansas; M.A. Wisconsin

Instructor

Bush, Muriel M. (Mrs.), M.A. Edinburgh

GEOGRAPHY

Instructor

Angelov, A. Dimitri, B.A. U.W.O.

GERMAN

Lecturer

Feldsman, Teresa (Sister), B.A. U.W.O.

HISTORY

Instructors

Shirley, Robert, B.A. U.W.O.

Skidmore, Patricia (Mrs.), BS Ed. Kent; M.A. Kent; Ph.D. Alberta

HOME ECONOMICS

Associate Professor

Penney, Rhoda, B.Sc. (H. Ec.) B.Ed. St. Francis Xavier; M.S. Cornell; R.P.Dt.

Assistant Professors

Chen, Shirley (Mrs.), B.A. Taiwan Chung Shen, M.S. Ph.D. Nebraska

DiStefano, Lynne (Mrs.), B.A. Russell Sage; M.A. Boston; M.A. Pennsylvania

Mercer, Nina (Mrs.), B.A. Nebraska; M.S. Cornell, R.P.Dt.

Lecturers

Murray, Nancy (Mrs.) B. Sc. (H. Ec.) Mount Allison, R.P.Dt.

Normandeau, Helen (Sister), B.A. U.W.O.; M.Sc. Wisconsin

Portis, Mary (Mrs.), B.A. Kansas; M.A. U.W.O.

Rickman, Lillian (Mrs.), B.S. Chicago; R.P.Dt.

Sather, Jane M., B.Sc. (H. Ec.) Saskatchewan; M. Sc. Guelph

Instructors

Byard, Catherine E. (Mrs.), B.Sc. (H. Ec.) Mount Allison

Gregory, Adele (Mrs.) A.O.C.A. (Art) Toronto

Sheasby, Marjorie (Mrs.), B.A. U.W.O.

Shivers, Janice L. (Mrs.), B. Sc. Kansas

PHILOSOPHY

Professors

Guinan, St. Michael (Sister), B.A. U.W.O.; M.A. Catholic University of America; Ph.D. Laval

Ryan, Michael T. (Reverend), B.A. U.W.O.; M.A., Ph.D. Notre Dame

Associate Professor

Cavanagh, P. E. Reverend, B.A. U.W.O.; M.A. Toronto; Ph.D. Notre Dame

PSYCHOLOGY

Professors

Kuntz, Dolores (Sister), B.A. U.W.O.; M.A. Detroit; DipPsych, Ph.D. Queen's

Paul, John B.A., M.A., Ph.D. Toronto

Assistant Professor

Howe, Margaret (Mrs.), B.A. Acadia; M.A. Toronto

RELIGIOUS STUDIES

Professor

Murphy, Richard T.A., (The Very Reverend) OP, STD. Angelicum; SSD Biblical Commission; STM Dominican Order

Lecturers

Hunter, R. B., (Reverend), B.A. U.W.O.; STB

Quenneville, Marie-Anne (Sister), B.A. M.A. Ottawa

SPANISH

Lecturer

Howard, Zilpa (Mrs.), B.A. Indiana; M.A. U.W.O.

SOCIOLOGY

Professor

Walker, Arleene (Sister), B.A. U.W.O.; M.A. Catholic University of America

Lecturers

Chaudhary, Krishna (Mrs.), B.A. M.A. Bihar; M.A. Windsor

Ryan, Frances (Sister), B.A. M.A. U.W.O. (on leave)

ADMISSION REQUIREMENTS TO FIRST YEAR — 1972 The academic requirements are the same as those published by the University of Western Ontario in its General Information Booklet. The following is a brief summary of these requirements (1972):

(a) Completion of secondary school studies, including a full year of successful study at the Grade 13 (or fifth year) level;

(b) A recommendation made by the principal (or designate) of the school in which the student completes his education at the secondary level, attesting to his-her ability;

(c) A complete academic record for the work traditionally recognized as at the level of Grades 11, 12, and 13;

(d) Results of the tests appropriate to the student's program offered by The Service for Admission to College and University (SACU) or the appropriate tests of The College Entrance Examination Board (CEEB).

Requirements of Specific University Programs are as follows:

FIRST YEAR PROGRAM

Arts—English
Home Economics—Chemistry and Biology (English and Mathematics strongly recommended)
Secretarial Science—English
Social Science—none, although students are strongly urged to complete Mathematics A and-or B.

PRELIMINARY YEAR

Ontario Grade 12 or equivalent. Minimum standards of admission set by the College are based on percentage, or rank-in-class, and on principal's report.

Students from Provinces other than Ontario, or from other countries, may apply for admission to First Year if their academic records in subject matter and standing obtained meet both the requirements for admission to this University and the requirements for admission to a recognized university in their own province or country.

MATURE APPLICANTS.

An applicant not less than 23 years of age, whose academic qualifications do not meet in full the published admission requirements and who submits evidence of his potential ability to succeed in academic courses at the university level, is eligible to apply for admission to the First Year at this University. It is recommended that Mature Applicants possess standing in at least Grade 13 English. Teachers who are graduates of approved teachers' training courses, and who have two or more years' teaching experience but lack full Grade 13 matriculation (or equivalent), are considered as Mature Applicants without consideration of their age.

REGISTERED NURSES

Registered Nurses holding graduation diplomas from Schools of Nursing may apply for admission to First Year of the General B.A. Program. Admissibility will be determined on the basis of standing within the Nursing studies and no advanced standing may be granted.
Further information may be obtained from the Registrar.

APPLICATION PROCEDURES

1. Ontario Grade 13 students can obtain an application form directly from the Principal or Guidance Counsellor of their Secondary School. Others may apply to the Registrar.
2. Original certificates or official transcripts should be submitted for all academic work completed to date.
3. Applicants will find a visit to the College and a personal consultation with the Registrar very helpful. They may write for an appointment.

Scholarships & Awards

Entrance Scholarships: Several Brescia College Entrance scholarships valued at $300 each, payable toward tuition, are available for applicants with at least 80% average.
Several Brescia College Entrance scholarships valued at $100 are available for applicants with an average of 75%-79%.

Inter-Year Scholarships: The Brescia College Alumnae offer several scholarships for students with the highest average (at least 80%) among upperclassmen.
Brescia College offers a prize for the highest average (at least 80%) in each of Home Economics 30 and Home Economics 32.

Awards to the Graduating Class: The Brescia College Advisory Board each year awards a Gold Medal to the Graduate with the highest average (at least 80%). Brescia College presents the Home Economics Award to the graduating student with the highest average (at least 80%) in Home Economics.

Government Loans & Grants: All students residing in Ontario may apply for a Student Loan and Grant if they are in need of assistance.
Application forms may be obtained from the Dean of Students or the Registrar at Brescia. Completed forms, in duplicate, should then be sent to the Student Awards Officer at The University of Western Ontario.

Residence

Brescia College offers residence only to students registered at the College. Facilities include double rooms for First Year students, and single rooms for students who have completed First Year; coin-operated laundry equipment; and a cafeteria providing three meals a day for seven days a week. Since accommodation is limited, application for residence should be made as soon as possible on the form provided by the Registrar. Each application should be accompanied by a deposit of $50.00 which is credited on account, and is refundable if the College is informed of withdrawal by the date specified in the letter of acceptance.

Students should bring their own sheets, pillow cases, towels, and blankets.

AFFILIATES

PRELIMINARY YEAR

(Qualifying Year for First Year University).

The Preliminary Year offered at Brescia College is designed for students who have completed Grade 12 (Ontario) or who have the equivalent standing. Minimum standards of admission as set by the College are based on percentage, or rank-in-class, and on principals' reports.

The Preliminary Year will consist of the following program:

FOR ADMISSION TO FIRST YEAR GENERAL PROGRAM (Arts, Music, or Social Science), or to Secretarial Science:

English 10
Four other courses to be chosen from:
Geography 10; History 14; Mathematics 10;
Religious Studies 10; a second language 2 or 10.*)
(languages available are: French 2 or 10; German 2 or 10;
Italian 2; Latin 2 or 10; Russian 2 or 10; Spanish 2).

*) A language at the "2" level is an intensive beginners course, at the "10" level it presupposes Grade 12 or its equivalent.

SPECIAL COURSES

The following courses, equivalent to Grade 13 subjects, are not offered in the College of the University, but may be offered by the affiliated colleges as part of the Preliminary Year.

ENGLISH 10. *Literature* and Composition.
3 hours — 11.

FRENCH 10. Intermediate French.
Prerequisite: Grade 12 French
3 hours — 23.

GEOGRAPHY 10. Geography of Canada.
3 hours — 2.

HISTORY 14 — History of Canada and the United States.
3 hours — 14.

LATIN 10 — Intermediate Latin.
Prerequisite: Grade 12 Latin
3 hours — 26.

Fees

(All fees subject to change from year to year)
TUITION fee is the same as at the Constituent University. For the academic year 1971-72, full time students Tuition*). $542.50
(Preliminary Year Tuition*) $592.50

*) Note a $50.00 non-refundable tuition deposit (credit on account) is required of all freshmen students.

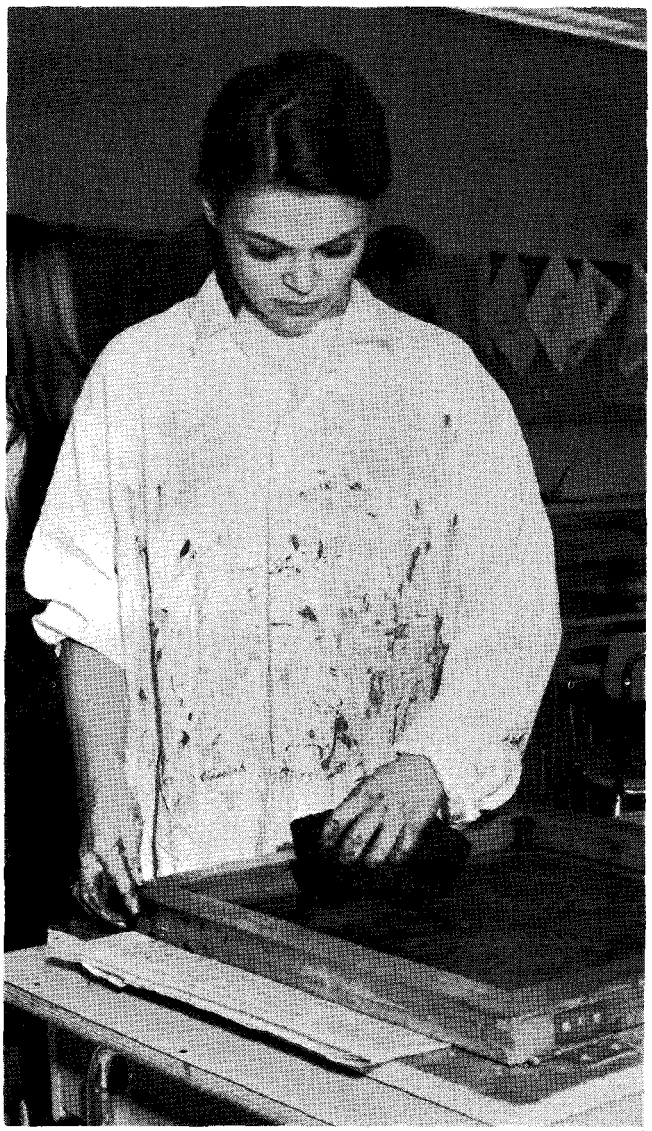
Brescia College STUDENT COUNCIL FEE $14.00
RESIDENCE*) $1,050.00

*) Fees for the academic session do NOT include Christmas vacation period. Students may take up residence twenty-four hours prior to registration and must vacate their rooms within twenty-four hours following the last date of the final examinations.

Fees are payable in full on registration day. If necessary, special arrangements may be made for payment of fees in two installments, in which case a charge of $5.00 is added to the second installment (this installment is due on or before the first day of the second term). Registration is not considered complete until fees are settled.

Withdrawal

If a student withdraws after registration, but before the end of the first week of classes, $50.00 of the Tuition Fee as well as the $50.00 Residence Deposit is retained by the College. After this date, fee adjustments for tuition will be made according to the schedule in effect at the Constituent University. Residence fees will not ordinarily be refunded unless a student finds a replacement approved by the College. Decisions regarding exceptions to this regulation rest entirely with the College.



Health Services

A physical examination by a practising physician is required of all students registering for the first time. The necessary form for this may be obtained from the Registrar and should be filled out before registration. There is a Health Service clinic on the University campus which may be consulted by Brescia College students during the regular academic sessions.

A counselling service is also available.

Testing for tuberculosis is provided during the school year and must be undergone by students each year. Insurance for Hospital and Medical Services is the responsibility of the student. In Ontario, only the insurance provided by the Provincial Government through the Ontario Hospital Services Insurance Plan (OHSIP) is permitted. Students who already have hospital insurance in other provinces should ascertain, before coming to Ontario, if their policies will be honored in Ontario. Students from outside Canada should apply for OHSIP immediately on arrival, since coverage does not become effective for three months from time of application.

HOME ECONOMICS.

REQUIREMENTS FOR ADMISSION

A full year of successful study at the Grade 13 level with Chemistry and Biology required and English and Mathematics strongly recommended.

This program is offered jointly by the University and Brescia College. All Home Economics courses are given at Brescia College, the Natural Sciences are given at the University, and the Humanities and Social Sciences are given at both the University and Brescia College.

Career Opportunities

The Home Economics Program is concerned with the family and its needs. The graduate from this program must be prepared to help people in all strata of society in the management of their lives with respect to food, clothing, shelter and human relationships.

Therefore, these graduates are prepared for a variety of jobs. The two traditional areas of employment are teaching and dietetics. Home Economics teachers are in elementary and high schools, adult education, and university. Dietitians administer food services in hospitals, schools, industry, commercial establishments and the Armed Forces, or apply scientific knowledge in the preparation and administration of diets in hospitals, community services, and government services.

The Department of Education of Ontario accepts a degree in this program as the academic qualification for High School Assistant's Certificate, Type B, for teaching in the Elementary or Secondary Schools of Ontario. The Canadian Dietetic Association accepts a degree in this program for admission to the twelve month internship which is necessary to become a practicing dietitian. All graduates from this program are eligible for membership in the Canadian Home Economics Association.

Opportunities are also available in Welfare and Extension Work where the Home Economist communicates ideas, principles, techniques, and the latest research findings to the community through written and audio-visual communications. The Home Economist in Business works for business firms or government departments to develop, test or promote the use of consumer products. The Nutritionist interprets the principles of nutrition for the promotion of public health usually with government services.

FIRST YEAR:

Biology 21
Chemistry 25
Home Economics 23, 25
Two options to be chosen in consultation with the Department from two of Arts, Science, or Social Science.

SECOND YEAR:

Plant Sciences 36
Chemistry 33
Home Economics 30, 31, 32
One approved senior option.

THIRD YEAR:

FOR STUDENTS INTERESTED IN TEACHING AND RELATED FIELDS.
Biochemistry 36
Home Economics 40, 41B, 42, 45
One approved senior option.

OR:

FOR STUDENTS INTERESTED IN FOOD SERVICE MANAGEMENT, NUTRITION AND THERAPEUTICS.
Biochemistry 36
Home Economics 41A, 42, 45, 48, 49

Plans for a four year program are in progress for implementation in 1973.

HOME ECONOMICS

23 - Basic Design. Study of the elements and principles of design as applied to two - and three-dimensional work.
2 hours - 13.

25 - Introduction to Home Economics. Consumer study of food, nutrition, clothing, textiles. General principles of home management and equipment.
2 hours - 31.

30 - Clothing. Historic costume; socio-psychological aspects of clothing; the economics of clothing consumption. Comparative clothing construction.
2 lect. hours 2 lab hours - 13.

31 - Normal Nutrition. Normal requirements of the body; food nutrients and their functions; deficiencies.
Corequisite: Chemistry 33.
3 lect. hours both terms - 21

32 - Food Science. Experimental approach to the study of factors influencing behavior of foods.
Corequisite: Chemistry 33.
2 lect. hours 2 lab hours - 31.

40 - Textile Science. Fibre fabric, and yarn structure; chemical and physical properties of fibres; mechanical finishes; textile processing. Identification and testing of textile materials. Costume design through flat pattern methods.
Prerequisite: Home Economics 30, Chemistry 33.
2 lect. hours 3 lab hours - 7.

41 - Advanced Nutrition. Nutritional needs during infancy; the adolescent. Diet therapy. Seminars.
Prerequisite: Home Economics 31, Biochemistry 36 concurrently.
3 hours - 14

41A- for students interested in Food Service Management, Nutrition and Therapeutics.

41B - for students interested in teaching and related fields.

42 - Principles of Food Science.
Prerequisite: Home Economics 32.
2 lect. hours 2 lab hours - 19.

45 - Consumer Economics and Communications. Marketing and consumer problems. Demonstration techniques.
1 lect. hour 2 lab hours - 23.

48 - Institutional Food Production. The application of scientific principles to the preparation, selection, and storage of quality foods. Floor planning, layout and equipment. Laboratory exercises and field trips.
3 lect. hours 3 lab hours - 29.

49 - Institution Management. Principles of management; personnel supervision; financial control. Clinical studies.
3 hours - 33.

AFFILIATES

SECRETARIAL SCIENCE.

The Department of Education of Ontario accepts a degree in this program as the academic qualification for High School Assistant's Certificate, Type B, for teaching in the Elementary or Secondary Schools of Ontario. Enrollment is limited, and students are admitted on the quality of their Secondary School certificate.

FIRST YEAR:

Secretarial Science 25* — English 20, 24 or 26
Business 20 — Two options (Computer Science 20 recommended if student has necessary background)

* Students who prior to registration pass tests in Secretarial Science 25 will take a third option and will also attend some classes in Secretarial Science 25 as determined by the Department.

SECOND YEAR:

Secretarial Science 35, 37 — A Senior English
Economics 20
Two options.

THIRD YEAR:

Secretarial Science 30 — A Senior English
Secretarial Science 45, 47
Two Senior options.

All Secretarial Science courses are taken at the University. Description of these may be found in the Calendar of the Faculty of Social Science.

GENERAL ARTS

The First Year offers a year of basic general education and an opportunity to do university work in subjects not available in the Secondary School. Successful completion of five courses in the First Year makes the student eligible to register in the Second Year of the three-year General program, or of a four-year Honors program.

The General Arts Program consists of fifteen courses taken over a three-year period. An area of concentration, or major, may be chosen. This will consist of at least five courses in a subject, four of which must be at the senior level. For further details consult the General Information Booklet of the University of Western Ontario.

HONORS

Programs are four-year programs after Grade 13, and a student is admitted to the Second Year only after successful completion of a First Year General Program. The following Honors Programs are offered at Brescia College: English, French, History, Philosophy, and any combination of Honors containing one of these subjects. Details of these Honors Programs may be found in the General Information Booklet of the University, or in the Calendar of the Faculty of Arts and Social Science.

COURSES

(Course descriptions are here provided only for those courses taught at Brescia College. If some of these are not offered in a given year at Brescia, they are always offered at the Constituent University and, in some instances, at the other Affiliated Colleges also. Other courses in Arts and Social Science are available for Brescia College students at the University or the other Affiliates. All laboratory courses in the Natural Sciences are taught entirely in the Faculty of Science).

CLASSICS

Latin 10. — Intermediate Latin. Selections from prose and poetry; composition and sight translation.
Prerequisite: Grade 12 Latin or Latin 2.
3 hours — 26.

Latin 20. — Advanced Latin. Vergil, "Aeneid" IV; Pliny, Selected Letters; composition and sight translation.
Prerequisite: Grade 13 Latin or Latin 10, or Latin 2 with permission of the Department.
3 hours — 26.

ECONOMICS

Economics 20. — Introduction to Economics. The nature of economics, economic organization, national income, money and banking, economic fluctuations, public finance and fiscal policy, price determination, international trade, and Canadian economic problems.
3 hours — 15.

ENGLISH

English 10. — Literature and Composition.

3 hours — 11.

English 20. — General Literature and Composition. An introduction to the romance, ironic (or satiric), tragic and comic modes of literature.

3 hours — 11.

English 24. — Forms of Fiction. An introduction to the study of a) a selection of fiction ranging from the Greek epic to the modern novel, including both short and longer forms; b) a variety of fictional modes and narrative techniques.
3 hours — 16.

English 26. — Forms of Drama. An introduction to the study of a) the main principles of dramatic art; b) selected aspects of dramatic and theatrical history; c) the major dramatic genres.
3 hours — 16.

English 34. — Comparative Literature. A course of reading in English or in English translations of some of the great books of Western civilization from Homer to Joyce with particular emphasis on the growth of epic, drama, and fiction. (Formerly English 45).
3 hours — 10.

English 35. — Contemporary Literature. An introduction to the poetry and prose of the contemporary scene. (Formerly English 47).
3 hours — 13.

English 300. — The Novel. (Formerly English 444).
3 hours — 33.

English 330. — Literature of the Sixteenth Century, excluding drama. (Formerly English 280).
3 hours — 24.

English 331. — Literature of the Seventeenth Century, excluding drama. (Formerly English 380).
3 hours — 12.

English 332. — Shakespeare. (Formerly English 256).
3 hours — 11.

English 360. — Literature of the Victorian Period (1832-1900). (Formerly English 360).
3 hours — 7.

English 370. — Modern Literature. (1890-1945). (Formerly English 459).
3 hours — 9.

English 371. — Modern Drama. (Formerly English 436).
3 hours — 23.

FRENCH

French 2. — Intensive French for Beginners. Grammar, composition, oral practice. This course is designed for students beginning French at University. Prepares the student directly for French 20.
5 hours — 16.

French 10. — Intermediate French. Grammar review, composition, translation, oral practice. (One hour per week in the language laboratory may be required).
Prerequisite: Grade 12 French.
3 or 4 hours — 23.

French 20. — French Language and Literature. This is the basic freshmen course in French, providing training in language and literary studies, and an introduction to French institutions. In the initial stages, English will be used; thereafter the course will be given in French.
Lectures, tutorials, and language laboratory.
Prerequisite: French 2, 10 or Grade 13 French.
4 hours — 23.

French 30. — The French Novel. A study of typical examples of the novel taken from French literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20 or by permission of the Department.
3 hours — 21.

French 31. — Language. Grammar, composition, translation, oral practice. (One hour per week in the language laboratory may be required).
Prerequisite: French 20 or by permission of the Department.
3 or 4 hours — 23.

French 34. — French Drama. A study of typical examples of French dramatic literature of the seventeenth through twentieth centuries.
Prerequisite: French 20 or by permission of the Department.
3 hours — 31.

French 232. — French Civilization and Conversation. A study of modern France, her historical background and political, economic, social and cultural development.
Prerequisite: French 20 or by permission of the Department.
3 hours — 32.

French 271. — Language. Grammar, composition, oral practice, phonetics, introduction to Linguistics. (One hour per week in the language laboratory may be required). This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 or 4 hours — 17.

French 290. — Introduction to French Literature. A study in depth of texts from the 19th and 20th centuries designed to provide intensive training in the skills of literary analysis. This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 hours — 14.

GEOGRAPHY

Geography 10. — Geography of Canada.
3 hours — 2.

GERMAN

German 2. — Intensive German for Beginners. A more intensive course than German 1. Designed for students who begin German at the University and who contemplate making German their subject of concentration or desire to enter the German honors courses.
3 lect. hours, 2 lab hours — 36.

German 10. — Intermediate German. Further study of the structure and idiom of the language. Reading in modern prose and poetry. Oral and written practice.
Prerequisite: German 1 or permission of the Department.
3 hours — 36.

German 20. — Language and Literature. Survey of German literature, given in German.
Prerequisite: Grade 13 German or German 1 (with A standing) or 2 or 10 or permission of the Department.
3 hours — 36.

HISTORY

History 14. — History of Canada and the United States.
3 hours — 14.

History 20. — Modern Europe. 1715 to the Present.
3 hours — 14.

MATHEMATICS

Mathematics 10. — Calculus with Analytic Geometry. Topics in algebra, trigonometry and analytic geometry followed by an introduction to differential and integral calculus. May not be taken for credit by students with Grade 13 Mathematics A.
Prerequisite: Grade 12 Mathematics.
3 lect. hours, 1 hour tutorial — 30.

PHILOSOPHY

Philosophy 20. — Introduction to Philosophy. This course deals with fundamental problems in Philosophy, especially in Natural Philosophy, Moral Philosophy, and Metaphysics, and the solutions offered by great thinkers in these respective fields.
3 hours — 1.

Philosophy 35. — Aesthetics: Conceptual problems relating to the production and appreciation of the fine arts. Specimen topics include the nature of the work of art and of artistic expression, artistic criticism, fiction, metaphor, appreciation and the logic of value judgments.
2 hours — 3.

Philosophy 38. — Phenomenology and Existential Philosophy: A course designed to acquaint the student with the fundamentals of the existentialist movement. Among philosophers considered will be: Kierkegaard, Nietzsche, Husserl, Marcel, Heidegger, Sartre, Merleau-Ponty.
2 hours — 17.

Philosophy 42. — Ethics: Critical discussion of moral issues and theories.
2 hours — 31.

AFFILIATES

Philosophy 43. — Philosophy of Religion. Conceptual problems relating to personal and institutionalized religion. Specimen topics include: the nature of religious experience and knowledge, analysis of the concept of God, analysis and comparison of important types of religious philosophy.
2 hours — 12.

Philosophy 45. — Political Philosophy. Critical readings from selected original sources of the political thought of ancient, modern, and contemporary thinkers.
3 hours — 5.

PSYCHOLOGY

Psychology 20. — Introduction to Psychology. An introductory survey of the methods and findings of modern scientific psychology. The following topics will be covered: history and methodology, biological psychology, sensation and perception, learning and motivation, verbal and cognitive processes, developmental psychology, social psychology, individual differences (intelligence and personality), and clinical psychology. Although there is no laboratory requirement, voluntary participation in approved research projects will be encouraged.
3 hours — 19.

Psychology 241. — Developmental Psychology: Basic Principles. A general survey of theory and research in developmental psychology including learning, cognition, perception, personality, and social development in infancy and early childhood. (Formerly Psychology 236).
Cannot be taken for credit if Psychology 36, 56, or 236 has been successfully completed.
4 hours (2 lect. and 2 sem.) — 16.

Psychology 242. — Developmental Psychology: Exceptional Children. Problems and methods in work with mentally deficient, brain-damaged, and emotionally disturbed children with emphasis on behavior abnormalities and behavior change techniques.
Cannot be taken for credit if Psychology 39 or 59 has been successfully completed.
4 hours (2 lect. and 2 sem.) — 22.

Psychology 253. — Theories of Personality. A critical analysis of representative personality theories.
Prerequisite: Psychology 20.
Cannot be taken for credit if Psychology 31, 77b, 94, 251, 331 or 450 has been successfully completed.
4 hours (2 hours lect. and 2 hours to be assigned by the instructor) — 6.

Psychology 264. — Community applications of Psychology. Emphasis is given to the methods of behavior change, and to problems in the design of work or study environments encountered by psychologists working in educational, industrial, or hospital settings.
Prerequisite: Psychology 20.
Cannot be taken for credit if Psychology 46, 81, 96, 265, 354 or 446 has been successfully completed.
4 hours (2 hours lect., 2 hours to be assigned by the instructor) — To be offered 1972-73.

Psychology 271. — Social Psychology. An introduction to the theories, methods, findings, and problems encountered in the study of man as a social being. Emphasis will be placed on laboratory and field research. Substantive areas to be covered include the following: socialization; social factors in perceptual-cognitive processes; attitudes, prejudice, and propaganda; social influence; group dynamics; leadership; intergroup relations. (Formerly Psychology 349).
Cannot be taken for credit if Psychology 32, 49, 64, 72 or 349 has been successfully completed.
4 hours (2 lect. and 2 lab.) — 33.
Offered 1971-72.
To be offered 1973-74.

RELIGIOUS STUDIES

Religious Studies 10. An Introduction to Old Testament Theology through the men and messages of the Old Testament.
2 hours — 18.

Religious Studies 25. Foundations of the Christian Religious Response. A study of the major trends in contemporary religious education, showing how they are related to their historical antecedents. (Course primarily for teachers and/or students planning to enter the teaching profession.)
2 hours — 4.

Religious Studies 35 — Comparative Religion. Ecumenism — a study of contemporary religions under various aspects.
2 hours — 8.

Religious Studies 37. — Contemporary Theology. A study of the principles of Christian Theology. A systematic consideration of basics, with special attention to present-day controversial and divisive theological issues.
2 hours — 14.

SOCIOLOGY

Sociology 20. — Introduction to Sociology. An examination of the major theoretical perspectives in the field of Sociology, methods of empirical investigation of social phenomena, socialization, group structure, principles of social organization, community structure, population and social change.
3 hours — 35.

Sociology 39. — The Family. Sociological, psychological, and other research perspectives on family structure and functioning.
Prerequisite: Sociology 20 or permission of the Department.
3 hours — 8.

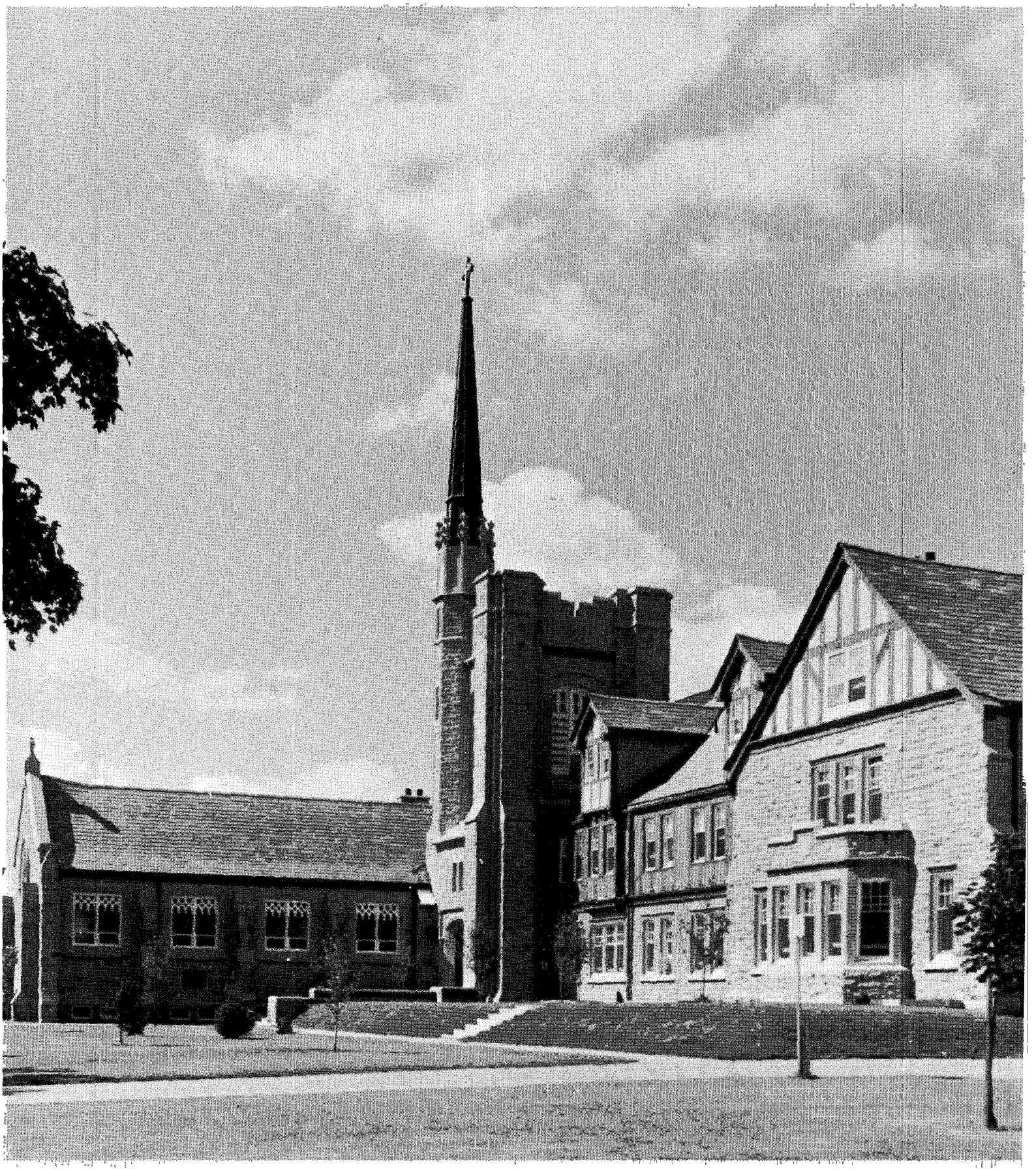
Sociology 40. — Social Problems. Study of theories of deviant behavior and of social disorganization, with particular attention to certain specific problems of the contemporary period.
Prerequisite: Sociology 20 or permission of the Department.
3 hours — 21.

SPANISH

Spanish 2. — Intensive Spanish for Beginners. Introduction to understanding, speaking, reading and writing Spanish. Audio-lingual techniques are combined with practice in the language laboratory. Prepares student directly for Spanish 20 or 21.
5 hours — 29.

Spanish 10. — Intermediate Spanish. Reading in Spanish literature with grammar review and oral practice.

Spanish 20. — Advanced Spanish. Readings in twentieth century Spanish literature with grammar review and oral practice. (One hour per week in the language laboratory is required.) Spanish 20 offers more extensive readings than Spanish 21 and covers the grammar in 18 class plus 18 laboratory hours. Students who intend to concentrate or do Honors work in Spanish are urged to elect this course.
Prerequisite: Spanish 2, 10, Grade 13 Spanish or permission of the Department.
4 hours — 28.



HURON COLLEGE

Principal

The Venerable J. Grant Morden, BA Toronto; LTh, DD Wycliffe; STM *Union Theological Seminary;* DTh General Theological Seminary, New York

Dean

Frederick W. Burd, BA, MA Toronto

Librarian

John L.H. Henderson, BA, BD, DD UWO

Registrar

J. Catharine Ridley

MEMBERS OF THE FACULTY OF HURON COLLEGE

CLASSICS

Associate Professor

Allen, F.H. (Reverend), MA, BD Oxon

ECONOMICS

Lecturers

McRae, J.J., BA, Victoria; MA, UWO

Williamson, D.R., BA, Liverpool; MA, UWO

ENGLISH

Professors

Poisson, R., BA, MA British Columbia; PhD, Washington

Associate Professor

McVey, E.D., BA, MA, Queen's; PhD, Princeton

Assistant Professors

Johnson, Elaine Campbell, BA, Mills College; MA, Indiana; PhD, Oregon

Revell, Elizabeth, BA, Toronto; MA, BLitt, Oxon

Lecturers

Sharp, Corona (Sister), BA, MA, PhD, Notre Dame

Speer, R.S., BA, Yale; MA, University of Pennsylvania

Tucker, J.A., BA, BMus, McGill; MA, Toronto

FRENCH

Associate Professors

Black, G.A., BA, MA, Toronto; PhD, UWO

Metford, Deborah, BA, MA, British Columbia; DU, Paris

Assitant Professor

Miller, Valentine, BA, MA, BLitt, Oxon

Lecturers

Van der Wel, C.M., BA, London; MA, UWO

HEBREW

Professor

Parke-Taylor, G.H. (Reverend), BA, MA, Toronto; LTh, BD, DD, Wycliffe

Lecturer

Kay, H. (Reverend), BA, Dalhousie; LTh, King's; BD, Trinity; MA, Temple

HISTORY

Professor

Henderson, J.L.H. (Reverend), BA, BD, DD, UWO

Assistant Professors

Blocker, J.S., BA, Florida; MS, PhD, Wisconsin

Owens, G.L., BA, MA, Nebraska; PhD Wisconsin

Roper, H., BA, Dalhousie; BA, MA, Cantab

Waugh, Maureen, BA, Sask., MA, Harvard

MATHEMATICS

Lecturer

Smet, E.F., BA, MA, UWO

PHILOSOPHY

Assistant Professors

Miller, R.P., BA, Cornell; BPhil, Oxon; MA, Michigan

Schachter, Jean-Pierre, BA, City College of New York; MA, City University of New York; PhD, Syracuse

Lecturer

Irvine, D.F., (Reverend), BA, UWO; BTh, Huron; MA, University of Waterloo

POLITICS

Lecturer

Sinclair, D.K., BA, Hull; MA, McMaster
Waugh, Maureen, BA Sask., MA Harvard

PSYCHOLOGY

Professor

Burd, F.W., BA, MA, Toronto

Associate Professor

Sansom, Moira BA, Mount Allison; BA, New Brunswick; BLS, Toronto; PhD, London

Lecturers

Carruthers, B., BSc, McMaster; MA, UWO

Csapo, K., BA, Waterloo Lutheran, MA, PhD, UWO

Dalrymple, S.D., BSc, Queen's, Belfast; MSc, PhD, Alberta

Harris, T. (Reverend), BA, Toronto; LTh, Wycliffe; MA, Columbia; BD, Union Theological Seminary

Munn, F.G., BA, Waterloo Lutheran; MA, UWO

Thomas, N.W., BA, Mount Allison; MA, Toronto; PhD, UWO

RELIGIOUS STUDIES

Professor

Morden, J.G. (Venerable), BA, Toronto; LTh, BD, DD, Wycliffe; STM, Union Theological Seminary; DTh, General Theological Seminary, New York

Associate Professor

Allen, F.H. (Reverend), MA, BD, Oxon

Lecturers

Irvine, D.F. (Reverend), BA, UWO; BTh, Huron; MA, University of Waterloo

Kay, H. (Reverend), BA, Dalhousie; LTh, King's; BD, Trinity; MA, Temple

Rousom, G.E. (Reverend), BA, UWO; MA, Toronto; BD, Emmanuel

AFFILIATES

Huron College is an undergraduate, co-educational, residential liberal arts college affiliated with the University of Western Ontario, and situated immediately adjacent to the main University campus. With slightly more than five hundred students, half of whom live in residence, the College's relatively small size fosters a sense of community, ensures that classes are generally small, and makes possible close working relationships between students and faculty. The College's academic affiliation with the University of Western Ontario means that its students obtain a University of Western Ontario degree through Huron College, and that all the academic and social resources of the University are fully open to them. Thus they not only take courses taught within the College but also can select courses within their program from those taught at the University itself; they can participate in extra-curricular activities within both the College and the University.

The aim of Huron College is to provide its own distinctive pattern of education for the student who seeks relevant basic preparation to meet a world of increasing change. In a society characterized by shifting values, technological innovation and an explosion of factual knowledge, the mere accumulation of knowledge is an increasingly uncertain and inadequate guide. Rather, the necessary qualities to be cultivated in a truly relevant education are intellectual curiosity and discrimination, independence of thought, and an awareness of the values implicit in our cultural heritage. Thus a broad liberal education uses the deep exploration of selected bodies of knowledge in a way designed to train the person to seek out fundamental and relevant questions and to evaluate the answers he attains, to learn to look beneath the surface for inner coherence or hidden inconsistency, to subject his thinking to the scrutiny of his fellows, and to seek in the world of thought and action those enduring values that underlie the best of man's creative endeavour.

In accordance with its aim, the College concentrates in its teaching on the disciplines of English, History, Philosophy and French, offering both honors and general programs. The teaching of the social sciences is strengthened by a major emphasis on Psychology and the offering of core courses in Economics. Courses in Religious Studies and Hebrew are open to students of the University as well as the College. In general, the nature of the courses and programs offered within the College, coupled with the overlapping interests of its faculty, makes it possible for the student to become better aware of the relationships between the various courses he studies. Most importantly, Huron's own extensive library, whose resources are freely available to all its students, plays a central part in the academic life of the College.

By choosing from the College's own areas of concentration, and by supplementing his program with courses in a wide range of disciplines taught at the University, the student can achieve a basic liberal education which will give him a highly relevant background for going on to specific training in teaching, law, business, the social service professions, government service and other careers, and for progressing in personal growth and development.

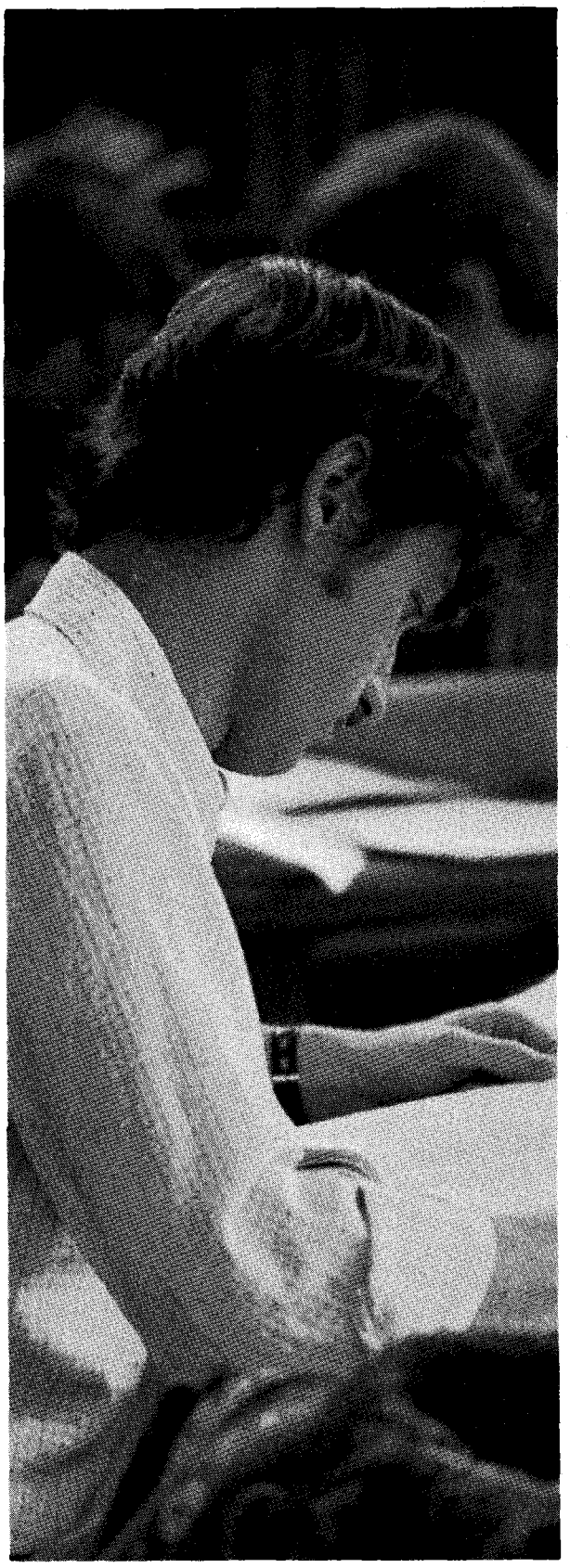
PROGRAMS

The General Program in Arts and Social Science, all Honors Programs which include English, French, History or Philosophy, and the first two years of Honors Business Administration are offered by Huron College.

Through its Department of Religious Studies, Huron College offers courses open to all students of the University.

COURSES

The courses listed below are those taught within the College. Other courses in a student's program, including those in the Natural Sciences, may be selected from those taught at the Constituent University or the other Affiliated Colleges. A student registered at Huron College will normally take at least two courses within the College each year unless granted special permission by the Dean.



Economics 20. Introduction to Economics. The nature of economics, economic organization, national income, money and banking, economic fluctuations, public finance and fiscal policy, price determination, international trade, and Canadian economic problems.
3 lectures and 1 optional tutorial hour — 15.

Economics 30. Intermediate Microeconomic Theory. A survey of micro economic theory including theories of the firm, consumer behaviour, market organization, distribution and welfare.
Prerequisite: Economics 20 or 21.
3 hours — 34.

Economics 31. International Trade and Finance. A discussion of the principles of international economics and their application to contemporary problems in the international economy.
Prerequisite: Economics 20 or 21.
3 hours — 13 (Not offered 1972-73).

Economics 33. Money and Income. A course in intermediate macroeconomic theory and policy. Topics will include national accounts, income determination, banking theory and practice, monetary theory, stabilization policies in closed and open economies.
Prerequisite: Economics 20 or 21.
3 hours — 15.

English 20. Introduction — General Literature and Composition. An introduction to the romance, ironic (or satiric), tragic and comic modes of literature.
3 hours — 11.

English 30. The Literature of the Bible. A study of extensive readings in the prose and poetry of the Bible, including the Apocrypha, with supplementary readings in later literature. Attention will be given to genres, styles, structural patterns, and the use of Biblical material in later literature.
3 hours — 20.

English 34. Comparative Literature. A course of reading in English or in English translations of some of the great books of Western civilization from Homer to Joyce with particular emphasis on the growth of epic, drama and fiction.
3 hours — 10.

English 35. Contemporary Literature. An introduction to the poetry and prose of the contemporary scene.
3 hours — 13.

English 421. Chaucer and His Age.
3 hours — 36.

English 430. Literature of the Sixteenth Century excluding drama.
3 hours — 24.

English 431. Literature of the Seventeenth Century excluding drama.
3 hours — 12.

English 432. Shakespeare.
3 hours — 11.

English 433. Medieval to Jacobean Drama (1300-1642) excluding Shakespeare.
3 hours — 33.

English 440. Literature of the Restoration and Early Eighteenth Century (1660-1727).
3 hours — 31.

English 441. Literature of the Eighteenth Century (1727-1790).
3 hours — 20.

English 450. Literature of the Romantic Revival (1798-1832).
3 hours — 8.

English 460. Literature of the Victorian Period (1832-1900).
3 hours — 7.

English 470. Modern Literature (1890-1945).
3 hours — 9.

English 471. Modern Drama.
3 hours — 23.

English 480. Canadian Literature.
3 hours — 10.

English 482. Literature of the United States from 1885.
3 hours — 27.

English 490. Thesis. Individual instruction in the selection of a topic, the preparation of materials, and the writing of a thesis. Students who wish to take this course must consult the Head of the English Department at Huron College. This course is for third or fourth year students only.

French 20. French Language and Literature. This is the basic Freshman course in French, providing training in Language and Literary studies and an introduction to French institutions. In the initial stages, English will be used; thereafter the course will be given in French. Lectures, tutorials and language laboratory.
Prerequisite: French 2, 10 or Grade 13 French.
4 hours per week — 23.

French 271. Language. Grammar, composition, oral practice, phonetics, introduction to Linguistics.
(One hour per week in the language laboratory may be required). This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 or 4 hours — 17.

French 290. Introduction to French Literature. A study in depth of texts from the 19th and 20th centuries designed to provide intensive training in the skills of literary analysis. This course is required for concentration in French.
Prerequisite: French 20 or by permission of the Department.
3 hours — 14.

French 398. Literature of the 19th and 20th Centuries and of French Canada. Selected authors and texts, one of which must be in the French Canadian Literature.
Prerequisite: French 290.
3 hours — 31.

Hebrew. These courses are given in Huron College on behalf of the Faculty of Arts of the Constituent University, and Huron College.

Hebrew 1-10. Grammar: Text of Genesis 1-3; 22; Jonah. Language Laboratory — Israeli Hebrew.
5 hours — 27.

Hebrew 20. Introduction to Hebrew Narrative and Poetry: Text of II Samuel 9-20; 1 Kings 1-2. Selected Psalms.
3 hours — 17.
Prerequisite: Hebrew 1-10

Hebrew 30. Hebrew Prophetic Literature: Selections from Amos, Isaiah of Jerusalem, Jeremiah, and Deutero-Isaiah. Introduction to Gunkel's **Formgeschichte** and **Gattungskritik.**
2 hours — 21.
Prerequisite: Hebrew 20.

Hebrew 40. Hebrew Text of the Psalms: Principles and forms of Hebrew poetry. Studies of representative Psalms. Gunkel's **Gattungen** and Mowinckel's cultic **Psalmenstudien.**
2 hours — 4.
Prerequisite: Hebrew 20

History 20. Modern Europe. 1715 to the Present.
3 hours — 14.

History 22. Studies in American History: Intensive study of specific incidents in U.S. history aimed at learning the critical use of historical sources. Topics vary but may include such as: the Salem witchcraft controversy; the Brook Farm community; the Sacco-Vanzetti trial; the People's party national convention of 1896.
3 hours.

History 25. A Survey Course in Canadian History. A Canadian survey, including the French Regime to the present. Not open to students holding credit for History 31 or 231. (Limited enrollment).
3 hours — 24.

History 32. England to 1688. A survey of English History from the Anglo-Saxons.
3 hours — 10.

History 34. The United States, Colonial Period to the Present. Emphasis first term upon the emergence of the American nation, the equalitarian impulse, national expansion and sectional conflict; second term, upon the great transformations of the modern era: the growth of industrialism, big government, a pluralistic society, and international predominance.
3 hours — 36.

History 35. England since 1688. English political, social, economic, and diplomatic development.
3 hours — 18.

History 234. The United States, Colonial Period to the Present. Emphasis first term upon the emergence of the American nation, the equalitarian impulse, national expansion and sectional

conflict; second term, upon the great transformations of the modern era: the growth of industrialism, big government, a pluralistic society, and international predominance.
3 hours — 36.

History 236. Europe and England in the 16th and 17th centuries.
3 hours — 13.

History 335. England, 1715-1914. A study of English history in the 18th and 19th centuries, stressing as a central theme the development of the modern state. The course will be based mainly on the writings of the following contemporary authors: Locke, Bolingbroke, Burke, Adam Smith, Paine, Bentham, James Mill, Engels, Robert Owen, Newman, and the Fabian Essayists.
3 hours — 18.

History 345. Selected Topics in American History.
Prerequisite: History 34 or permission of the instructor.
3 hours — 23.

History 380. Selected Topics *in* the Diplomatic History of the 20th Century.
3 hours — 20.
Prerequisite: Students must have completed their Second Year or have the permission of the instructor.

History 432. England, 1399-1642. A political, social and constitutional study of England from the 15th century to the mid-17th century.
3 hours — 10.

History 456. European International Relations since 1871. The course includes the foreign policies of Great Britain and Continental Powers with respect to non-European nations. Lectures and seminars.
3 hours — 11.

Mathematics 20. Introductory Calculus and Algebra. An introduction to calculus; a study of logic, set theory, probability theory, and the algebra of vectors and matrices.
Prerequisite: Grade 13 Mathematics A or Mathematics 10.
3 lectures — 30.

Philosophy 20. Introduction to Philosophy. This is an introductory course in traditional and contemporary philosophical problems for either freshmen or upperclassmen. The aim of the course is to provide the students with the tools and methods of critical intellectual analysis; the main goal being to provide the student with the ability to think for himself, to examine and evaluate his own opinions and those of others, and to discover and understand the basic assumptions and methods of many areas of human thought. The specific problems to which the method will be applied include: the existence of God, the mind-body problem, freedom and responsibility, appearance and reality, ethics, and theory of knowledge.
3 hours — 1.

Philosophy 31. Logic. This course will concern itself with the two main modes of reasoning; deductive and inductive logic. The first half of the course will be devoted to modern truth-functional logic and the foundations of symbolization, validity, and logical translation. The second half will cover the foundations of probability and statistics. The course should prove useful for any student wishing to concentrate in those areas of the social sciences which rely upon computors and statistical evidence. Some time will also be spent on questions concerning the justification, usefulness, and applicability of deductive and inductive reasoning.
2 hours — 20.

Philosophy 36. Ancient Philosophy. This is a survey course designed to acquaint the student with the sources of western philosophical tradition. The course will be divided into four parts—part one will deal with the pre-Socratic philosophers such as Thales, Pythagoras, Heraclitus, Parmenides, **et al.;** part two will deal with Plato; part three with Aristotle; and part four with representative Hellenistic philosophers such as Epicurus, Epictetus, and Plotinus. The main text for the course will be **Philosophic Classics,** a book of readings edited and prefaced by Walter Kaufmann.
2 hours — 28.

Philosophy 38. Existentialism. This is an introduction to the loosely connected stream of concepts, preoccupations, works, and men that have come to be known by the rubric "Existentialist". The course is divided by philosophers rather than themes in the belief that thematic introductions necessarily fragment the philosophers read. While such fragmentation is not always to be avoided, it seems particularly serious and pernicious with regard to existentialism where fragments tend to appear incomprehensible when found in isolation. The readings will be taken from some of the following works: **Meditations,** Descartes; **Fear and Trembling,** and **The Sickness Unto Death,** Soren Kierkegaard; **The Portable Nietzsche,** ed. Walter Kaufmann; **An Introduction to Metaphysics,** Martin Heideggar, **Man In the Modern Age,** Karl Jaspers; **Being and Nothingness,** J.P. Sartre; **The Tragic Sense of Life,** Miguel Unamuno; **The Myth of Sysiphus, Exile and The Kingdom,** Albert Camus.

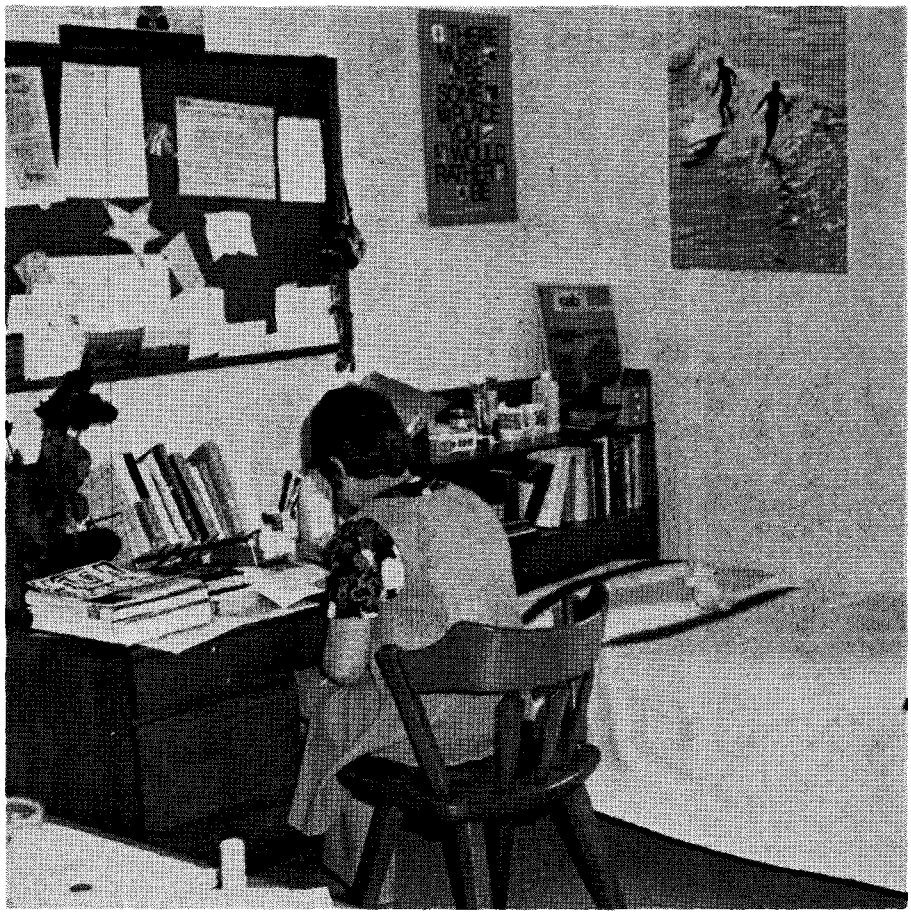
Philosophy 42. Ethics. A general survey of philosophical ethics and meta-ethics. The main emphasis of the course will be on classic works in ethical theory; readings will include material from Aristotle, Butler, Hume, Kant, Mill, Stevenson, **et al.** In addition to the critical examination of major ethical systems, there will be special attention paid to important meta-ethical problems and questions such as the problem of freedom, cultural relativism, and psychological egoism. The general aim of the course is to provide some understanding of the nature of ethical systems and the degree to which they can be compared and evaluated. That is, the course will attempt to determine whether there can be objective ethical truths, which hold without exception.
2 hours — 31.

Philosophy 43. Philosophy of Religion. A basic course in philosophical reasoning as applied to important religious questions: e.g., Does God exist? Is there life after death? Are religious utterances verifiable? Emphasis will be placed on the methods of contemporary philosophical analysts in resolving these questions.
2 hours — 12.

Philosophy 44. Philosophy of The Social Sciences, Philosophy of Psychology: This course will be given in conjunction with Psychology 98, students may register for either course, but not for both. The course will be devoted to an examination of the fundamental principles of scientific method and the extent to which these principles are and should be used in psychology. The first half of the course will investigate the development of scientific method using examples from psychology and other sciences. The second half will consist of a detailed study of the assumptions, and methodology of two or three important figures in psychology. Freud and Pavlov will certainly be covered, for example. The aim of the course is to acquaint the student with the most basic and fundamental principles and assumptions of the sciences in general and of psychology in particular.
2 hours — 22.

Philosophy 47. Early Modern Philosophy. This course covers material from the 17th and 18th centuries, and concentrates on the issues arising between rationalism and empiricism. The division between rationalism and empiricism is quite probably the most important and certainly the most pervasive issue in intellectual history. Authors studied include Descartes, Locke, Leibnitz, and Hume. The course should be of interest to any student of literature, as well as to those interested in intellectual history. The issues raised by this controversy have by no means been settled, and its influence on literature, political science, ethics, and law is extensive.
2 hours — 35.

Philosophy 49. Individual Tutorial. Members of the Philosophy Department are prepared to offer Philosophy 49, on an individual tutorial basis, to any student who wishes to investigate a particular problem or concept in philosophy. Format, structure, and other arrangements would, of course, be made in each case by the student and instructor concerned. The course provides an excellent opportunity for a student to master thoroughly a particular area of philosophy.
2 hours — 33.



Philosophy 257. Early Modern Philosophy. This course covers material from the 17th and 18th Centuries, and concentrates on the issues arising between rationalism and empiricism. The division between rationalism and empiricism is quite probably the most pervasive issue in intellectual history. Authors studied include Descartes, Locke, Leibnitz, and Hume. The course should be of interest to any student of literature, as well as to those interested in intellectual history. The issues raised by this controversy have by no means been settled, and its influence on literature, political science, ethics, and law is extensive.
3 hours — 35.

Philosophy 350. Philosophical Texts. An examination of selected source materials in Ancient, Modern and Contemporary Philosophy; critical works will also be studied. The texts vary from year to year; more detailed information may be obtained from the department.
3 hours — 13.

Philosophy 362. Ethics. A critical study of moral problems and theories. The course will be based on readings selected from ethical literature from Aristotle to the present.
3 hours — 29.

Philosophy 474. Problems of Philosophy. A study of selected philosophical problems. The problems vary from year to year; more detailed information may be obtained from the department.
3 hours — 13.

Politics 20. Introduction to Political Science. A study of the principal concepts, ideas and analytical methods of modern political science, with emphasis on the political systems of Canada, the United States and Britain.
3 hours — 32.

Psychology 22. Method in General Psychology. An introduction to scientific method applied to psycholigical questions. Emphasis is placed on the development of skills in first-hand observations, experimentation, and the treatment of data, leading into the design of original studies and the critical analysis of work reported in the professional literature. Supporting content areas, which are an integral part of the course, include: learning, motivation, perception, physiological processes, developmental processes, psychological measurement applied to intelligence and personality.
2 lecture hours and one laboratory hour a week.

Students taking Psychology 22 may not take Psychology 20 for credit.

Psychology 22 is normally a prerequisite for all other senior courses in Psychology offered at Huron College.

Psychology 98. Methods and Theory in Psychology. The historical origins of psychological theories, concepts, and methods, a survey of the growth and sources of psychological thinking. Emphasis will be given to a philosophically oriented examination of the structure and methodology of the social sciences in general and psychology in particular.
Prerequisite: Psychology 22 or permission of the instructor.
2 hours a week.

This course is taught as an interdisciplinary course with the Department of Philosophy at Huron College. Students may receive credit for either Psychology 98, or Philosophy 44 but not both.

Psychology 204b. Human Learning: Behaviour Modification. This course will deal with the application of psychological principles, mainly those of classical and operant conditioning and of social learning, to bring about behaviour change in various contexts, especially clinical and educational. Topics will include the major techniques in current use, such as systematic desensitization, and token economies, and related practical, theoretical, and ethical issues.
Prerequisite: Psychology 22 and 208. May be taken concurrently with Psychology 208.
4 hours per week — 2 lecture hours, 2 seminar hours.

N.B. Psychology 204b cannot be taken for credit if Psychology 54b has been successfully completed.

Psychology 208. Method and Theory in Learning and Motivation. A critical examination of the basic facts and theories of learning and motivation with emphasis on experimental designs and research methods.
Prerequisite: Psychology 22. Psychology 283a must be taken either before or concurrently with this course.
4 hours per week—2 lecture hours and 2 laboratory hours per week.

N.B. Psychology 208 cannot be taken for credit if Psychology 32, 35, 51a, 53b, 95, 201a, 203b, or 235 has been successfully completed.

Psychology 241. Developmental Psychology: Basic Principles. A general examination of theory and research in developmental psychology from the prenatal period to early adolescence. The course considers child growth in terms of learning, perception, cognition, emotional and social development, and attempts to integrate these in relation to personality

theory. Students will be responsible for a summary examination, a major research paper and at least one seminar.
Prerequisite: Psychology 22.
4 hours per week — 2 lectures, 2 hours to be assigned by the instructor.

N.B. Psychology 241 cannot be taken for credit if Psychology 36, 56 or 236 has been successfully completed.

Psychology 253. Theories of Personality. An examination of the systematic problems of personality theory. A major part of the first term consists of intensive study of the historical development of Freudian psychoanalysis based on a detailed examination of fifteen major works and essays. The second term is devoted to extended class seminars on nine other representative personality theorists.
Prerequisite: Psychology 20 (University) or 22.
2 hours per week — 2 lectures, 2 hours to be assigned by the instructor.
Given in alternate years with Psychology 352.
Not offered in 1973-74.

N.B. Psychology 253 cannot be taken for credit if Psychology 31, 94, 77b, 251, 331 or 450 has been successfully completed.

Psychology 265. The Individual in Education and Work. The uses of Psychology in the problems of individuals engaged in formal education and modern industry, with attention to the historical context of these problems. Three original research studies demonstrating competence in scientific method and familiarity with the literature are required.
Prerequisite: Psychology 22. Students taking the course must take Psychology 283a either before or concurrently. Given in alternate years with Psychology 275.
Not offered in 1973-4.
4 hours per week — 2 lecture hours, 2 hours to be assigned by the instructor.

N.B. Psychology 265 cannot be taken for credit if Psychology 46, 81, 96, 264, 354 or 446 has been successfully completed.

Psychology 275. Selected Basic Problems in Social Psychology. A research oriented course in social psychology offering concentration in the methods and content of two major areas of social psychology, small group structure and functioning, and the measurement, change, and development of social attitudes.
Prerequisite: Psychology 22. Given in alternate years with Psychology 265; not offered in 1972-73. Students taking this course must take Psychology 283a either before or concurrently.
4 hours per week — 2 lecture hours, 2 hours to be assigned by the instructor.

N.B. Psychology 275 cannot be taken for credit if Psychology 32, 49, 72, 97, 271 or 349 has been successfully completed.

Psychology 283a. Research in Psychology. An advanced treatment of the collection, analysis and interpretation of behavioral data, reviewing and extending the topics covered in Psychology 22: problems in the design and conduct of studies and experiments, operational definitions, experimental control and recording of behaviour; statistical treatment of data, including descriptive and inferential statistics.
Prerequisite: Psychology 22.
4 hours per week — 2 lecture hours and 2 laboratory hours.

N.B. Psychology 283a cannot be taken for credit if Psychology 63, 255, or 281 has been successfully completed.

Psychology 342. The Exceptional Child. This course will be an in-depth study of the exceptional child. The format will be seminar and in the seminars the area will be considered in four sections: (a) intellectual endowment (retardation and giftedness), (b) physical disability including aural and oral handicaps, (c) neurological impairment, and (d) emotional and social disturbances. Each student will be required to do a project, a major essay, and a summary examination besides giving at least one seminar. The course will consider the aetiology, diagnosis, management and education of the exceptional child.

Prerequisite: Psychology 22 and 241.
4 hours per week — 2 lecture periods, 2 hours to be assigned by the instructor.

N.B. Psychology 342 cannot be taken for credit if Psychology 39, 59, or 242 has been successfully completed.

Psychology 352. Theories of Psychopathology. The major emphases in the course are on theoretical issues involved in questions of the nature and causation of abnormal behaviour, and the essentially separate question of the modification of such behaviour. Special collateral attention is paid to those syndromes which most clearly raise theoretical issues and which have been a major focus for empirical research (Psychoneurotic reactions, psychophysiological disorders, schizophrenic and paranoid reactions, some organic syndromes, etc.). The student is expected to develop competence in the assessment of research in the current journal literature.
Required texts: Rosen and Gregory: **Abnormal Psychology,** Milton: **Theories of Psychopathology.**
Prerequisite: Psychology 22 and 253.
4 hours per week — 2 lecture periods, 2 hours to be assigned by the instructor.
Given in alternate years with Psychology 253; not offered 1972-73.

N.B. Psychology 352 cannot be taken for credit if Psychology 48, 71, 79, 252 or 448 has been successfully completed.

Religious Studies 20. A study of great personalities in the Judaeo-Christian tradition, and modern religious leaders by the biographical method. An examination of their effect on social, political and religious action.
2 hours.

Religious Studies 30. An Introduction to the Living Religions of the World. A study of the history, faith, and practices of the major living religions.
2 hours.

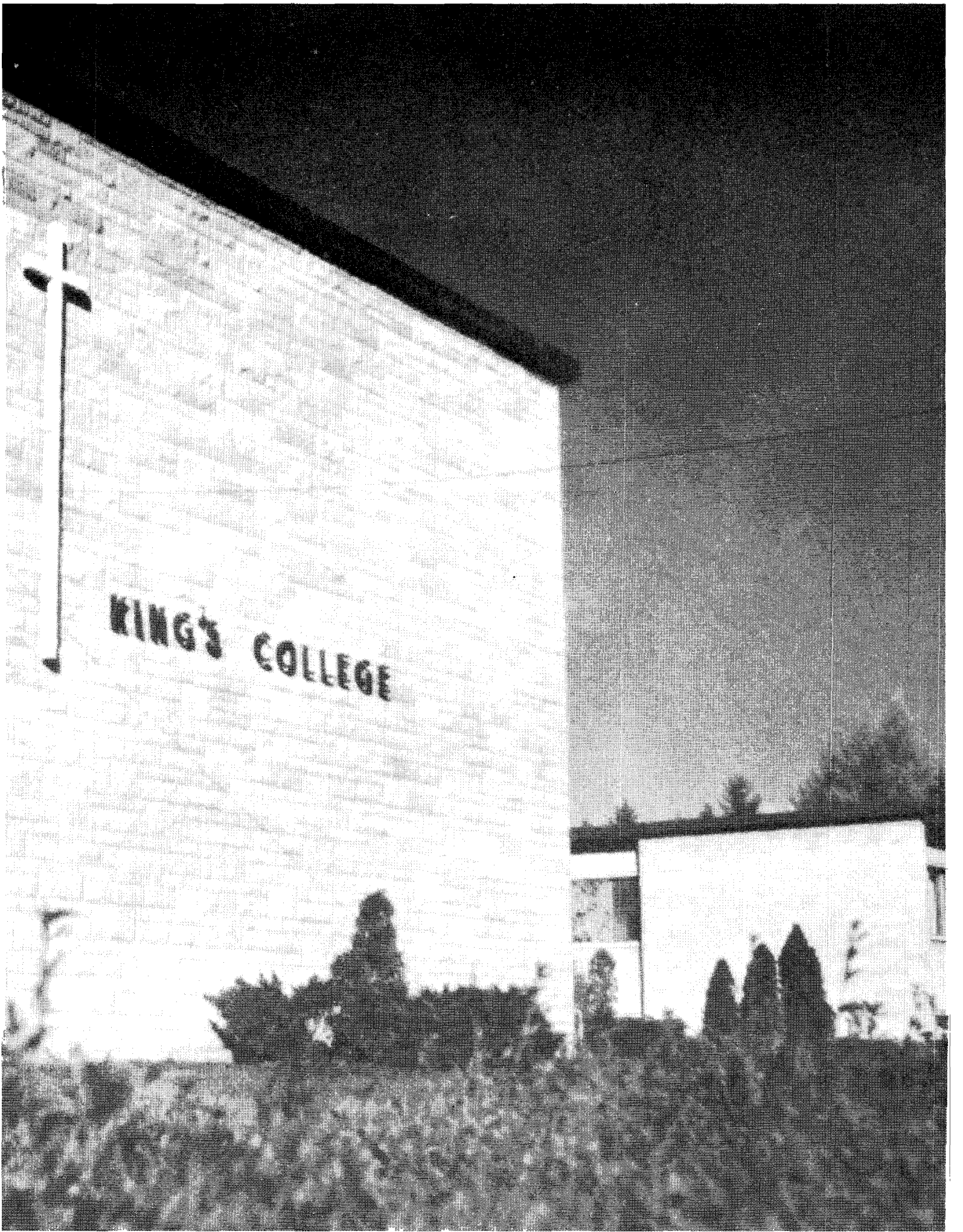
Religious Studies 31. Religion, Society, and Morality. An approach to some contemporary social and moral issues as these relate to certain religious beliefs in the Judaeo-Christian tradition. Social and moral themes selected for discussion include justice and the "just" society, grounds for civil disobedience, equality, the institution of marriage and human sexuality.
2 hours.

Religious Studies 38. Is God fact or fiction? How is he related to this world? An Introduction to Biblical Process Thought. A lecture and discussion course designed to examine objectively the biblical world outlook, the distinctively Hebrew experience that produced it. A discussion of key biblical concepts in terms of the thought of Whitehead, Teilhard de Chardin, Bultmann, Tillich, and others.
2 hours.

Religious Studies 39. The Principles of Christian Theology. A survey of Christian beliefs, with an emphasis on Anglican and Protestant theologians of the 20th Century. The course will include an introduction to the theological method and authorities followed by a survey of the doctrines of the Church as they appear in the ecumenical creeds.
2 hours per week.

Religious Studies 44. 20th Century Theological and Philosophical Problems. A seminar designed to exhibit clearly the rational basis of the radical transformation of theology in the 20th Century. The literature of contemporary analysis will be examined as it bears on specific topics, e.g., the existence of God, Order and Design. Meaning and Morality. Religious Experience and Authority. The latter part of the course will be a critical scrutiny of some contemporary responses to the problems posed.
2 hours.

Religious Studies 45. An Introduction to New Testament Greek.
2 hours.


KING'S COLLEGE

KING'S COLLEGE

Principal and Dean

A.F. McKee, BA, MA University of New Zealand; DUP Université de Paris; MSc (Ec.) London School of Economics.

Registrar

J.H. Campbell, BA St. F.X.; BEd, MA UNB.

Assistant Registrar

C.D. Dutrizac, BA, MA UWO.

Librarian

P.D. Mitchell, BA, BLS McGill

Comptroller

M.D.J. Low

Address for Correspondence:
266 Epworth Avenue, LONDON 11, Ontario.

MEMBERS OF THE FACULTY OF KING'S COLLEGE

Dean

McKee, A.F., BA, MA University of New Zealand; DUP Universite de Paris; MSc (Ec.) London School of Economics (Economics).

Professors

Goutor, J.R., BA Allegheny; MA, PhD Illinois (History).

Havelka, J., BA, MA Masaryk; PhD Milan; MSc McGill (Psychology).

Lenardon, D., BA, BEd Alberta; MA, PhD Toronto (Romance Languages).

Melzer, A.E., AB, Brooklyn; MS, DSW Columbia (Social Welfare).

Murphy, R.T.A., (The Very Reverend) OP, STD Angelicum; SSD Biblical Commission; STM Dominican Order (Religious Studies).

Ring, W. (Reverend), BA UWO; PhL Laval (Philosophy).

Associate Professors

Cavanagh, P.E. (Reverend), BA UWO; MA Toronto; PhD Notre Dame (Philosophy).

Crunican, P.E. (Reverend), BA UWO; MA, PhD Toronto (History).

Graveline, R.A. (Reverend), BA UWO; PhL, STL Laval (Philosophy and Religious Studies),

Plum, G.E., BS Wayne State; PhD Chicago (Social Welfare).

Ryan, M. (Reverend), BA UWO; MA, PhD Notre Dame (Philosophy and Religious Studies).

Snyder, J.J., BA Notre Dame; MA, PhD Toronto (Philosophy).

Toop, R., BA, MA, PhD Toronto (English).

Assistant Professors

Britain, Susan Dorothy, BA, MA San Jose State; PhD University of British Columbia (Psychology).

Brown, Trudy (Mrs.), BA Ottawa; MSW Carleton (Social Welfare).

Canzona, L., BA, BSW, MSW Toronto (Social Welfare).

Donohue, J.J. (Reverend), BA UWO, STL Gregorianum (Religious Studies).

de Fabry, Anne Srabian, BA Houston; MA, PhD Rice (French).

Herrick, J.M., BA St. John's; MA, PhD Minnesota (Social Welfare).

Hill, Mary B.R., BA McMaster; MA McGill; PhD New York; ARCT Toronto; LTCL Trinity College, London, England (Sociology).

Koop, P.A., BComm Manitoba; MBA Toronto; PhD Southern California (Economics).

MacWillie, G.J., BA Sir George Williams; BD Presbyterian College; MA, PhD Alberta (Psychology).

Miner, E., BA Toronto; BAHons London; PhD Notre Dame (English).

Paterson, G.H., BA, MA, PhilM, PhD Toronto (English).

Price, Janet, BA University of California; PhD Dartmouth College (Psychology).

Prieur, M.R. (Reverend), BA UWO; STD San Anselmo, Rome (Religious Studies).

Schmeiser, J.A., BA Saskatchewan; MA, MTH, STL Ottawa, Dipl. Liturg. West Germany; PhD (D.Th.) Ottawa (Religious Studies).

Smith, T., BA St. Mary's; MSSW Maritime School of Social Work and St. Mary's (Social Welfare).

Lecturer

Bahcheli, T.S., BA, MA UWO (Political Science).

Fric, L., BA, MA Manitoba (Economics).

Orange, J.C., BA, MA, PhilM Toronto (English).

Seebaran, R.B., BA, BSW, MSW University of British Columbia (Social Welfare).

Webb, P.L.C., BA, MA UWO (History).

Part-Time Faculty

Chan, L.K., BSc Hong Kong Baptist; MA, PhD UWO (Mathematics).

Cohen, A., BA, MA UWO (Sociology).

Denys, Jozef (Reverend) BA, BTh UWO; MA Windsor (Sociology).

Lemmon, J.C., BA Queens; MA UWO (Business).

Stouffer, Phyllis (Mrs.) AB St. Andrew's College; MA, PhD Penn. State (French).

AFFILIATES



GENERAL INFORMATION

King's College is a co-educational undergraduate college of liberal arts and social sciences sponsored by the Roman Catholic Diocese of London and open to students of all beliefs.

The College is situated on Epworth Avenue at Waterloo Street, directly opposite the Faculty of Music of the University and two blocks from the main entrance to the University. An inter-lecture bus service operates between the College and the main campus. This service permits a valuable integration of courses given in various parts of the University.

The principal building houses faculty, student, and administration offices, classrooms, chapel, cafeteria, lounges, and the women's residence. Three separate buildings provide residence accommodation for 200 men. The College library houses some 30,000 volumes. As members of The University of Western Ontario community, King's students have full privileges at Western's libraries. The Theology Department of St. Peter's Seminary, located within short walking distance, provides further course and library facilities available with some restrictions to King's College students. Students at King's College also share the services offered students of The University of Western Ontario: athletic facilities, teams, clubs, employment services, voluntary military training, and many others.

ACADEMIC INFORMATION

The General Program in Arts and Social Sciences and some Honors Programs are offered at King's College. The courses which make up these programs follow the same prescriptions as the courses taught at the Constituent University.

The University of Western Ontario four-year Social Welfare Program leading to a BSW degree is offered at King's College exclusively.

Upon successful completion of the first two years at King's College, students transfer into Year III of the Western School of Business Administration Program.

Degrees are granted by The University of Western Ontario.

COURSES

Besides the courses listed below, which are offered on the King's Campus, a student may take any course or courses at the Constituent University to complete his desired program. It should be noted that one tuition fee covers all courses the King's student may wish to take. A student registered at King's must take at least two courses within the College each year unless special permission is granted by the Dean.

If a course is listed by title and number only, it is also taught at the Constituent University, and its full description will be found in the pertinent section of this Calendar under the general University listings. If a course is followed by a complete description, it is taught at King's College only, has full academic credit at The University of Western Ontario, and is open to all Western students.

Business 20. Introduction to Business.
Economics 20. Introduction to Economics.
Economics 30. Intermediate Microeconomic Theory.
Economics 33. Money and Income.
Economics 36. Labour Economics.
Economics 37. Economic History of Canada.
Economics 38. Economic Development.

English 20. General Literature and Composition.
English 24. Forms of Fiction.
English 26. Forms of Drama.
English 31. Canadian Literature and Culture (formerly English 38).
English 34. Comparative Literature (formerly English 45).
English 35. Contemporary Literature (formerly English 47).
English 432. Shakespeare (formerly English 256).
English 460. Literature of the Victorian Period (formerly English 360).
English 470. Literature of the Twentieth Century (formerly English 459).
English 471. Modern Drama (formerly English 436).
English 480. Canadian Literature (formerly English 458).

French 20. French Language and Literature.
French 232. French Civilization.
French 271. Language.
French 290. Introduction to French Literature.
French 378. Literature of the 17th and 18th centuries.

History 20. Modern Europe, 1715 to the Present.
History 21. Totalitarianism in the 20th Century.
History 25. Survey Course in Canadian History.
History 26. The Two World Wars.
History 31. Canada.
History 34. The United States, Colonial Period to the Present.
History 35. England since 1688 (not offered in 1972-73).
History 36. Modern Europe, 1500-1715
History 60. Selected Problems in American History.
History 70. Selected Topics in European History, 1914 to the Present.
History 231. Canada.
History 232. Canada to 1864 (not offered in 1972-73).
History 233. Canada since 1864 (not offered in 1972-73).
History 234. The United States, Colonial Period to the Present (not offered in 1972-73).
History 335. England, 1715-1914.
History 346. Modern France from 1715 to the Present (not offered in 1972-73).
History 444. The United States in the 20th Century.

Italian 36. Italian Literature in Translation.

Mathematics 20. Introductory Calculus and Algebra.

Philosophy 20. Introduction to Philosophy.

Philosophy 33. Thomistic Philosophy: An introduction to the philosophy of Thomas Aquinas through a study of several of his basic philosophical writings. The course will concern principally his philosophy of nature, philosophical psychology, moral philosophy, metaphysics and philosophical theology. Brief consideration will also be given to some later forms of Thomism.
3 hours.

Philosophy 38. Existentialism.

Philosophy 41. Aristotelian Logic. A study of Aristotelian Logic with special emphasis on the various uses of words, along with a thorough examination of the nature of definition, proposition, and the different types of argumentation, both deductive and inductive. An intensive study of fallacies in argumentation is also made. Likewise included is an evaluation of the methodology of the sciences, both nonexperimental and experimental.
2 hours — 30.

Philosophy 42. Ethics.

Philosophy 43. Philosophy of Religion.

Philosophy 45. Political Philosophy. Critical readings from selected original sources of the political thought of ancient, modern, and contemporary thinkers.
3 hours — 5.

Politics 20. Introduction to Political Science.

Politics 30. Canadian Government and Politics.

Politics 31. International Politics.

Psychology 20. Introduction to Psychology.

Psychology 56. Child Development.

Psychology 81. Humanistic Psychology and its Applications.

241. Developmental Psychology: Basic Principles. Cannot be taken for credit if Psychology 36, 56 or 236 has been successfully complted.
4 hours (2 lecture and 2 seminar)

Psychology 251. Personality Theory and Research. Cannot be taken for credit if Psychology 31, 77b, 78a, 331, or 450 has been successfully completed.

Psychology 252. Abnormal Psychology. Cannot be taken for credit if Psychology 48, 71, 79, or 448 has been successfully completed.

Psychology 271. Social Psychology. Cannot be taken for credit if Psychology 32, 49, 64, 72 or 349 has been successfully completed.

Psychology 272a. The Psychology of Prosocial and Antisocial Behavior. Cannot be taken for credit if Psychology 73a has been successfully completed.

Psychology 281. Research Methods and Statistics. Cannot be taken for credit if Psychology 63 or 255 has been successfully completed.

Psychology 261. Education Psychology. Cannot be taken for credit if Psychology 82b has been successfully completed.

Psychology 266. Therapeutic Counselling: Professional counselling and psychotherapy; various processes and techniques of therapeutic counselling; special relationship problems; transference, resistance; interpretation techniques and group counselling; special areas of application of psychotherapeutic counselling: marriage, family, human relations in education and in industry, counselling and problems of values.
4 hours.
Prerequisite: Psychology 251 (formerly Psychology 31 or 78a, 77b) or Psychology 252 (formerly Psychology 79 or 48) or permission of the instructor.

Psychology 333. Psychology of Creativity: Origins of imaginative thinking; perceptions, emotions, memory, language and symbolic expressions in creative processes; child's intellectual functions and creative potential; psychopathology and creativity; theories of psychology of art; assessing the creative thinking; criterion and prediction studies; creativity in special fields and settings; scientific and artistic creativity.
4 hours.
Prerequisite: Psychology 251 (formerly 78a, 77b or Psychology 31) or permission of the instructor.

Psychology 344a. Developmental: Social and Emotional. Cannot be taken for credit if Psychology 57a has been successfully completed.

Psychology 345a. Developmental: Language and Cognition. Cannot be taken for credit if Psychology 58b has been successfully completed.

Psychology 353. Tests and Measurements. Cannot be taken for credit if Psychology 37, 62, or 337 has been successfully completed.

Psychology 378a. Special Topics in Social Psychology.

Psychology 379b. Special Topics in Social Psychology.

Religious Studies 21. The Bible and Belief Today. An investigation of the problems encountered by the modern mind in accepting the Bible. The approach combines history, literary analysis, archaeology and biblical theology.
2 hours — 18.

Religious Studies 32. Contemporary Moral Problems. A critical examination of contemporary moral attitudes and standards. An attempt to present a Christian approach to some recent moral issues, such as sex, drugs, mass-media, money, politics, war, segregation, etc.
2 hours — 26.

Religious Studies 33. Catholic Belief Today. A study of the dogmatic teachings and liturgical practices of the Catholic Church, with an examination of current developments in the light of their biblical, patristic and mediaeval backgrounds.

Religious Studies 35. Comparative Christian Religions. A study of the theological issues at stake in the division of Christendom; approaches to Christian unity; Ecumenism.
2 hours — 8.

Religious Studies 40. The Theology of Marriage. A study of marriage considered from the psychological, moral, social and theological points of view.
2 hours — 28.

Religious Studies 46. Christian Social Theory. The modern and contemporary teachings of the Christian Church on social justice, wages, property, work, poverty, social reconstruction, etc. The course will examine the thought of leading theorists and its application to contemporary society.
2 hours — 34.

Religious Studies 48. Systematic Moral Theology. Introduction to general moral theology; nature and task of moral theology, Biblical moral theology, historical over-view of moral theology, natural law, virtue of prudence, sin, human act.
2 hours — 16.

Sociology 20. Introduction to Sociology.

Sociology 31. Research Methods and Statistics.

Sociology 37. Sociology of Religion. An analysis of the function of religion, the relationships between religion and other social institutions and organized religious bodies.
3 hours.

Sociology 43. Minority Groups.

Social Welfare

Courses offered by the Social Welfare Department are part of an integrated liberal arts curriculum leading to a first professional degree. The program is designed to provide knowledge relevant to rational, autonomous and socially competent behavior as well as knowledge relevant to social work practice and the broad field of social welfare; it seeks to help students to become responsive to the humanistic values shared by all of the helping professions; it is oriented to developing the intellectual skills and analytic ability required to engage in fundamental social work practice and to introduce students to a variety of practice skills which are applicable to what is generally known as "social work methods". Students are therefore prepared for professional careers in Social Work. The educational aims of the curriculum go beyond the rendering of service to a concern with the social conditions of service and the societal implications of the organizational forms of service.

Requirements for Admission

Admission requirements from Grade 13 are those of The University of Western Ontario. Prospective Social Welfare students should meet the requirements for admission to the first year of the General Arts or Social Science Program. The five-course first year program should include Social Welfare 20 and at least one other Social Science course, preferably Psychology 20 or Sociology 20. In order to give students ample time to consider a social service career and to become acquainted with social work and other university courses, students do not register in the Social Welfare Program until the second year of university. A University of Western Ontario student will be eligible to apply for admission to Year II of the four-year Social Welfare Program if he meets the following standard: A grade of 70% in Social Welfare 20 and an average of 70% in other subjects; or an over-all average of 70% if he has not taken Social Welfare 20 in first year. Consideration may be given to students with an average of 70% in three courses who also possess unusual personal qualifications. Such students must have a passing grade in all other courses. A student wishing to transfer into the Program from another university must have successfully completed his first year having achieved grades at least equivalent to those outlined above.

Enrolment in the Social Welfare Program is limited.

All students seeking admission to the second and subsequent years of the Program are interviewed by the Department. Social Welfare students must register at King's College.

CURRICULUM

FIRST YEAR

Five courses in a General Arts or Social Science Program, which should include Social Welfare 20 and at least one other Social Science course.

SECOND YEAR

Principal Courses

Two Social Welfare Courses from the 200 series.

Subsidiary Courses

Three options.

THIRD YEAR

Principal Courses

Three Social Welfare Courses from the 300 series.

Subsidiary Courses

Two options.

FOURTH YEAR

Principal Courses

Three Social Welfare Courses from the 400 series. (Considerable emphasis will be placed on field practice in Fourth Year.)

Subsidiary Courses

Two options.

The curriculum is designed to give the student a degree of flexibility in his program. It is possible to transfer into the third year of the General B.A. Program should a student decide not to continue in the Social Welfare Program. In such a case, credit would be retained for all work done in the first two years. It is also possible to enter the Social Welfare Program in Year III providing at least two Social Welfare Courses were taken in the first two years. However, admission to either Year II or III of the Program can only be approved after consultation with the Department.

AFFILIATES

Social Welfare Courses

20. Introduction to Social Welfare. First Half: contemporary social issues and problems will be examined in relation to existing and proposed legislation, administrative programs and organized services. Within the context of welfare planning and social services, consideration will be given to such problems as rural-urban integration and labour policy; cultural pluralism and social planning; deviant behaviours and the legal system relationships among service organizations and user groups. Second Half: an examination of present-day welfare policy and programs in North America in the light of intellectual, political and legislative antecedents in Europe and North America. Canadian policy and programs will receive special emphasis. A first required course for potential Social Welfare students and for other students wishing to explore the field of Social Welfare.
3 hours.

230. Contemporary Social Welfare Problems. An examination of contemporary social welfare problems such as "mental health", "juvenile deliquency", "drug addiction", "race conflict", and "homosexuality," in the light of social welfare planning, policy, legislation, and programs of service (not required for students enrolled in the Social Welfare Program).
3 hours — 5.

235. Social Inquiry and Social Work. A survey of research in social work practice and methods. Studies of the profession and assessments of social work methods will be included and examined from the viewpoint of the consumer of research.
3 hours — 32.

236. Human Behavior and Social Environment. A seminar in analysing social functioning in relation to social systems.
General System Theory is employed as a framework for applying information and documents from diverse sources to the understanding of human behavior in social systems. The objective of the course is to enable social work students to organize diverse material for the purpose of assessing problems and formulating plans for treatment or action.
3 hours.

330. Social Work Methods. A study of methods and techniques employed by the social work profession in identifying and formulating individual and collective problems and designing and implementing solutions to such problems. Observation of practice in social agencies with the guidance of practitioners and an interdisciplinary team of teachers. Critical examination of observed and recorded social work practice with individuals, families, small groups and community organizations.
(Prerequisites: 20, 235, 236).
9 hours.

334. Comparative Welfare Systems. An analytic comparison of welfare systems. An international survey and analysis of policy, legislation and programs with emphasis on countries with highly developed or rapidly developing industrial capacity. The adaptability of non-Canadian institutions to the objectives of Canadian policy will be explored.
(Prerequisites: 20, 235, 236).
3 hours.

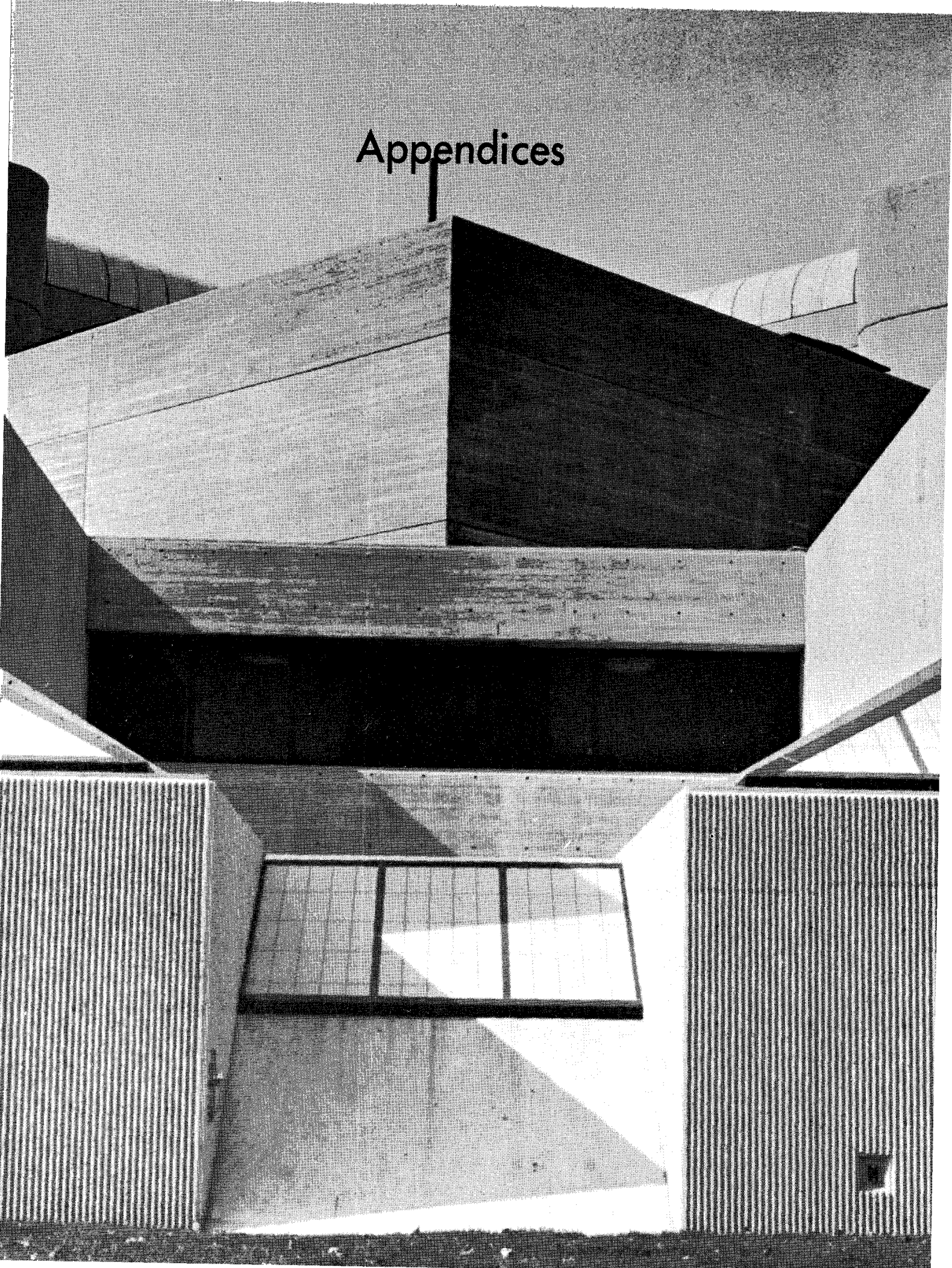
336. Seminar in Theories Applied to Social Work and Social Welfare. Individual and small group tutorials, seminars on special topics and approved research projects entailing the application of social science to social welfare and social work practice.
(Prerequisites: 20, 235, 236).
3 hours.

440. Practicum in Social Work Methods. Sustained rendering of social services in an affiliated social agency or other selected setting with the joint guidance of agency practitioners and department faculty. The course provides students majoring in social welfare with an opportunity to become acquainted, through the rendering of services, with current patterns of practice within existing social agencies.
Skills and techniques for responding to the needs of users of service are developed in twenty-four hours per week of combined preparation and practice.
(Prerequisites: 330, 334, 336).

444. Seminar in Social Work Practice. The seminar is oriented to the further integration of the substance of the Practicum in Social Work Methods and knowledge for practice. Consideration will be given to the conditions of service and the role of the social work profession in affecting the conditions of service.
(Concurrent with 440; same prerequisites).

446. Quantitative Methods in Social Inquiry. Following course 235, students are introduced to the quantitative assessment of social work practice. Research studies and information derived from documents containing material relevant to social welfare are critically examined from the research consumer's point of view. Individual students may elect to concentrate on those studies which are most relevant to one practice modality.
(Prerequisites: 330, 334, 336).
3 hours — 34.

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VI RESTRICTED AND UN-RESTRICTED BURSARIES

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Faculty of Dentistry
Faculty of Engineering Science
Faculty of Law
School of Library and Information Science
Faculty of Medicine
Faculty of Music

C) Faculty of Graduate Studies

VII GRANTS

VIII LOANS

I Admission Scholarships

An admission scholarship is an award made for academic excellence to a first year student.

1. All students with high academic standing are eligible.
2. Applicants to whom Scholarships are awarded must register for a full year's work in 1972-73. Admission Scholarships may not be deferred and, to retain the priviliege of continuing scholarships, the winners must maintain a required degree of proficiency in each year of their academic program.
3. The Admission Scholarships listed below are not tenable in the affiliated colleges (Huron, Brescia and King's College). Students in affiliated colleges are eligible for the Queen Elizabeth Scholarships.

NAME	ELIGIBILITY	AWARD
Association of Professional Engineers Entrance Scholarship	Awarded by the Ontario Professional Engineers Foundation for Education, on the recommendation of the Faculty Council, to the Grade 13 pupil entering the Faculty of Engineering Science with the highest admission average. An award will be made only in cases where a first class honors average has been attained and where the high school course has been completed in five years.	$500
The General Motors Canadian Scholarship	For Canadian citizens on the basis of academic record and all-round ability.	$4,000 ($1,000 a year for a max. of four years)
Harriet M. Giddens Scholarship	For highest ranking student from the City of London, who has not qualified for a more valuable award. The capital fund for his scholarship was bequeathed to the University by the late Harriet H. Giddens of London.	$400 payable the first year
The London Life Actuarial Scholarship	For a student entering the Honors Mathematics Program, Actuarial Option, based on highest standing in Grade 13 credits with highest standing in Mathematics.	$2,400 ($600 in each of the four years)
Queen Elizabeth Scholarships of the City of London (2)*	For the man and woman with outstanding excellence in Grade 13, who have lived in the City of London for at least three years and who have attended secondary schools in the City of London for their three final years, or who have attended a secondary school outside of the city limits, provided that the London Board of Education or the Middlesex County Roman Catholic Separate School board paid for attendance of the pupil at such school outside of the City limits.	$1,000 each payable the first year
Thomas M. Staunton Memorial Awards (3)*	These scholarships were bequeathed to the University by the late Mr. Thomas M. Staunton.	$500 value
The University Women's Club of London Entrance Scholarships	Payable in the first year to a woman candidate.	$500

* *Numbers appearing in brackets refer to the number of scholarships, awards etc. available (if more than one is offered)*

NAME	ELIGIBILITY	AWARD
University of Western Ontario Scholarships		40 at $1,250 each
Sir George Williamson Young Memorial Scholarships	The capital fund for this scholarship was bequeathed to the University by the late George Williamson Young of Port Stanley.	$500 (1st Year $200; 2nd year $300)

NOTE: *The University reserves the right to modify or cancel Scholarship offerings after the date of printing of this publication.*

II Medals, Scholarships, Awards and Prizes

A) FACULTIES OF ARTS, SCIENCE,SOCIAL SCIENCE AND PHYSICAL EDUCATION

NAME	ELIGIBILITY	AWARD
The Helen M.B. Allison Gold Medal (c)*	Awarded to a student graduating in the Honors English Language and Literature Program. (Endowed by the Undergraduate Women's Organization.)	Gold Medal
The Alumni Gold Medal (c)	To students graduating in the following Programs: Honors Chemistry, Honors English and French, Honors Music, and the degree Program in Nursing. (These medals were endowed by the Alumni Association of the University.)	Gold Medal
The Angela Armitt Medal	Awarded to a Summer School student with the highest graduating average in a fifteen course program. (Endowed by the Summer School Students' Association)	Gold Medal and $50
The Earl Arscott Memorial Scholarships (4)	For students entering the final year of a three year program in any of the Faculties of Arts, Music, Science and Social Science. (These scholarships were endowed by the Frances Georgina Chadwick Estate.)	$100 each
The Helen I. Battle Scholarship	For highest ranking student in either the third year of the Honors Zoology Program or in the third Year of the Zoology option, in the Honors Biology Program. (Endowed by Biology graduates and colleagues.)	$200
The J.P. Bickell Foundation Scholarship	For a student entering the second year of the Honors Geology Program, or the Chemical option of Engineering Science, if he maintains scholarship standing from year to year (The scholarship will alternate between the Faculty of Engineering Science and the Department of Geology.)	$1,500 ($500 a year for 3 years)
The Hon. Edward Blake Scholarship, No. 1	For Honors Economics, second year. Offered in 1973.	$100
Edward Blake Scholarship, No. 2	For Honors Economics, third year. Offered in 1973. The two scholarships above were endowed by the late Major Hume Cronyn, KC, MP, in memory of his uncle, the Hon. Edward Blake, sometime Premier of Ontario and, later, member of the British House of Commons.	$100
The B'Nai Brith Scholarship	For the highest ranking student in Arts or Social Sciences of the General Program, first year, who enters one of the following Programs: English, Ancient or Modern Languages and Literature, or Philosophy. (Given each year by the London Branch of the Order).	$50
The Boreal Biological Laboratories Award	For the highest ranking student entering the third year of the Honors Zoology Program, or for the highest ranking student in the second year of Honors Biology, entering the Zoology option of the third year. (Preference will be given to a student planning to enter the teaching profession).	$200

* *(c) Indicates that the scholarship, award, etc. is received at Convocation.*

NAME	ELIGIBILITY	AWARD
Brescia College Advisory Board Gold Medal (c)	For Brescia College students awarded on the basis of the highest A average in the graduating class.	Gold Medal
Brescia College of Arts Award (c)	To a student graduating in the Home Economics Program.	Gold Medal
Brescia College Home Economics Prize, No. 1	For Second Year Clothing (Home Economics 30X).	$25
Brescia College Home Economics Prize, No.2	For Second Year Foods (Home Economics 32X)	$25
Bruce County Scholarships (2)	One for the man and one for the woman from Bruce County, who stands highest in any year of any regular program in the University. (These scholarships were voted by the Council of Bruce County in June, 1945.)	$100 each
The Richard and Julia Butler Scholarship	For the highest ranking student in the second year of Honors Biology, entering the Botany option of the third year. (This scholarship was bequeathed to the University by the late Mrs. E.B. Moorhouse).	$100
The Canadian Association of Geographers (c)	To the graduating student who has demonstrated the greatest proficiency in this subject.	Book
The Chemical Institute of Canada Prize	To be awarded to the student with the highest standing in the Honors Chemistry Program of the third year.	$25 in books
Cyanamid of Canada Scholarship	To be awarded to an undergraduate student in the Faculty of Chemical Engineering or in the School of Business Administration.	Up to $900
The Raymond Compton Dearle Gold Medal (c)	To a student graduating in the Honors Physics Program. (Endowed by former students and friends of Dr. Dearle, MBE, FRSC, Head of the Department of Physics, 1919-1949; Research Professor of Physics, 1949-1957.)	Gold Medal
The Dillon Gold Medal (c)	To a student graduating in the Honors Applied Mathematics Program.	Gold Medal
The Gordon Dixon Memorial	Presented by the Geology Class of 1957 to a senior student who has demonstrated interest and proficiency in Pleistocere Geology.	A book
The Robert LaVerne Eagleson Gold Medal (c)	To a student graduating in the Honors History Program. (Endowed by Miss Lula Eagleson of Toronto, in memory of her brother who graduated from the University with the University Gold Medal in History in 1925.	Gold Medal
The Economics Council (Erie Region) Award	To be awarded annually to the student in the Department of Geography who has prepared the best thesis in each year.	$125
Elgin County Scholarships (2)	One for the man and one for the woman from Elgin County (excluding the City of St. Thomas), who stands highest in any year of any regular program in the University. (These scholarships were voted by the Council of Elgin County in June, 1945).	$100 each

NAME	ELIGIBILITY	AWARD
Faculty Association Scholarships	For academic excellence tenable in the Faculties of Arts, Music, Social Science, Science, and Professional Faculties. (These Scholarships were established by The University of Western Ontario Faculty Association).	$100 each
The Howard Ferguson Award	Available to a senior student in any Faculty of the University who is considered to have attained the highest achievement during his university career in athletics, scholarship and college life.	
The Harriet Beatrice Freele Scholarship	To an outstanding student entering the Third Year of an Honors Program in Modern Languages, or the Third Year of a General Program with an area of concentration in any of the following: French, German, Russian Studies, Spanish and Italian. (Endowed by the Lloyd C.A. Hodgins Estate).	$300
Gamma Phi Beta Alumnae Jubilee Prize	Second Year Secretarial Science (Secretarial Science 30, 37, 38, 39).	$10
The S.F. Glass Gold Medals (2)(c)	To a graduating student in the Honors Economics Program and in the Honors Political Science Program. (Endowed by the estate of the late S.F. Glass of London).	Gold Medal
Governor General's Medal (c)	Awarded to a graduating student standing highest in the General Program.	Gold Medal
The Andrew Grant Scholarship, No.1	For Honors Economics, second year.	$200
The Andrew Grant Scholarship, No.2	For Honors Economics, third year.	$200
The Andrew Grant Scholarship, No.3	For Honors Political Science, second year.	$200
The Andrew Grant Scholarship, No.4	For Honors Political Science, third year.	$200
	(The four scholarships above were bequeathed to the University by Mrs. Grant as a memorial to her husband, Mr. Andrew Grant, St. Thomas.)	
Huron County Scholarships (2)	One for the man and one for the woman from Huron County, who stands highest in any year of any regular Program in the University. (These scholarships were voted by the Council of Huron County in 1949).	$100 each
The International Nickel Company Award in Journalism (c)	For the student completing the Graduate Diploma Program in Journalism with the highest average, provided the average is at least 70%. The award shall be made by the Scholarship Committee on recommendation of the Head of the Department of Journalism.	A plaque and a portable typewriter
The Albert O. Jeffery Scholarship, No.1	For the highest ranking student in the second year of Honors Biology, entering the Botany option of third year.	$100
The Albert O. Jeffery Scholarship, No.2	For the highest ranking student in the third year of the Botany option, in the Honors Biology Program.	$150

NAME	ELIGIBILITY	AWARD
The Albert O. Jeffery Scholarship, No. 3	For Honors Mathematics, third year.	$150
The Albert O. Jeffery Scholarship, No. 4	For Honors Applied Mathematics, third year.	$150
The Albert O. Jeffery Scholarship, No. 5	For the highest ranking student entering the third year of the Honors Zoology Program or for the highest ranking student in the second year of Honors Biology, entering the Zoology option of third year.	$150
The Albert O. Jeffery Scholarship, No.6	For the highest ranking student in either the third year of the Honors Zoology Program or in the third year of the Zoology option, in the Honors Biology Program.	$150
	(The six scholarships above were bequeathed to the University by the late Mrs. Jeffery as a memorial to her husband, Mr. Albert O. Jeffery, KC, DCL, LLD, former president of the London Life Insurance Company).	
Edna Jeffery Scholarships (5)	For the highest standing in second year in each of the following Honors Programs: Modern Language and Literature, Psychology, Computer Science, Philosophy, and Physical and Health Education. (These awards were bequeathed to the University by the late Mrs. Edna Jeffery).	$100 each
Herbert K. Kalbfleisch Scholarship	To be awarded to an outstanding third or fourth year Honors student in German, to be designated by the Department of German. (This scholarship was endowed by former students, colleagues and friends).	$100
The Joseph J. and Annie R. Kingston Gold Medal (c)	Awarded to a graduating student in Honors Mathematics (Program 1). (Endowed by the late Dr. H.R. Kingston in memory of his parents).	Gold Medal
The Maude Holt Kingston Gold Medal (c)	Awarded to a graduating student in the Honors Astronomy Program. (Endowed by the late Dr. H.R. Kingston in memory of his wife).	Gold Medal
The Kitchener Waterloo Record and Kitchener Waterloo Press Club Award in Journalism	To be awarded in January to the student with the highest standing in the Diploma Program in Journalism at the end of the first term.	$200
Sir Wilfred Laurier Memorial Prizes (2)	Awarded annually for proficiency in French conversation, open only to Canadian-born, English speaking students, or sons or daughters of naturalized British subjects not of French parentage. (The Capital fund of these prizes was the gift of the Women's Liberal Association.	$50 and.$75
The R.B. Liddy Gold Medal (c)	Awarded to a graduating student in the Honors Psychology Program. (Endowed in memory of the late Professor R.B. Liddy, Head of the Department of Psychology at this University, 1931-1954, by his children Catherine and James, both graduates of this University).	Gold Medal
The London Life Insurance Company Gold Medal (c)	Awarded to a graduating student in the Honors Mathematics Program, Actuarial Option.	Gold Medal
The John McEachern Scholarship	In memory of Dr. Thomas E. Carr, a graduate of this University, for the student with the highest standing in third year Honors English and History who enrolls in the fourth year.	$150

NAME	ELIGIBILITY	AWARD
The J. B. McGeachy Memorial Award in Journalism	Award for merchandise or services, to be used before August 31st of the year it is awarded. Awarded annually to a student with high standing in the Diploma Program in Journalism at the end of the first term. (This scholarship has been established in perpetuity by Dr. Barbara A. McGeachy of England in memory of her brother, a distinguished Canadian journalist).	$250
The John Gordon McIntosh Scholarship, No. 1	For Honors Physics, second year.	$100
The John Gordon McIntosh Scholarship, No. 2	For Honors Physics, Third Year. (The two scholarships above were endowed by the late Mrs. John Gordon McIntosh, of Winnipeg, in memory of her husband.)	$100
The Wilhelmina and J. Gordon McIntosh Prize, No. 4	For Honors Geography, second year, tenable in the third year of Honors Geography.	$60
The Wilhelmina and J. Gordon McIntosh Prize, No. 5	For Honors Geography, third year.	$60
The Wilhelmina and J. Gordon McIntosh Public Speaking Prizes	Awards are made to students taking Speech 39 in the Department of English.	Amounts Vary
	(The 3 awards above were bequeathed to the University by the late Wilhelmina Morris McIntosh, of Winnipeg and London).	
The Mathematics Class of 1949 Prize	For the highest standing in first year Calculus.	$25
The Midland Osler Securities Scholarship	Awarded to the student entering the second year of the Honors Journalism program, who has the highest average in five courses in the first year providing that that average is at least an "A".	$100
The National Council of Jewish Women of Canada (London Section) Scholarship (c)	For a graduating student in Honors Psychology.	$60
The K.P.R. Neville Memorial Scholarship	For a student entering second year Honors English and French, English and German, or English and History. Offered in 1971-72 and alternate years therafter.	$100
The Benjamin Noble Scholarship	For Honors Fine Art, second year, tenable in the third year of the program. (This scholarship was endowed by the late Mrs. Annie Noble in memory of her husband).	$150
The Northern Life Gold Medal (c)	Awarded to a graduating student in Honors Statistical Mathematics.	Gold Medal
The Thomas B. Richardson Gold Medal (c)	Awarded to a student graduating in the Honors Geography Program. Endowed by Leverne and Ronald Richardson in honor of their father.	Gold Medal

NAME	ELIGIBILITY	AWARD
	a) A Royal Canadian Engineer component of the Canadian Army during World War 1, World War 11, or under the United Nations in Korea; or b) The Royal Canadian Engineers in the Canadian Army Regular or Permanent Force or Militia or Non-Permanent Active Militia, for not less than three continuous years; or c) The Military Engineers Branch of the unified Canadian Armed Forces for not less than three continuous years after the first day of February, 1966. *(NOTE: Application forms are available from the general office of the Faculty of Engineering Science).*	
The Dean Russell (Limited) Award (2) (c)	For two students (preferably one woman and one man) highest in fourth year Zoology. Preference will be given to students planning to enter the teaching profession.	$100 each
The Society of Chemical Industry Merit Award	For the highest standing in the final year of Honors Chemistry provided that First Class Honors are obtained and the course has been completed in four years.	a gold key and a years subscription to the Journal of the Society (Chemistry and Industry)
The Rhoda Ann Rim Scholarship in English Literature	Awarded on the basis of academic standing in Arts or Social Sciences of the General Program, first year, to a student who enrolls in the second year of Honors English Language and Literature. The winner will be selected by the Scholarship Committee, on recommendation of the Department of English, from applications to be received by the Registrar before May 1st. The student selected must maintain first or second class honors and remain in the Honors Program in English Language and Literature. (The scholarship was established as a memorial to his mother by the late Lionel Harris Rinn, Honors English graduate of this University).	$1,000 ($500 - 2nd. Year, $300 3rd. Year, $200 final Year)
The W.J. Roche Scholarship	Awarded for the highest ranking student in Arts or Social Sciences of the General Program, first year, who enters one of the Social Science Programs:Honors Economics, Politics, Geography, History or Psychology. (Given in honor of the late Hon. W.J. Roche, MD, LLD, CMG, former Chancellor of the University).	$50
Royal Canadian Engineers Memorial Scholarships	Scholarships are offered to students, both male and female, who are attending any educational course of study or practical training course beyond secondary school level. Scholarships are awarded on the basis of merit and need to the most suitable candidates from among those students who apply for the scholarship. A candidate to be eligible for the Royal Canadian Engineers Memorial Scholarships, must be the child or grandchild of a person who served in any rank in any of the following components of the Canadian Armed Forces:	Up to $500 each

NAME	ELIGIBILITY	AWARD
Sons of Italy (c)	For proficiency in the study of the Italian Language and Culture at an undergraduate level.	$100
The J.A.F. Stevenson Memorial Scholarship	To be awarded to students in the Faculty of Graduate Studies.	$1,000 annually for 10 years
The J.A.F. Stevenson Medal	Awarded annually to the top graduating student in Physiology.	Medal
Legation of Switzerland (c)	To students in modern languages, on recommendation of the Departments concerned.	book prizes
W.W. Tamblyn Prize	For the highest standing in the use of language. (English Composition and Public Speaking) at the first year level. The capital fund for this prize was bequeathed to the University by the late W.W. Tamblyn of Bowmanville and by his son, the late Professor W.F. Tamblyn of London, formerly Head of the Department of English at this University.	$50
The Timken International Fund Scholarships (4)	For students entering the Second Year in the Faculty of Engineering Science, students entering the Third Year in the Faculty of Engineering Science, students entering either the Second or Third Year of Honors Mathematics and students entering the Second or Third Year of Applied Mathematics.	$250 each
The A. Dorothy Turville Gold Medal (c)	Honors French and Spanish. (Endowed by the Undergraduate Women's Organization).	Gold Medal
United Empire Scholarship	Awarded annually to graduate students in a M.A. or Ph.D. program in the Social Science Division of the Faculty of Graduate Studies in order to further research and study in the local history of Southwestern Ontario. The winner to be determined by the Scholarship Committee following the recommendation(s) of the Dean of the Faculty of Graduate Studies.	Up to $300
The Veeco Prizes (2) (c)	Awarded annually for overall program excellence in the final year of the following programs–four year Honors Program in Physics or Physics Major/Minor, three year Bachelor of Science Program in Physics. (These prizes are to be underwritten by the Vacuum Electronics Corporation–Veeco).	$50 each
University of Western Ontario Medals (c)	For all Honors Programs when no other medal is awarded.	Medals
University of Western Ontario Scholarships	For the highest standing in the second and third Year of Honors Programs when no other scholarship is awarded.	$100 each

NAME	ELIGIBILITY	AWARD
The Frances Weir Gold Medal and Scholarship (c)	In Honors English and History. The gift of Dr. Samuel E. Weir, QC, through the Weir Foundation, in memory of his sister Miss Frances M. Weir who died in 1959 and, who was, at the time of her graduation in 1916, the winner of the Governor General's Gold Medal, which was then awarded to the best student in the Honors English and History Program.	$100
The Frances Weir Scholarship (c)	When the winner of the Governor General's Medal is a woman, she will receive a scholarship, a gift of Mr. Samuel E. Weir, QC, through The Weir Foundation, in memory of Miss Frances H. Weir who won the Governor General's Medal when she graduated from this University in 1916.	$100
Albert E. Wells	For second year Honors Chemistry.	$150
The William Wyatt Scholarship, No. 1	For Honors English Language and Literature, second year.	$200
The William Wyatt Scholarship, No.2	For Honors History, second year.	$200
The William Wyatt Scholarship, No.3 (4)	For the highest ranking student (first year General Program) in Arts, Sciences, Social Sciences and Music, who enters an honors program, when no other scholarship is awarded. (The capital fund for the three scholarships above was bequeathed to the University by the late William Wyatt of London).	$200

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B) PROFESSIONAL FACULTIES AND SCHOOLS

1. SCHOOL OF BUSINESS ADMINISTRATION

NAME	ELIGIBILITY	AWARD
The William C. Benson Prize	The gift of William C. Benson, awarded to the highest ranking student in the Business 250 Course in the second year, who is entering the third year in the School of Business Administration. The award will be made at the beginning of the third year.	$50
The Clarkson, Gordon & Co. Prize	The gift of Clarkson, Gordon & Co., Chartered Accountants, awarded to the student who completes the third year of Business Administration with the highest standing in accounting.	$100
Cyanamid of Canada Scholarship	To be awarded to an undergraduate student in the Faculty of Chemical Engineering or in the School of Business Administration.	up to $900
Faculty of Business Administration Gold Medal	To be awarded by the faculty upon graduation to the undergraduate student with the highest first class standing.	Gold Medal
The GSW Centennial Medal	Awarded upon graduation to the undergraduate student with the highest first class standing in the Faculty of Business Administration.	Medal
The Johnson's Wax Scholarship	To an outstanding student in the first year of Pre-Business, tenable in the second year if he maintains scholarship standing from year to year. Must apply to the Office of the Registrar by October 1st, 1972.	$2,400 (800 / yr. for three years)
The Wilhelmina and J. Gordon McIntosh Scholarship No. 1	Awarded for general proficiency in the second year of the School of Business Administration, payable during the third year at the school.	$100
The Wilhelmina and J. Gordon McIntosh Scholarship No. 2	Awarded for general proficiency in the third year of the School of Business Administration, payable during the fourth year at the School. (The two awards above were bequeathed to the University by the late Wilhelmina Morris McIntosh, of Winnipeg and London.)	$150
Price, Waterhouse & Co. Scholarship	Awarded to a student completing the third year of the course in Business Administration, whose academic record in the first three years and whose ability and other qualifications are considered to be outstanding. Preference will be given to those who plan to continue their studies after graduation with a practising firm of chartered accountants.	$250

NAME	ELIGIBILITY	AWARD
Touche and Ross Award	To the student entering the fourth year of Honors Business Administration with the best marks in the Arts and Social Sciences. He should have at least a second class standing in the Business subjects taken in his junior year, and should possess other qualifications which, in the opinion of the Faculty, indicate that he could, if he so desires, have a successful and happy career in the accounting profession.	$300

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2. FACULTY OF DENTISTRY

NAME	ELIGIBILITY	AWARD
The American Academy of Dental Radiology Award	Awarded annually to the senior student who, on the recommendation of the Division of Radiology, Department of Oral Medicine, is most proficient in Dental Radiology. An application is not required.	Certificate
The American Academy of Oral Medicine Award (c)	Awarded annually to the fourth year student who, on the recommendation of the Department of Oral Medicine, shows the greatest proficiency in Oral Medicine. An application is not required.	Certificate and a copy of the Journal of the American Academy of Oral Medicine in which the student's name will appear.
The American Academy of Periodontology Award (c)	Awarded annually to the senior student, who, on the recommendation of the Division of Periodontics, Department of Oral Medicine, has excelled in the area of Periodontics. An application is not required.	Certificate and a one year subscription to the Journal of Periodontology-Periodontics
American Association of Endodontists Award (c)	Awarded annually on the recommendation of the Division of Endodontics, Department of Restorative Dentistry, to the senior student who has shown the greatest interest and proficiency in the field of Endodontics. An application is not required.	a one-year membership in the American Association of Endodontists which includes a subscription to the Journal of Oral Surgery, Oral Medicine, Oral Pathology
The American Association of Orthodontists Award in Oral Facial Growth (c)	Awarded annually to the senior student who, on the recommendation of the Division of Orthodontics, Department of Paediatric Dentistry, demonstrates the most outstanding qualities and interest in the development of the oral-facial complex. An application is not required.	certificate
The Canadian Academy of Periodontology Award (c)	Awarded annually to the student who, on the recommendation of the Division of Periodontics, Department of Oral Medicine, attains the highest standing in the final year in Periodontics. No application is required.	Medical Dictionary

NAME	ELIGIBILITY	AWARD
The Canadian Society of Dentistry for Children Award	Awarded annually to the senior student who, on the recommendation of the Department of Paediatric Dentistry, is proficient in subjects relating to Dentistry for children. No application is required.	a textbook with application to Dentistry for children, and a one-year subscription to the Journal of Dentistry for children
The Canadian Society of Oral Surgeons Award. (c)	Presented annually on the recommendation of the Department of Oral Surgery to the fourth year student who achieves the highest standing in the subject of Oral Surgery. Not tenable with any other award in Oral Surgery. An application is not required.	A textbook in Oral Surgery or the equivalent in cash
Centennial Paediatric Dentistry Award (c)	Established in the Faculty of Dentistry by the Ladies' Auxiliary to the London and District Dental Society. This scholarship shall be awarded to the member of the third year class who, on the recommendation of the Department of Paediatric Dentistry, is the most proficient in Paediatric Dentistry and who, by scholarship and attitude towards his responsibilities, has met the requirements for the award. An application is not required.	$100
Clinical Paedodontic Award (c)	Established in the Faculty of Dentistry by the Canadian Society of Dentistry for children in honor of Dr. S.A. MacGregor. Awarded annually to the senior student who, on the recommendation of the Division of Paedodontics, Department of Paediatric Dentistry, has shown the greatest proficiency in the fourth dental year. No application is required.	A Medal
Dental Sciences Research Award (c)	Donated by the Department of Restorative Dentistry on behalf of Dean W. Scott Hamilton, and awarded to the senior student who has demonstrated outstanding interest and activities in research related to the dental sciences throughout his undergraduate program. No application is required.	Plaque and a one-year subscription to the Journal of Dental Research
The Fixed Prosthodonties Award (c)	Established in the Faculty of Dentistry by Dr. W.R. Teteruck. Awarded annually on the recommendation of the Division of Fixed Prosthodontics, Department of Restorative Dentistry, to the senior student who has shown the greatest proficiency in Fixed Prosthodontics throughout his undergraduate dental program. An application is not required.	A Plaque

NAME	ELIGIBILITY	AWARD
Hamilton Academy of Dentistry Award in Oral Medicine	Established in the Faculty of Dentistry by the Hamilton Academy of Dentistry. The award shall be presented annually to the member of the second year class who, on the recommendation of the Department of Oral Medicine, displays the highest degree of academic excellence in Oral Medicine. An application is not required.	A Plaque
International College of Dentists Award	Established in the Faculty of Dentistry by the International College of Dentists (Canadian Section). The scholarship shall be awarded annually on the recommendation of the Promotions Committee to a member of the third year class who exhibits the highest degree of both academic proficiency and participation in extra-curricular activities. An application is not required.	$100 and a certificate
London and District Dental Society Award	Awarded annually to the senior student for general proficiency in Clinical Paedodontics. No application is required.	A gift
C.V. Mosby Company Scholarship Awards	Established in the Faculty of Dentistry by the C.V. Mosby Company. The awards are made by the Council of the Faculty to the members of the first year selected by the Examinations Committee in the following subjects: Anatomy, occlusion and physiology. Applications are not required.	Books to the value of $30 each
Mosby Book Awards	Awards are made by the Council of the Faculty to the members of the second year selected by the Examinations Committee in the following subjects: oral pathology and restorative dentistry. Applications are not required.	Books to the value of $30 each
The Ontario Dental Association Honorary Members Prize	Awarded annually, when applicable, to a student who, on the recommendation of the Executive Council of the Ontario Dental Association on advice from the Publications Committee, has written the best article of a cultural nature (non-dental) published in the undergraduate journals of the Ontario Faculties of Dentistry during the previous year. An application is not required.	$40
The Oral Medicine Award	Established in the Faculty of Dentistry by the Hamilton Academy of Dentistry. Awarded annually to the student who, on the recommendation of the Department of Oral Medicine, displays the highest degree of academic excellence in second year Oral Medicine.	Engraved Plaque
The Oral Surgery Award	Established in the Faculty of Dentistry by the Elgin Dental Association. Awarded annually to the third year student who, on the recommendation of the Department of Oral Surgery, shows the greatest proficiency in Oral Surgery. No application is required.	$50 and a Plaque

NAME	ELIGIBILITY	AWARD
Pro Liberis Prize (c)	Established in the Faculty of Dentistry by the Dental Public Health Committee of the Ontario Dental Association. Awarded annually to the senior student who, on the recommendation of the Division of Paedodontics, Department of Paediatric Dentistry, shows the greatest proficiency in Paedodontics. An application is not required.	$50 and a Key
The Removable Prosthodontics Award	Established in the Faculty of Dentistry by Dr. J.E. Ryan. Awarded annually on the recommendation of the Division of Removable Prosthodontics, Department of Restorative Dentistry, to the senior student who has shown the greatest proficiency in Removable Prosthodontics throughout his undergraduate dental program. An application is not required.	A Plaque
The Restorative Dentistry Award	Established in the Faculty of Dentistry by Dr. D.B. Gilboe in memory of Dr. Erik T. Anderson. Awarded annually to the third year student who, on the recommendation of the Department of Restorative Dentistry, shows the greatest proficiency in Restorative Dentistry. No application is required.	$100 and a plaque
Royal College of Dental Surgeons Scholarship	Established in the Faculty of Dentistry by the Royal College of Dental Surgeons of Ontario will be awarded to the student ranking highest in honors (an average of at least 80%) at the annual examinations of the first year. Applications are not required.	$150
Royal College of Dental Surgeons Scholarship	Established in the Faculty of Dentistry by the Royal College of Dental Surgeons of Ontario. Awarded to the student ranking highest in honors (an average of at least 80%) at the annual examinations of the second year. Applications are not required.	$150
Royal College of Dental Surgeons Award in Oral Biology	Awarded annually to the second-year student in the Faculty of Dentistry with the highest standing in the subject of Oral Biology, on the recommendation of those basic science departments which instruct in Oral Biology.	$100 and a Plaque or scroll
W.B. Saunders Book Award	The award shall be presented annually on the recommendation of the Department of Social Dentistry to the third year student who shows the greatest proficiency in Social Dentistry. Application is not required.	one-year subscription to the Dental Clinics Of North America
The Senior Award in Oral Surgery (c)	Established in the Faculty of Dentistry by Dr. A.G. Parnell. Awarded annually on the recommendation of the Department of Oral Surgery to the fourth year student who achieves the greatest proficiency both academically and clinically in Oral Surgery.	A Plaque
University of Western Ontario Medal	Awarded to the fourth year Dental Student for general proficiency throughout the entire fourth year of the Program.	Gold Medal

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3. FACULTY OF ENGINEERING SCIENCE

NAME	ELIGIBILITY	AWARD
Association of Professional Engineers Scholarship	Awarded by the Ontario Professional Engineers Foundation for Education, on the recommendation of the Faculty Council, to a deserving undergraduate who has obtained first class honors in the course prescribed for the year preceding the award.	$250
Dr. E. V. Buchanan Prize	Awarded annually to the undergraduate student in the Faculty of Engineering Science who, in the opinion of the Faculty Council, has made the most significant social and cultural contribution to the life of the Faculty as well as achieving academic standing.(Underwritten anonymously).	$50
Canadian Construction Association Thesis Prize	Awarded to the fourth year student in Engineering Science with the best thesis on the subject of construction. Thesis to be reviewed by the Division of Building Research of the National Research Council and the Canadian Construction Association Research and Education Committee, with an additional $100 prize for an outstanding thesis.	$50 and an Engineer's Handbook
The Chemical Institute of Canada Prize	To the student with the highest academic standing in the penultimate year of Chemical Engineering.	$25
The Harry Cross Medal	This medal is the gift of Mr. J.R. Cross in memory of his father, the late Harry Cross, and is awarded to the fourth year student, enrolled in the Electrical option of Engineering Science, with the highest aggregate percentage for the final examination of the third and fourth years, provided that the student obtains first class honors standing in the work of the final year.	Silver Medal
Cyanamid of Canada Scholarship	To be awarded to an undergraduate student in the Faculty of Chemical Engineering or in the School of Business Administration.	Up to $900
M.M. Dillon Ltd. Award	Awarded to the student obtaining the highest standing in design in Civil Engineering leading to Degree of Master of Engineering, the recipient to be determined by the scholarship committee of the Faculty of Engineering Science.	Book Prize valued at $25
Engineering Institute of Canada (London Branch) Best Paper Award (c)	Presented to the engineering student in his fourth year whose project, presentation and thesis has been judged to have the greatest merit with regard to originality, scope, technical content, and written and verbal presentation.	$50
Engineering Institute of Canada Prize	Conferred on the student who, in his third year, has made the greatest contribution to student engineering society affairs and at the same time has maintained a good academic record.	$50

NAME	ELIGIBILITY	AWARD
Professional Engineers Gold Medal (c)	Awarded annually by the Association of Professional Engineers of the Province of Ontario to the fourth year student, enrolled in any Engineering Science option, with the highest aggregate percentage for the final examinations of the four years of his undergraduate course, provided that the student obtains first class honors standing in the work of his final year.	Gold Medal
Student Road Safety Competition	The Engineering Institute of Canada, supported by the North American Life Assurance Company, sponsors a Student Road Safety Competition. This is a competition for all undergraduate engineering students in Canada on ideas and methods to reduce motor vehicle accidents and thereby increase road safety. New or novel ideas are particularly desired. The only stipulation is that such ideas should be within reasonable economic reach and possible within the next 10 to 15 years. Contestants are encouraged to select their own subject but may coordinate the subjects or form of presentation to suit thesis requirements. Presentations may be made by groups of students, providing all are eligible; any awards would then be made to the group.	1st Prize of $1000 2nd Prize of $600 3rd Prize of $400 4th Prize of $200
The Timken International Fund Scholarships (4)	For students entering the Second Year in the Faculty of Engineering Science, students entering the Third Year in the Faculty of Engineering Science, students entering the Second or Third Year of Honors Mathematics and students entering the Second or Third Year of Applied Mathematics.	$250 each
The Dr. James A. Vance Prize	Awarded annually to the undergraduate student in the Faculty of Engineering Science who, in the opinion of the Faculty Council, has exhibited superiority in engineering design. (Underwritten anonymously).	$50
The Dr. James A. Vance Silver Medal (c)	This is the gift of Dr. James A. Vance, a past President of the Engineering Institute of Canada and a former Chairman of the Ontario Water Resources Commission. It is awarded annually to a fourth year student enrolled in the Civil Engineering option of the Faculty of Engineering Science having the highest aggregate percentage for the final examinations of the third and fourth years, provided that the student has attained first class honors standing in the work of the final year.	Silver Medal
University of Western Ontario Medal (c)	May be awarded to fourth year engineering students obtaining the highest standing in the Chemical Option and the Mechanical Option of the Engineering Science Program. The regulations governing awards shall be similar to those applying to the Harry Cross Medal.	Silver Medals

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4. FACULTY OF LAW:

NAME	ELIGIBILITY	AWARD
The Hon. Edward Blake Prize	To the student achieving the highest standing in company Law 1. (Endowed by the late Major Hume Cronyn, KC, MP, in memory of his uncle, the Hon. Edward Blake, sometime Premier of Ontario and, later, member of the British House of Commons).	$100
The Borden, Elliot, Kelly and Palmer Prize	To the student achieving the highest standing in second year law.	$200
The Butterworth Prize for Academic Excellence (c)	To the third year student achieving the highest aggregate standing in all three years of law.	A set of Halsbury with Canadian Converters
The Campbell, Godfrey & Lewtas Prize	To the student achieving the highest standing in first year law.	$250
The Canada Law Book Company Prizes (c) (3)	To the student achieving (a) the highest standing in Torts, first year; (b) the highest standing in Evidence, second year; and (c) the highest standing in a course in the third year to be selected by the Faculty of Law.	Books valued at $50 each
Canada Permanent Trust Company Law Prize (c)	To the student achieving the highest standing in Wills and Trusts.	$100
The Carswell Company Limited Prizes (c) (3)	To the student achieving (a) the highest standing in Commercial Law, (b) the highest standing in Conflict of Laws, and (c) the highest standing in a course to be designated by the Dean of the Faculty of Law.	Books of the value of $35 each
Special Prize in Commercial Law Subjects	Donated by Zimmerman, Winters, Warley, Grant, Hugo, Paddon, and Bennett, Toronto, to be awarded to a student who demonstrates exceptional ability in a group of third year commercial law subjects to be designated by the Faculty.	$100
Faculty Prize for Legal Writing (c)	To be awarded at the discretion of the Faculty of Law, for contributions to the University of Western Ontario Law Journal.	$100
The Arthur T. Little Scholarship (c)	To the student achieving the highest standing in the final year of Law.	Gold Medal and $200
The London Life Insurance Company Prize (c)	To the Law student achieving the highest standing in Insurance.	$100
Prize in Taxation	Donated by Shibley, Righton & McCutcheon, Toronto, to the student achieving the highest standing in Taxation in the Faculty of Law.	$50

NAME	ELIGIBILITY	AWARD
Dean Ivan C. Rand Award	Endowed by bequest of the late Ivan C. Rand. The annual income from the bequest shall be divided equally in such manner as the Selection Committee for the Dean Ivan C. Rand Honor Society sees fit, amongst those students in their graduating year in the Faculty of Law who are honored by membership in the Honor Society.	
The A.B. Siskind Scholarship (c)	The income of a trust fund established under the will of the late A.B. Siskind QC, a former sessional lectuerer at, and enthusiastic supporter of, the Faculty of Law, to be given to the student achieving the highest standing in Practice.	
Stevenson & Evans Prize	For Constitutional Law, first year.	$100
The Thomson, Rogers' Prize in Company and Commercial Law (c)	Awarded annually to the second-year student in the Faculty of Law who achieves the highest aggregate standing in two of the following three courses: Company Law, Commercial Law and Income Taxation (the two courses to be designated by the Faculty)	$150
The Thomson, Rogers' Prize in Corporate Finance (c)	Awarded annually to the third year student with the highest aggregate standing in two of the following three courses: Advanced Company Law, Advanced Taxation and Securities Regulation (the two courses to be designated by the Faculty).	$150

NOTE: The University reserves the right to modify or cancel Scholarship offerings after the date of this publication.

5. SCHOOL OF LIBRARY AND INFORMATION SCIENCE:

NAME	ELIGIBILITY	AWARD
Canadian Library Association Scholarships	The CLA has a number of scholarships for students in accredited library schools. Applications should be made before March 1st to the Chairman, CLA Scholarships and Awards Committee, 63 Sparks Street, Ottawa 4, Ontario.	
National Research Council of Canada	The Associate Committee on Scientific Information of N.R.C. awards a number of graduate scholarships in the field of science librarianship and documentation. They are awarded to candidates who are graduates or final-year students of science or engineering courses. Applications should be in by the end of December. Further information may be obtained from the Awards Office, National Research Council, Ottawa 7, Ontario.	$3,800 plus a travel grant

NAME	ELIGIBILITY	AWARD
Regina Public Library	The Board of the Regina Public Library has scholarships for residents of Saskatchewan who will work in the Regina Public Library on graduation. Applications should be sent by March 15, 1971, to the Chief Librarian, Regina Public Library, 2311 Twelfth Avenue, Regina, Saskatchewan.	$1,500
Richard E. Crouch Memorial Scholarship	The London Public Library and Art Museum offers this scholarship in memory of Dr. Richard E. Crouch who was formerly Director of the Library. Awards dependent on availability of funds.	$750
H.W. Wilson Foundation Scholarships	Thanks to the Foundation, which was set up in New York City in memory of the founder of the great bibliographical publishing house, the H.W. Wilson Company, the School is able to offer a number of scholarships. Application for these scholarships should be made to the Dean of SLIS.	
University of Saskatchewan Saskatoon	Several scholarships are available each year to those enroled in accredited library school. It is not restricted to Saskatchewan graduates or residents but applicants must agree to work for two years after graduation in the University of Saskatchewan library. The duration of the scholarship is usually one year to degree, and not renewable, but may be applied to a two-year MLS course. Applications should be addressed to Librarian, University of Saskatchewan, Saskatoon. As all documentation (references, application forms, etc.) must be completed by 1 April, only applications or inquiries post-marked up to 1 March 1972 can be considered.	$2,500
Medical Library Association	Each year, at least one scholarship is offered to individuals showing promise for medical librarianship, who will enter graduate library school during the summer or fall term. Application forms for MLA scholarships are available from the deans of ALA accredited schools and the central office of the Medical Library Association. Applications must be completed and returned by March 1 and recipients are notified before the summer session starts. NOTE: Financial Aid for Library Education, a publication of the American Library Association, is revised each summer. A copy will be mailed from the Association, 50 E. Huron Street, Chicago, Illinois 6011 without charge.	$1,500

NOTE: By keeping fees low, the Province is in effect providing a scholarship for all students. In addition to the scholarships listed above, the Canadian Library Association issues a pamphlet entitled Financial Aid for Study in the Field of Library Science; Canadian Scholarships, Bursaries and Loans for the Academic Year 1972-73. A copy of this pamphlet is available from the School on request.

6. FACULTY OF MEDICINE:

NAME	ELIGIBILITY	AWARD
The Abbott Prize in Anaesthesia (c)	Awarded by the Abbott Laboratories Limited, to the fourth year student who has shown outstanding interest in the Speciality of Anaesthesia. For the prize, the marks in the third year examination and the performance during the fourth year clerkship, as judged by the Clinical Instructors shall be taken into consideration.	$150
The Alpha Kappa Kappa Gold Medal (c)	Awarded to the medical student taking the highest standing in the final year. (Provided for in Alpha Kappa Kappa's contribution to the University Endowment Fund).	Gold Medal
The B'Nai Brith Scholarship in Pathology	To be awarded by the London Lodge of the B'Nai Brith Society to the second year medical student with the highest standing in Pathology.	$50
The Borden Award in Paediatrics	Granted by the Borden Company Limited to the medical student showing the greatest merit in Paediatrics in the third year.	$100
The Bristol Prize in Medicine	Awarded annually by Bristol Laboratories to the third year student selected on the basis of meritorious performance in Clinical Medicine.	Medical texts in Therapy and/or Pharmacology to the value of $125
The Dr. Lawrence A. Burk Memorial Prize in Paediatrics	Established by Mrs. Barbara Burk in memory of her late husband, Dr. Lawrence A. Burk, class of 1959, is awarded to the final year student showing the greatest merit in Paediatrics.	$50
The J. B. Campbell Memorial Scholarship in Medicine (c)	To the student obtaining the highest marks in the combined examinations in Medicine and Clinical Medicine in the final year.	$100
The J.B. Campbell Memorial Scholarship in Physiology	To the medical student obtaining the highest marks in the examinations in Physiology. (The two scholarships above were awarded in memory of the late J.B. Campbell who was Associate Professor of Medicine from 1913 to 1919.)	$100
The Ciba Prize	Awarded to a student in the second year, at the discretion of the Council of the Faculty of Medicine.	A set of the Ciba Collection of Medical Illustrations
The Ciba Prize in Medicine	To be awarded to the third year student in the Faculty of Medicine who shows the greatest proficiency in Medicine.	$75
The Class of 1917 Prize (c)	To the medical student in the final year keeping the best case records on patients on the wards and in the out-patient departments.	$50
The Class of '55 Prize (c)	To be awarded at the discretion of the Dean and Faculty of Medicine to a student in the final year showing outstanding promise in the practice of Clinical Medicine.	$200

NAME	ELIGIBILITY	AWARD
The Dr. T.H. Coffey Memorial Prize in Physical Medicine and Rehabilitation	Established by Dr. M.G.P. Cameron in memory of the late Dr. T.H. Coffey. Awarded to a third or fourth year medical student for the best essay in the field of clinical investigation or research related to Physical Medicine and Rehabilitation. Essays are to be submitted to the Dean of Medicine on or before March 31st of each year.	$50 and a book
The Pearl Devenow Fox Memorial Prize in Obstetrics and Gynaecology (c)	Awarded by the London Section of the National Council of Jewish Women of Canada, to the final year medical student showing the greatest merit in Obstetrics and Gynaecology during the third and fourth years, as assessed by both marks in written examinations and performance in clinics.	$100
The Dr. F.R. Eccles Scholarship	The late Dr. Eccles established a scholarship fund to enable students of medicine to study abroad following graduation. Awarded annually to the student obtaining the highest standing in the final year of the medical course.	$1,200
Nellie L. Farthing Memorial Fellowship	Available to students engaged in postgraduate work or medical research in the medical sciences. Applications should be submitted to the Dean of Medicine no later than March 15.	$1,500 per academic year.
The Charles E. Frosst Medical Scholarship	Awarded by Charles E. Frosst and Company, at the end of the third year, to a medical student who has shown most promise in the field of Theropeutics.	$500 and a Bronze Medal
The Howard Ferguson Award	Available to a senior student in any Faculty of the University who is considered to have attained the highest achievement during his University career in athletics, scholarship and college life.	
The Dr. Fred N. Hagerman Memorial Prize in Surgery (c)	Established by the family and friends of the late Dr. Fred N. Hagerman, Meds '63, and awarded to the final year student showing the greatest merit in Surgery during the third and fourth years, as assessed both by marks in written examinations and performance in clinics.	$100
Hippocratic Society Award in Anatomy	To be awarded annually as a prize to the student doing the best work in Gross Anatomy in the first year.	$50
The Horner Gold Medal Awards in Ophthalmology and Otolaryngology (c)	Awarded by Frank W. Horner Limited to the final year medical students showing the highest proficiency in Ophthalmology and Otolaryngology in all years of the medical course.	Gold Medals
The Rachel Slobasky Kaplan Scholarship	Established by Mrs. Kaplan of Windsor, Ontario and awarded annually to the student achieving the highest standing in the examinations at the conclusion of the second year of the medical course.	$300

NAME	ELIGIBILITY	AWARD
The Khaki University and Y.M.C.A. Scholarship (c)	Applications for this Scholarship will be received by the Dean of the Faculty of Medicine from ex-service students, or from the sons or daughters of ex-service men. The Scholarship will be awarded at the discretion of the Council of the Faculty of Medicine.	Valued at $60
The R.A.H. Kinch Prize in Community Medicine (c)	Awarded to the final year medical student who demonstrates the greatest competence in the clinical and research aspects of Community Medicine.	$150
The Kingswood Scholarship (c)	Awarded to a student in the graduating year in Medicine, as the authorites of the University consider most proficient. (The fund was established by a bequest of the late Mr. Isaac William Kingswood).	$100
London Academy of Medicine Memorial Scholarship	Awarded annually to the student entering First Year in the Faculty of Medicine from Programs in The University of Western Ontario, who has demonstrated the highest scholarship for admission to the Medical Program. (Endowed by the London Academy of Medicine as a memorial to deceased Academy members).	$150
The W.H. McGuffin Scholarships in Radiology (c) (2)	Given to medical students of either of the two final years, presenting the best essays on a subject pertaining to Radiology. The essays are to be in the Office of the Dean of Medicine on or before February 15th of each year.	$60 and $40 awards
Wilhelmina and J. Gordon McIntosh Prizes in Public Speaking	Medical students are eligible to compete for certain of the McIntosh awards under terms specified by the Scholarship Committee.	
The Medical Alumni Gold Medal (c)	Awarded to the student graduating in Medicine with the highest aggregate marks during the full course taken exclusively at The University of Western Ontario.	Gold Medal
C.V. Mosby Company Scholarship Awards, First Year	To the student obtaining the highest standing in each of the following first year subjects: Biochemistry and Histology.	A book to the value of $30
C.V. Mosby Company Scholarship Award, Second Year	To the student obtaining the highest standing in each of the following second year subjects: Bacteriology and Immunology, Psychiatry.	A book to the value of $30
C.V. Mosby Company Scholarship Award, Third Year	To the student obtaining the highest standing in Pathological Chemistry.	A book to the value of $30
The Ontario Medical Association Prize in Community Medicine	Awarded by The Ontario Medical Association to the student obtaining the highest aggregate marks (first and third years combined) in the course of Community Medicine.	$100

NAME	ELIGIBILITY	AWARD
Poulenc Award (c)	To the student obtaining the highest marks for the two final years in the following clinical subjects: Medicine, Obstetrics and Gynaecology, Paediatrics, Physical Medicine, Psychiatry and Surgery.	$250 and an inscribed gold medal
The Roche Scholarship (c)	Awarded to a graduating student on the work of the two final years in Medicine. It will be based on the general lines of the Rhodes Scholarship, in which proficiency, progress and leadership will be evaluated by a Board of Assessors.	$50
The Rowntree Prizes in Medical History (3)	Given annually in memory of the late Dr. L.G. Rowntree, for essays in Medical History. Essays may be submitted by students in any year, and students in the first year class are particularly encouraged to do so. The students writing the three best essays will be awarded the prizes. These essays will be judged on the basis of historical content, style, accuracy and originality. The essays are to be submitted to the Department of Medical History on or before March 31st of each year.	$150 (3 prizes of $75, $50 and $25)
The Dean Russell Prize in Neurological Science	Given annually to the second year medical student obtaining the highest mark in Neurological Science.	An opthalmoscopic outfit
The Ivan Hamilton Smith Memorial Prize (c)	Donated by the friends of the late Dr. Ivan Hamilton Smith, awarded to the final year medical student obtaining the highest mark in Therapeutic Radiology.	$25 for books
The Leonard Sutcliffe Memorial Scholarship	Awarded to the medical student with the highest academic standing in the third year.	$150
The Verda Taylor Vincent Scholarship	Established by the late Miss Verda Taylor Vincent, a graduate of The University of Western Ontario. It is to be awarded annually to the student acheiving the highest standing in the examinations at the conclusion of first year Medicine.	$1,000
The Helen Atfield White Scholarship	For the U.W.O. undergraduate student registering in the first year of the Faculty of Medicine with the highest average in the previous year's work.	$250
The Carleton C. Whittaker Memorial Scholarship in Psychiatry	Established by the late Miss Edith M. Whittaker, and awarded to a student in the third year of Medicine with high standing in Psychiatry and other evidence of interest in the subject.	Valued at $125

NAME	ELIGIBILITY	AWARD
Will Pharmaceuticals Prizes	In order to promote interest in Pharmacology, a Fund has been established by Will Pharmaceuticals, which is made available for student competition. The fund is to be used in the following manner: a)Will Pharmaceuticals First Prize in Pharmacology to be awarded to the student obtaining the highest marks in Pharmacology. b) Will Pharmaceuticals Second Prize in Pharmacology to be awarded to the student obtaining the second highest marks in Pharmacology. c) The First Will Pharmaceuticals Prize for an Essay in Pharmacology. d) The Second Will Pharmaceuticals Prize for an Essay in Pharmacology. Undergraduate students standing in the upper third of the class will be eligible for the essay competitions. The subjects are to be chosen by the students competing for the prizes. Essays in duplicate are to be submitted to the Office of the Dean of Medicine on or about February 15th of each year. The first and second prize winners (3 and 4) will be decided by a special committee, which shall include the Professor of Pharmacology and the Professor of Medicine. The quality of the essay must be such that they will warrent publication in a recognized journal or review.	Pharmacology: 1st. prize – $100; 2nd prize – $75; Essay Prize – 1st prize – $75; 2nd prize – $50.
The Glen S. Wither Memorial Award (c)	Established by the family, classmates and friends of the late Dr. Glen S. Wither, and is awarded to the final year medical student who, in the opinion of his peers and associates, demonstrates the highest attributes of the physician–integrity, concern for his patients, compassion, and a devotion to his profession.	$250
NOTE: No one student in any year will be awarded more than one prize of monetary value, excluding competitive essay prizes and certain other prizes awarded by selection. Should a student qualify for more than one prize, he will be awarded the prize of greatest monetary value and any lesser prizes will then revert to the next eligible student.		

NOTE: The University reserves the right to modify or cancel Scholarship offerings after the date of printing of this publication.

7. FACULTY OF MUSIC

NAME	ELIGIBILITY	AWARD
Alumni Gold Medal	For the graduating student with the highest standing in the Bachelor of Arts with Honors Music Program or the Bachelor of Music with Honors Program.	Gold Medal
Board of Governors Scholarships (2)	Awards for the students with the highest standing in the second and third years of the Bachelor of Music Honors program when no other scholarship is awarded.	$60 each

NAME	ELIGIBILITY	AWARD
Julius A. Cohen Award	To a student of a string instrument.	$100
Faculty of Music Award	The first award to be awarded to a music student from a country other than Canada and the second to be awarded to a deserving music student.	$300 and an amount to be determined annually
London Women's Music Club Award	One award annually to a student of voice, piano, organ or string instrument.	
St. Paul's Cathedral Choir Prize	To a student of composition for a musical setting of a text specified by the donors.	$50
University Gold Medal	For a graduating student with the highest standing in a Bachelor of Music Honors program, when no other medal is awarded.	Gold Medal

NOTE: The above awards and scholarships are available to full-time students registered in the Faculty of Music. Music students may also be eligible for some of the medals, scholarships, awards and prizes listed under the section heading—Faculties of Arts, Science and Social Science.

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8. FACULTY OF NURSING:

NAME	ELIGIBILITY	AWARD
Alumni Gold Medal	Awarded annually. Selection is made by the Faculty of the Faculty of Nursing from among students with first class standing in the Bachelor of Science in Nursing programs.	Gold Medal
Registered Nurses' Association of Ontario Fellowship	For members of the R.N.A.O. enrolled in full-time graduate study. Enquiries are to be directed to Miss Laura W. Barr, Executive Director, Registered Nurses Association of Ontario, 33 Price Street, Toronto 289, not later than May 15th.	$3,500
St. John Ambulance Association of Canada —The Margaret MacLaren Memorial Fund	For Registered Nurses for study at the Masters level. Enquiries are to be directed to the Chairman of Bursary Funds, St. John Ambulance, 321 Chapel Street, Ottawa 2, not later than May 16th.	$1,000

NAME	ELIGIBILITY	AWARD
The W. B. Saunders Company Canada Limited Nursing Fellowship	For a nurse undertaking advanced study in nursing. Availability of this fellowship is subject to the decision of the W.B. Saunders Company from year to year. Enquiries are to be directed to the Secretary Treasurer, Canadian Nurses' Foundation, 50 The Driveway, Ottawa 4.	$1,200
NOTE: Nursing students may also be eligible for some of the medals, scholarships, awards, and prizes listed under the section headings: Faculties of Arts, Science and Social Science.		

NOTE: The University reserves the right to modify or cancel Scholarship offerings after the date of printing of this publication.

(C) FACULTY OF GRADUATE STUDIES:

For Information pertaining to medals, scholarships, awards, and prizes see the Graduate Studies section of the composite calandar.

III Scholarships Tenable at any Ontario University

NAME	ELIGIBILITY	AWARD
H.J. Heinz Company of Canada Scholarship	For a student enrolled in the district high school of Essex and Kent Counties, on the basis of academic record or character. Applications are to be submitted to the principal of the school attended by May 1.	$2,000 ($500 for each of four years).
Imperial Leaf Tobacco Scholarship	For the highest standing in required Grade 13 credits; to students enrolled in East Elgin District High School and Delhi District High School. Applications are to be submitted through the appropriate high school principal.	$1,000 ($600 the 1st. year $400 the second year)
National Secretaries' Association Scholarship	For a student from a secondary school in Windsor or Riverside, Ontario, who registers in a Secretarial Science Program. Applications are to be submitted to the Scholarship Chairman, Windsor Chapter of the National Secretaries' Association, 1163 Pierre Avenue, Windsor, Ontario.	$100 payable the first year

IV Ontario Student Awards

The Provincial student aid program is specifically designed to help competent students who would like to continue their education but who would be unable to do so because of lack of money. Under the Ontario Student Awards Program, the first responsibility for providing the necessary funds for post-secondary education rests with the student himself and with his family. Students are expected to have summer savings and parents are expected to contribute towards the student's educational costs according to an objective assessment of their income taking into account their basic expenses and the number of their dependants. Although there are provisions for appeals in special cases, neither students nor parents can simply transfer their financial responsibility to the Province as a consequence of an arbitrary decision on their part.

Full-time students whose personal resources and family income are assessed as inadequate to meet the directly related costs of post-secondary education may receive a combination award of loan and grant to make up the difference. The loan portion, which is negotiated through a Canadian bank or other approved lending institution, is guaranteed by the Federal Government and is provided interest free until six months after the student either completes or discontinues full-time studies. The grant portion, which is paid by the Province of Ontario, is non-repayable, provided the student completes his academic year. Awards over $150 received from other sources are deducted from the grant portion of an Ontario Student Award.

The student's assessed resources include: a fixed sum for summer savings ($300 for a high school student proceeding to a post-secondary institution), interest on bonds or bank accounts, monetary gifts, the resale value of any motor vehicle owned or operated by the student, and an assessed parental contribution. After the total of these resources has been deducted from the estimated costs of a year at a college, university or other public post-secondary institution (see *Horizons* for details of costs), any loan-grant combination that may be awarded is comprised as follows:
a) the first $600 is allotted as loan only
b) the balance, if any, beyond $600 is awarded as grant.
Therefore in a total award of $1000, for example, $600 is loan and $400 is grant. If residency and other requirements are met, the limit of the loan portion in Ontario for one year is normally $600. The minimum need for which a loan can be made is $50. The maximum award can be $2000 or more, depending upon actual educational costs. The loan portion can be repaid over a period of several years under terms negotiated between the student and his bank after graduation.

In order to qualify for OSAP assistance, a student must be accepted at an eligible post-secondary institution in a full-time program of studies of at least twenty-six weeks in duration, leading to a certificate, diploma or degree. The student must clearly establish that he and his family are unable (as distinct from unwilling) to provide the necessary funds, and both the student and his parents, guardians or sponsors must normally be permanent residents of Ontario. Further the student must be a Canadian citizen or must have landed immigrant status with at least twelve consecutive months' residence in Ontario prior to first enrolling in the program for which assistance is required.

OSAP application forms should be obtained from and submitted to the Student Awards Officer of the institution the student is planning to attend. (Please note that, except for sample forms, OSAP applications are *not* available through secondary school guidance offices).

Completion of this form automatically secures consideration for the majority of awards administered by the University. Further information may be obtained from the Financial Aid Office, University Community Centre, The University of Western Ontario, London.

Most of the scholarships, bursaries, grants and loans published in this booklet are in addition to scholarships and grants offered by the Provincial Government and other sources outside the University.

There are no funds available to undergraduate students from abroad.

V Admission Bursaries

To be eligible for an admission bursary an applicant must be a full-time student and show genuine financial need. An average of 70% is generally required.

The following are applied for before registration:

NAME	ELIGIBILITY	AWARD
The Bobby Bauer Memorial Award	Available to students demonstrating outstanding proficiency in Hockey. Apply by August 31st to: The Bobby Bauer Memorial Foundation, 60 Victoria Street North, Kitchener, Ontario.	Up to the total expenses of one academic year depending on need
Brant County Medical Association Award	Brant County residents enrolled in a course leading ultimately to a degree in Medicine are eligible. Apply in writing to Dr. A.E. Croal, Brantford General Hospital, Brantford, Ontario, no later than October 12th.	$500
The Children of the War Dead (Education Association Act)	Provided for children of veterans whose death was attributable to military service. Application should be made to your District Office, Department of Veterans Affairs. The Canadian Legion and the Provincial Chapter of the Imperial Order Daughters of the Empire also offer some scholarships and bursary aid to children of deceased veterans. Apply through your local branch.	Fees and monthly allowances
Leonard Foundation Bursaries	Available to selected students in any year of any course. Preference is given to sons and daughters of clergymen, school teachers, members (active or retired) of Her Majesty's Armed Forces, graduates of the Royal Military College of Canada, members of the Engineering Institute of Canada, and members of the Mining and Metallurgical Institute of Canada. These bursaries are paid from the income of a Trust created by the late Lieutenant Colonel and Mrs. Rueben Wells of St. Catherines, Ontario. Application forms may be obtained from the Director of Financial Aid and must be filed by February 15th of the year preceding the award.	Up to $400 each (for from one to four years)
London Free Press Printing Company Limited Award	Renewable each year for scholarship satisfactory to the Selection Committee. Only students who have attended secondary schools in the 14 counties of Southwestern Ontario for three years or more and have demonstrated interest and ability in journalism are eligible. Submit applications to the London Free Press before June 1st.	$250 each and summer employment worth $1000 or more
Ontario Hockey Association Bursary	Available to students selected by the Awards Officer, in consultation with the Department of Physical Education, on the basis of need; and normally, some contribution made to amateur hockey in Ontario.	$100 payable the 1st year
O-Pee-Chee Company Bursaries		$500 each renewable for two additional years.
The Steel Company of Canada Bursaries		$500 each renewable for three additional years.

VI Restricted and Un-Restricted Bursaries

These bursaries are generally awarded to students who have an average of B or better in their previous year's work. In every case it is absolutely essential that the applicant *demonstrate* genuine financial need. Completion of an application form for the Ontario Student Awards automatically gains consideration for all the restricted and unrestricted bursaries except where otherwise stated.

A) FACULTIES OF ARTS, SCIENCE, SOCIAL SCIENCE, PHYSICAL EDUCATION

NAME	ELIGIBILITY	AWARD
Atkinson Charitable Foundation Student Aid Funds	Students who are residents of Ontario are eligible.	Up to $200 each
A.T.A. Trucking Industry Educational Foundation Fund		Up to $250
The J.P. Bickell Foundation Bursaries	Students registered in the Department of Geology or in the Chemical Engineering Course.	Up to $500 *each*
Birks Family Foundation Bursaries		Up to $150 each
The Canadian War Correspondents Association Bursary	Students enrolled in the Honors Journalism program are eligible. Offered in alternate years. Available next in 1973-74.	$200
The Circle "K" Club Award		$100
The Isabel Dingman Memorial Bursary	Female students entering the third or fourth year of the Honors Journalism program are eligible for this bursary, which is a gift of the Canadian Women's Press Club. (London Branch).	$50
The Leslie W. Dunstall Educational Bursary (3)	Offered in competition annually. Open to full-time students registered in Actuarial Mathematics (G.P.2). Further information should be requested directly from: Director of Awards, Association of Canadian Universities and Colleges, 151 Slater Street, Ottawa. Completed applications must arrive at the above address not later than June 1 of each year.	$500 each
Lady Eaton Bursaries	Students registered in the College of Music or in the General Arts Course with Music Options are eligible.	Up to $250 each
Mary Gillespie Memorial Bursary	This bursary is available to a woman in a senior year of the Secretarial program. It is awarded by a committee consisting of the Dean of Women, the Head of the Department of Secretarial Science, the Director of Financial Aid, and a member of the Executive of the London Centennial Chapter of the National Secretaries Association (International).	$100

NAME	ELIGIBILITY	AWARD
The Maude Gordon Educational Fund	The purpose of this bursary is to assist deserving students from the counties of Elgin, Essex, Kent, Lambton, Middlesex, Huron, Oxford and Perth. This fund was established by a bequest of the late Miss Maude E. Gordon of Wallaceburg, Ontario.	Up to $500 each
The Greek Ladies' Philoptochus Society Award	This bursary is provided annually to a student of Greek descent.	$100
The Kathleen Gordon Hanna Educational Fund	The purpose of this fund is to assist deserving students from the counties of Elgin, Essex, Kent, Lambton, Middlesex, Huron, Oxford, and Perth. This fund was established by a bequest of the late Mrs. Kathleen Gordon Hanna of Wallaceburg.	Up to $500 each
Huron County Bursaries	These bursaries are available to students who have lived in Huron County for at least three years.	Up to $250 each
H.M.C.S. Prevost Student-Aid Award		$75
Hydro Electric Power Commission of Ontario	Available to students in the second year in Engineering, Business Administration, or Mathematics and Physics.	$500
The I.B.M. Thomas J. Watson Memorial Bursaries		Up to $200 each
I.O.D.E. (Eldon House Chapter) Bursary		$100
I.O.D.E. (Princess Patricia Chapter) Bursary		$100
I.O.D.E. (The Colonel G. Eric Reid Chapter) Bursary		$50
I.O.D.E. (Nicholas Wilson Chapter) Bursary		$100
I.O.D.E. (London Air Force Chapter) Bursary	Third year students in any branch of Honors Physics or any allied program are eligible for this bursary.	$100
I.O.D.E. (Overseas Chapter) Bursary		$100
I.O.D.E. (Dr. John Dearness Chapter) Bursary	Students in Honors Biology, preferably in a Mycology course, are eligible for this bursary.	$100
I.O.D.E. (Nina Moore Jamieson Chapter) Bursary	Students in the third year of the Honors Program in English and French are eligible for this bursary.	$100

NAME	ELIGIBILITY	AWARD
I.O.D.E. (Municipal Chapter) Bursary	Students in any year of a degree program in Honors Science are eligible for this bursary.	$100
I.O.D.E. (William E. Saunders Chapter) Bursary	Students registered in the Botany option of Honors Biology during the preceding session are eligible. This bursary may be awarded, under special circumstances, to a student registered in a program other than Botany.	$100
I.O.D.E. (Nicholas Wilson Chapter) Bursary	Students enrolled in the final year of any Honors or Professional Course are eligible for this bursary.	$100
The Interprovincial Pipe Line Company Bursaries		Up to $250 each
Leonard Foundation Bursaries	Available to selected students in any year of any course. Preference is given to sons and daughters of clergymen, school teachers, members (active or retired) of Her Majesty's Armed Forces, graduates of the Royal Military College of Canada, members of the Engineering Institute of Canada. These bursaries are paid from the income of a Trust created by the late Lieutenant Colonel and Mrs. Reuben Wells of St. Catherines, Ontario. Application forms may be obtained from the Director of Financial Aid and must be filed by February 15th of the year preceding the award.	Up to $400 each (for from one to four years)
The Local 27 U.A.W. Bursary		$250
The John P. Metras Bursaries (2)	Male and female students will be considered on the basis of academic achievement and athletic ability, in that order.	Up to $150 each
The Olga Alice Miller Bursary	Available to a woman in any year of any program. The Selection Committee shall be the Dean of Women and the Director of Financial Aid. This bursary is a memorial to the late Olga Alice Miller who was a 1928 graduate in Honors English and History, and Assistant Registrar, 1933-51. It was established by her mother, Mrs. A.E. Miller and her sister, Helen.	$100
Oxford County Bursaries	Students from Oxford County, excluding Ingersoll and Woodstock, are eligible.	Up to $250 each
Perth County Bursaries	Students from Perth County, excluding St. Mary's and Stratford, are eligible.	Up to $250 each
The Proctor and Gamble Company of Canada Bursaries		Up to $250 each

NAME	ELIGIBILITY	AWARD
The James H. Rattray Memorial Trust Fund	Available to students in any year of Engineering Science or a Science Program which includes English 20.	Up to $200 each
Royal Canadian Legion (London) Student- Aid Fund	Deserving undergraduates who are veterans or dependents of veterans are eligible.	Up to $200 each
The W.F. Thomas Student-Aid Fund	Preference is given to applicants whose residence is in St. Thomas or Elgin County.	Up to $300 each
The Undergraduate Women's Organization Bursary	Available to a woman in any year of any program selected by a Committee composed of the Dean of Women, the Director of Financial Aid, and the President and Chairman of the Undergraduate Women's Organization.	$100
The U.W.O. Alumni Association Bursary		Up to $400 each
Walter Wright Scholarships		Up to $250 each
The Masonic Foundation of Ontario Special Awards (see "Grants" Section)		
Wellington County Bursaries	Students from Wellington County, excluding Guelph, are eligible.	Up to $250 each

B) PROFESSIONAL FACULTIES AND SCHOOLS:

NOTE: Students enrolled in the professional faculties and schools listed below are also eligible for many of the bursaries listed under the section heading—Faculties of Arts, Science, and Social Science.

NAME	ELIGIBILITY	AWARD
1) SCHOOL OF BUSINESS ADMINISTRATION		
Hydro Electric Power Commission of Ontario	Available to students in the second year in Engineering, Business Administration, or Mathematics and Physics.	$500
I.O.D.E. (Nicholas Wilson Chapter) Bursary	Students enrolled in the final year of any Honors or Professional course are eligible for this bursary.	$100
2) FACULTY OF DENTISTRY:		
Ontario Dental Association	May be awarded to students in any year ot the course. Academic standing must be satisfactory and there must be a demonstrated financial need. Applications should be made to the Dean.	$500 provided. Maximum value of any one bursary is $250
I.O.D.E. (Nicolas Wilson Chapter) Bursary	Students enrolled in the final year of any Honors or Professional course are eligible for this bursary.	$100

NAME	ELIGIBILITY	AWARD
3) FACULTY OF ENGINEERING SCIENCE:		
The J.P. Bickell Foundation Bursary	Students registered in the Department of Geology or in the Chemical and Biochemical Engineering course are eligible.	Up to $500 each
I.O.D.E. (Nicholas Wilson Chapter) Bursary	Students enrolled in the final year of any Honors or Professional course are eligible for this bursary.	$500
Hydro Electric Power Commission of Ontario	Available to students in the second year in Engineering, Business Administration, or Mathematics and Physics.	$100
The James H. Rattray Memorial Trust Fund	Available to students in any year of Engineering Science or a Science program which includes English 20.	Up to $200 each
4) FACULTY OF LAW:		
Anonymous Bursary	From an anonymous law firm of London, to be disbursed at the discretion of the Board of Governors or persons acting for them towards the payment of tuition fees in any year of the course to the student who will be likely to attain a creditable standing in the profession and whose continued education without assistance would be a hardship upon his family.	$250
Fred J. Blackwell Bursary Fund	A fund has been established, the interest on which is available to deserving students in any year of the Faculty of Law on the recommendation of the Faculty.	
I.O.D.E. (Nicholas Wilson Chapter) Bursary	Students enrolled in the final year of any Honors or Professional course are eligible for this bursary.	$100
The Law Society Foundation Bursaries	Available to law students in any year of the course, payable out of funds allocated to the University by the Foundation.	Up to $250
5) SCHOOL OF LIBRARY AND INFORMATION SCIENCE:		
Ontario Graduate Fellowships	The Government of the Province of Ontario has allocated a number of graduate fellowships for M.L.S. candidates in Ontario universities. Graduates or final-year undergraduates, with at least second-class honors, are eligible to apply. Students who are studying on student visas do not come under the program. Application forms are distributed by the Office of the Dean of Graduate Studies and must be submitted by the middle of February.	A Fellow receives an amount not to exceed $1500 for one academic session; he may also receive $750 for the summer term. The maximum amount is $3,000.

NAME	ELIGIBILITY	AWARD
Ontario Regional Library Boards	A number of bursaries are offered by the Boards of Regional Library Systems in Ontario. Application should be made to the Director of one or other of Regional Library Boards. For information about bursaries and scholarships offered by Regional Library Boards in Ontario, write to: – Algonquin Regional Library System, Mr. R.A. Smith, Director, 29 Mary Street, Parry Sound, Ontario. – Eastern Ontario Regional Library System. Director, Ottawa Public Library, 114 Metcalfe Street, Ottawa 4, Ontario. – Georgian Bay Regional Library System Board. The Secretary, Box 521, Barrie, Ontario. – Lake Ontario Regional Library System. The Secretary, 88 Wright Crescent, Kingston, Ontario. – Niagara Regional Library System. 59 Church Street, St. Catharines, Ontario. – North Central Regional Library System Board. The Secretary, 19 Fir Street, Sudbury, Ontario. – Southwestern Regional Library System. Mr. Fred Israel, Director, 434 Victoria Avenue, Windsor 12, Ontario.	
Canadian Federation of University Women Professional Fellowship	One or two fellowships are available for a period of duration of one year to students of an accredited library school. This fellowship is open to any woman holding a degree from a Canadian university, whose domicile is in Canada (a) who wishes to spend a year at an accredited Library School, School of Social Work, College of Education or similar professional school; or (b) who wishes, after some years of experience in a chosen field or after a lapse of time away from formal study, to embark on a program leading to an advanced degree. APPLY: Miss Christine Irvine, Dean of Women, Shirreff Hall, Dalhousie University, Halifax, Nova Scotia. Miss Irvine is Chairman of the Fellowship Committee.	$2,500

NAME	ELIGIBILITY	AWARD
Council on Library Resources Fellowship Program 1972-73	The Council on Library Resources is offering a limited number of fellowships and internships to mid-career librarians of the United States and Canada who have demonstrated a strong potential for leadership in the profession. The purpose of the grants is to enable successful candidates to improve their competence in the substantive, administrative, and/or technical aspects of their profession. A few candidates may find an internship experience in a particular institution the most profitable use of the fellowship opportunity. The awards are intended to cover costs during a period of continuous leave, which may range in time from a minimum of an academic quarter up to nine months. They do not cover salaries but are for such items as travel, per diem for living expenses, supplies and equipment incident to a Fellow's program. It is expected that his salary while on leave of absence will be paid by his parent institution. In reviewing applications the Committee will place emphasis on the thought and care given to the development of the proposed program of study, investigation, training, or internship as well as on the candidate's professional qualifications. The fellowships are not intended to support work toward an advanced degree in librarianship, although course work which complements a candidate's program and is outside the normal professional curriculum may be considered. Interested librarians may receive an application form by writing to: The Fellowship Committee Council on Library Resources One Dupont Circle, Suite 620 Washington, D.C. 20036 The Committee will also welcome nominations of candidates for the awards. Completed applications must be received no later than December 1, 1971. The awards will be announced on or about April 1, 1972. Successful candidates must complete their fellowships prior to October 1, 1973.	

NOTE: Financial support is also available in the form of library and computer assistantships which require duties in the School. In addition, there is the possibility of part-time work in other London libraries.
Information about loans may be obtained from the Awards Officer, The University of Western Ontario, London 72, Ontario.

NAME	ELIGIBILITY	AWARD
6) FACULTY OF MEDICINE:		
The American Medical Association Education and Research Foundation Bursary	Available to students in any year of Medicine.	Up to $200 each
Dr. James L. Anderson Memorial Bursaries	Available to students in any year in the Faculty of Medicine. The fund for these bursaries was established by a bequest of the late Mrs. Clare Leland Anderson as a memorial to her husband, Dr. James L. Anderson, Meds '09.	Up to $250 each
Bradshaw-Errington Fund	Available to students in any year of Medicine who reside twenty-five miles or more beyond the corporation limits of the City of London.	Up to $250 each
The Dr. Frank M. Cole and Dr. M. Cole Memorial Awards	These bursaries are available to students entering the third year of Medicine.	$200 each
Co-operative Medical Association of Ontario Bursary	Available to students in any year of Medicine who are members, or the sons or daughters of members, of one of the Medical Co-operatives of the Co-operative Medical Services Federation of Ontario. Apply by October 10th.	$500 a year to a maximum of $2000
Essex County Medical Association Bursary	Available to a resident of Essex County who has been accepted in the first year of Medicine at a Canadian University. Apply directly to: Ethics and Credentials Committee, Essex County Medical Association, 1427 Ouellette Avenue, Windsor, Ontario.	$750
Dr. F. Haasz Medical Student-Aid Bursaries	Available to students in any year of medicine.	Up to $250 each
I.O.D.E. Bursaries	Students entering Medicine are eligible for following continuing I.O.D.E. Bursaries.	
Grace Blackburn Chapter		$100
The Colonel William Gartshore Chapter		$100
Bishop Hellmuth Chapter		$100
7th Regiment and London Garrison Chapter		$100
William E. Saunders Chapter		$100
Dr. W. J. Stevenson Chapter		$100
Nicholas Wilson Chapter		$100

NAME	ELIGIBILITY	AWARD
The London District, Canadian Physiotherapy Association Bursary	Available to any student in the final three years of the Four Year Program in Physical Therapy, at The University of Western Ontario. The bursary will be awarded on the basis of need and scholastic standing. Inquiries should be sent to the president, London District, Canadian Physiotherapy Association, P.O. Box 2011, London, Ontario by September 30th.	$100
The Dr. I. W. Mann Award	Available to a student in family medicine who best exemplifies scholastic achievement and monetary need.	Up to $450
The Bill McKibbon Bursary	A male student, preferably from South-Western Ontario, is to be selected by the Secretary of the Loans and Bursaries Committee and the donor. Academic standing and personality will count equally in the selection. This bursary was endowed by the late Dr. Walton McKibbon of Wingham, a medical graduate of this university, in memory of his son.	$500 each year throughout Pre-Medicine and Medicine
Medical Students Bursary Plan, Ontario Department of Health	A number of bursaries are available to students who have completed their first year in Medicine. Maximum assistance will not exceed three years for any one student. Every recipient of this bursary has an obligation to practise general Medicine in a location acceptable to the Minister of Health, one year for each year of bursary assistance given. Apply at end of first year or later.	$3,000 each
The Meds '50 Bursary Fund	Available to students in any year of medicine.	Up to $300 each
The M.C. Mowry Memorial Bursary	Available to students in the fourth year of medicine.	$75
Ontario Medical Association Bursary and Loan Fund	Available to students in the first and second years of Medicine.	Up to $350 each
Roche Bursary	From Hoffman La Roche Limited for deserving undergraduate medical students. Up to three $500 bursaries may be awarded at the discretion of the University Awards Officer.	$1,500 annually
Maud H. Smallman Awards (2)	Available to students in any year of Medicine. The fund for these Awards was established by a bequest of the late Mrs. Maud H. Smallman of London, Ontario	$500 each
7) FACULTY OF MUSIC:		
Lady Eaton Bursaries	Students registered in the College of Music or in the General Arts course with Music Options are eligible.	Up to $250 each
I.O.D.E. (Harriet Booner Chapter) Bursary	Students enrolled in the College of Music are eligible.	$100
Gordon V. Thompson Bursary		$100
Waterloo Music Company Bursary		$500

NAME	ELIGIBILITY	AWARD
Women's Committee to the London Symphony Association Bursary		$200
8) FACULTY OF NURSING:		
Miss Helen Marion Cole R.N. Memorial Bursary	Students in the penultimate year of a nursing program. Enquiries are to be directed to the Awards Officer, University Community Centre, The University of Western Ontario, London 72.	$100
I.O.D.E. (Dr. David Crombie Chapter) Bursary	A student registered in the Faculty of Nursing. Enquiries are to be directed to the Awards Officer, University Community Centre, The University of Western Ontario, London 72.	$100
Ontario Department of Health Bursaries	Students registered in the final two years of the Program for Registered Nurses. Enquiries are to be directed to Principal Nurse Consultant, Research and Planning Branch, Department of Health, Parliament Buildings, Toronto 181.	Tuition fees and $1,400. ($1,800 for students with a spouse or children totally dependent upon them for support)
Ontario Department of Health Bursaries	Students registered in the MScN programs. Enquiries are to be directed to Principal Nurse Consultant, Research and Planning Branch, Department of Health, Parliament Building, Toronto 181.	Tuition fees and $1,600 ($2,000 for students with a spouse or children totally dependent upon them for support
Registered Nurses Association of Ontario Loan Fund	Members of the R.N.A.O. for a minimum of one year, registered in university study. Enquiries are to be directed to Miss Laura W. Barr, Executive Director, Registered Nurses' Association of Ontario, 33 Price Street, Toronto 289, not later than May 15th.	Up to $1,000 interest free for three years
St. John Ambulance Association of Canada - The Countess Mountbatten Bursary Fund.	Students enrolled in any year of any nursing program. Enquiries are to be directed to the Chairman of Bursary Funds, St. John Ambulance, 321 Chapel Street, Ottawa 2, not later than May 16.	$200 to $400
Victorian Order of Nurses for Canada (National) Bursaries	Students in the final year of a baccalaureate program which includes preparation in public health nursing and for graduate nurses taking post-basic preparation in public health nursing. Enquiries are to be directed to the Director in Chief, Victorian Order of Nurses for Canada, V.O.N. House, 5 Blackburn Avenue, Ottawa 2.	$1,800
Victorian Order of Nurses, Brantford Branch Bursaries	Students registered in the final year of a Bachelor of Science in Nursing program who intend to serve with the Victorian Order of Nurses, Brantford Branch, if required, and if not for one year at a branch to be designated by the National Victorian Order of Nurses. Enquiries are to be directed to Victorian Order of Nurses, Brantford Branch, 194 Terrace Hill, Brantford.	$1,500

NAME	ELIGIBILITY	AWARD
Victorian Order of Nurses, Hamilton-Dundas Branch Bursaries	Students registered in the final year of a Bachelor of Science in Nursing program who intend to serve with the Victorian Order of Nurses, Hamilton-Dundas Branch. Enquiries are to be directed to Victorian Order of Nurses, Hamilton-Dundas Branch, 29 Augusta Street, Hamilton 20.	$1,500
Victorian Order of Nurses, Metropolitan Toronto Branch Bursaries	Students registered in the final year of a Bachelor of Science in Nursing program who intend to serve with the Victorian Order of Nurses, Metropolitan Toronto Branch, Enquiries are to be directed to the Director, Victorian Order of Nurses, Metropolitan Toronto Branch, 277 Victoria Street, Toronto 200.	$1,000
Victorian Order of Nurses Windsor-Essex Branch Bursaries	Students registered in the final year of a Bachelor of Science in Nursing Program who intend to serve with the Victorian Order of Nurses Windsor-Essex County Branch, for a minimum of one year. Enquiries are to be directed to Victorian Order of Nurses, Windsor-Essex County Branch, 410 Giles Boulevard East, Windsor.	$1,000
The Mildred I. Walker Bursary	A Nursing student in a Bachelor of Science in Nursing program. Enquiries are to be directed to the Awards Officer, University Community Centre, The University of Western Ontario, London 72.	Up to $500
FACULTY OF GRADUATE STUDIES		
	For information pertaining to bursaries, grants, loans see the Graduate Studies section of the Composite Calendar.	

VII Grants

A "grant" is an award to a student who demonstrates financial need and who has a satisfactory academic standing.

Completion of an application form for the Ontario Student Awards automatically secures consideration for the following grants which are described in the preceding bursary section:

A.T.A. Trucking Industry Bursary Fund

The Atkinson Charitable Foundation Student-Aid Fund

The Circle "K" Club Award

The Maude Gordon Educational Fund

The Greek Ladies' Philoptochus Society Award

The Kathleen Gordon Hanna Educational Fund

H.M.C.S. Prevost Student-Aid Fund

The Royal Canadian Legion (London) Student-Aid Fund

The W.F. Thomas Student-Aid Fund

The Masonic Foundation of Ontario Special Awards

The Masonic Foundation makes available funds to assist deserving students who encounter unexpected difficulties in their second term. Application forms are available from the Director of Financial Aid.

VIII Loans

To be eligible for a loan a student must have a satisfactory academic record and be able to show that he cannot continue his studies without financial assistance. Application should be made through the Director of Financial Aid.

Canada Student Loans Plan

Full details of this Plan are available in a brochure issued by the Government of Canada which may be obtained at all eligible post secondary institutions in Ontario. Ontario residents see Ontario Student Awards.

University Loan Funds

Up to $400. Available to full-time students in the final year of any program.

University Loan Fund:

Amounts up to $500 are available to full-time students in any year of any program who have a satisfactory academic record and need financial assistance to continue their studies.

Commercial Bank Student Loans:

Several Canadian banks make money available to students for educational purposes. Interested students should consult the bank of their choice.

Ontario Medical Association Grant-In-Aid Fund:

Loans from this fund are interest-free and are on the honor system requiring no formal contract to repay. Available to students in the third and fourth years of Medicine.

The Dean Russell Medical Student-Aid Fund:

Up to $400 each. Available to students in any year of Medicine. This fund was established by the late Mr. Dean Russell of Dean Russell Drugs Ltd. to provide small grants or interest-free loans.

Maude Abbott Memorial Scholarship Loan Fund:

This fund has been established by the Federation of Medical Women of Canada. Loans of up to $350 per year are available to any woman medical student or first year interne. A second loan up to $350 may be granted to a previous recipient. In special cases, a loan up to $1,000 may be granted to a medical woman for postgraduate training. Loans are payable within seven years of date of issue, after which time interest will be charged in the rate of 5% compounded annually. Information regarding these loans may be obtained from Dr. Alice E. Gray, Director of Laboratories, Women's College Hospital, 76 Grenville Street, Toronto, Ontario.

Notes:

More information regarding Financial Aid may be obtained by writing to: Director of Financial Aid,University Community Centre, The University of Western Ontario, London 72, Canada.

Students from other countries who are in Canada on student visas must have sufficient funds for all their fees and personal expenses. Financial assistance is available from the student's own government, or organizations such as The Canadian Commonwealth Scholarship and Fellowship Committee, c/o Association of Universities and Colleges of Canada, 151 Slater Street, Ottawa 4, Ontario and the African Students' Foundation, 341 Bloor Street West, Toronto 5, Ontario.

Faculty

Abdel Malek, T.	*Business Administration*
Abdelnour, G.M.	*Pathology*
Abu Sitta, S.H.	*Engineering Science*
Adamowicz, J.K.	*Psychology*
Adamson, D.H.	*Anaesthesia*
Adilman, B.	*Pathology*
Agnos, J.W.	*Diagnostic Radiology*
Aharan, C.H.	*Psychology*
Ahmad, D.	*Medicine*
Ahuja, S.P.	*Medicine*
Aikenhead, D.E.	*Medicine*
Aikin, R.C.	*Nursing*
Aitken, R.R.	*Anaesthesia*
Aitken, W.R.	*Library Information Science*
Albers, H.J.	*Medicine*
Aldis, R.M.	*Community Medicine*
Aldrich, P.	*Music*
Aldrich, R.F.	*Music*
Ali, M.M.	*Mathematics*
Allcock, J.M.	*Diagnostic Radiology*
Allen, H.H.	*Obstetrics and Gynaecology*
Allison, G.F.	*Professional Practice and Administration - Althouse*
Allnatt, A.R.	*Chemistry*
Altmann, G.G.	*Anatomy*
Alway, A.E.	*Medicine*
Amacher, A.L.	*Clinical Neurological Science*
Anderson, A.R.	*German*
Anderson, J.M.	*Music*
Anderson, N.R.	*Psychology & Sociology Althouse*
Anderson, R.	*Obstetrics and Gynaecology*
Andresino, M.	*Psychology and Sociology Althouse*
Andrews, W.N.	*Psychiatry*
Andrieu, J.	*Trois Pistoles Summer School*
Andrieu, R.Y.	*Economics*
Annable, B.	*Summer School Althouse*
Annett, R.K.	*Family Medicine*
Appleford, R.D.	*Community Medicine*
Archibald, T.R.	*Business Administration*
Armstrong, D.T.	*Obstetrics and Gynaecology*
Armstrong, F.H.	*History*
Arnold, B.J.	*Law*
Arnold, D.R.	*Chemistry*
Arnold, I.A.	*French*
Arnold, L.E.	*English*
Asensio, J.	*Spanish and Italian*
Atance, F.	*French*
Atkinson, D.	*Paediatrics*
Atkinson, W.E.	*English*
Auksi, P.	*English*
Avery, D.H.	*History*
Avio, K.L.	*Economics*
Avotins, I.	*Classical Studies*
Aziz, G.E.	*Summer School Althouse*
Babb, J.W.	*Otolaryngology*
Babiak, W.	*Psychiatry*
Baguley, D.	*French*
Bailey, R.	*Business and Commerce Althouse*
Bailey, W.H.	*Surgery*
Baily, M.A.	*Extension and Summer School*
Bain, J.	*Anaesthesia*
Baird, K.M.	*Dental Clinics*
Baird, N.C.	*Chemistry*
Baker, C.G.	*Engineering Science*
Baker, K.	*Music*
Baker, P.G.	*English*
Bakerspigel, A.	*Bacteriology (Meek Lab)*
Balakrishnan, T.R.	*Sociology*
Balderston, W.	*History*
Baldwin, H.W.	*Chemistry*
Baldwin, M.M.	*Modern Languages Althouse*
Ball, J.K.	*Cancer Research*
Ball, M.J.	*Pathology (Meek Lab)*
Ballantyne, J.F.	*Ophthalmology*
Ball Rokeach, S.J.	*Sociology*
Balogh, L.V.	*Law*
Balse, M.L.	*French*
Bambrick, F.K.	*Journalism*
Bancroft, G.M.	*Chemistry*
Bandeen, B.I.	*English*
Banerjee, P.	*Therapeutic Radiology*
Banks, D.R.	*Summer School Althouse*
Banks, M.A.	*Law*
Banting, D.W.	*Social Dentistry*
Baran, D.	*Psychology*
Barbier, C.	*French*
Barker, A.E.	*English*
Barnard, F.M.	*Political Science*
Barnett, H.J.M.	*Clinical Neurological Science*
Barr, H.W.	*Surgery*
Barr, M.L.	*Anatomy*
Barr, R.	*Pathological Chemistry*
Barton, W.B.	*Therapeutic Radiology*
Bartoshuk, A.K.	*Psychology*
Bartram, E.A.	*Medicine*
Basabaraiappa, K.G.	*Sociology*
Base, T.E.	*Engineering Science*
Bass, R.W.	*Practice Teaching Althouse*
Bates, R.G.	*English*
Batra, R.N.	*Economics*
Battle, H.I.	*Zoology*
Baumann, H.G.	*Economics*
Beacock, S.	*Library and Information Science*
Beam, L.A.	*Oral Medicine*
Beaman, E.	*Philosophy*
Beamish, G.	*Music*
Beattie, E.J.	*Journalism*
Beatty, H.W.	*Vocational Education Althouse*
Beck, A.E.	*Geophysics*
Becker, H.J.	*Fine Art*
Beckhoff, G.	*Computer Science*
Bednarski, H.E.	*French*
Bedrosian, G.A.	*Restorative Dentistry*
Beeckmans, J.M.	*Engineering Science*
Beecroft, E.A.	*Political Science*
Bell, B.J.	*Extension and Summer School*
Bell, J.H.	*Oral Pathology*
Belladonna, R.	*Spanish and Italian*

Bellemare, D.	*Extension and Summer School*
Belzer, J.	*Library and Information Science*
Bennett, J.M.	*Computer Science*
Beresford, R.A.	*Computer Science*
Bergering, A.J.	*Psychology and Sociology Althouse*
Bergougnou, M.A.	*Engineering Science*
Berkeley, J.	*Physical Medicine and Rehabilitation*
Bernotas, N.	*Russian Studies*
Bernstein, P.	*Family Medicine*
Berry, R.A.	*Economics*
Bhatia, K.B.	*Economics*
Bidinosti, D.R.	*Chemistry*
Biehn, J.T.	*Family Medicine*
Bieman, H.E.	*English*
Biesenthal, R.G.	*Paediatric Dentistry*
Bigelow, C.C.	*Chemistry*
Biggs, R.G.	*Mathematics*
Binkley, R.W.	*Philosophy*
Binns Smith, M.	*Pathological Chemistry*
Bird, D.A.	*Library and Information Science*
Bishop, P.	*Business Administration*
Bjorklund, E.	*Geography*
Black, J.B.	*Library and Information Science*
Black, J.H.D.	*Diagnostic Radiology*
Black, W.A.	*Bacteriology*
Blackburn, J.A.	*Applied Mathematics*
Blackwell, J.H.	*Applied Mathematics*
Bliss, I.E.	*Physical Education Althouse*
Block, I.L.	*Philosophy*
Blomqvist, A.G.	*Economics*
Bobele, H.K.	*Business Administration*
Bocking, D.	*Medicine*
Bode, A.E.	*Mathematics*
Bodkin, R.	*Economics*
Boersema, J.M.	*Business Administration*
Bohaychuk, W.	*Plant Sciences*
Boles, J.I.	*Psychology*
Bolgan, A.C.	*English*
Bolli, O.	*Business Administration*
Bolton, J.R.	*Chemistry*
Bolton, R.J.	*Paediatrics*
Bonario, B.	*Fine Art*
Bondy, D.C.	*Physiology*
Bonham, D.E.	*Extension & Summer School*
Bonnema, T.	*Engineering Science*
Booth, J.C.	*Medical Rehabilitation Communication Disorders*
Borda, I.T.	*Pharmacology*
Borwein, D.	*Mathematics*
Bourns, T.K.	*Zoology*
Bow, Y.F.	*Physics*
Bowker, C.	*French*
Boyce, R.M.	*Psychiatry*
Boyd, J.A.	*Modern Language Althouse*
Boydell, C.L.	*Sociology*
Boyer, R.S.	*Economics*
Bracey, J.P.	*Music*
Brady, P.	*Family Medicine*
Brand, J.C.D.	*Chemistry*
Brandt, G.J.	*Law*
Brannen, E.	*Physics*
Bratuz, D.	*Music*
Bray, K.	*Music*
Brennan, M.	*Family Medicine*
Brien, F.S.	*Medicine*
Brillet, J.L.	*Social Science General*
Britain, S.D.	*Extension & Summer School*
Britney, R.R.	*Business Administration*
Brizio, V.M.	*Spanish and Italian*
Broege, V.A.	*Classical Studies*
Bronaugh, R.N.	*Philosophy*
Brooks, V.B.	*Physiology*
Brown, B.G.	*Nursing*
Brown, E.G.	*Restorative Dentistry*
Brown, J.D.	*Engineering Science*
Brown, L.S.	*Nursing*
Brown, M.M.	*English*
Brown, T.C.	*Diagnostic Radiology*
Brown, T.M.	*Economics*
Brown, T.N.	*Law*
Brown, W.F.	*Clinical Neurological Science*
Brownstone, Y.S.	*Pathological Chemistry*
Brubacher, L.	*Family Medicine*
Brunet, J.P.	*French*
Bryan, R.N.	*Mathematics*
Bryant, W.C.	*Family Medicine*
Bub, J.	*Philosophy*
Bucher, B.	*Psychology*
Buck, C.	*Community Medicine*
Buck, R.C.	*Anatomy*
Buckley, G.E.	*English*
Bulani, W.	*Engineering Science*
Bunston, H.G.	*Restorative Dentistry*
Burd, F.W.	*Extension & Summer School*
Burgess, D.F.	*Economics*
Burghardt, W.	*Spanish and Italian*
Burgoyne, D.	*Business Administration*
Burgstaller, H.A.	*Business Administration*
Burke, D.R.	*Philosophy Althouse*
Burley, K.H.	*Economics*
Burnett, W.H.	*Otolaryngology*
Burns, J.W.	*Chemistry*
Burns, S.J.	*Family Medicine*
Burron, B.F.	*Psychology*
Burt, W.L.	*Ophthalmology*
Burton, A.C.	*Biophysics*
Busby, S.M.	*Surgery*
Bush, W.S.	*French*
Bushnell, S.I.	*Law*
Butler, G.C.	*Summer School Althouse*
Butler, R.W.	*Geography*
Butler, W.E.	*Family Medicine*
Butlin, G.R.	*Anaesthesia*
Butson, F.J.	*Family Medicine*
Butts, R.E.	*Philosophy*
Cabena, B.	*Music*
Calaresu, F.R.	*Physiology*
Calbert, J.P.	*German*
Callaghan, N.L.	*Mathematics*
Cameron, H.	*Anaesthesia*
Cameron, H.S.	*Surgery*
Cameron, J.L.	*French*
Cameron, M.A.S.	*Fine Art*

Cameron, M.G.P.	*Physical Medicine and Rehabilitation*
Cameron, S.E.	*Medical Rehabilitation Physical Therapy*
Cameron, W.J.	*Library and Information Science*
Cameron, W.M.	*Medicine*
Campbell, D.A.	*Paediatric Dentistry*
Campbell, D.R.	*Mathematics Althouse*
Campbell, M.K.	*Paediatrics*
Campbell, N.	*Geography*
Campsall, E.W.	*Bacteriology (Meek Lab)*
Canham, P.B.	*Biophysics*
Cappa, C.F.	*Oral Medicine*
Carbone, M.E.	*Classical Studies*
Carey, L.S.	*Diagnostic Radiology*
Carlson, P.M.	*Psychology*
Carmichael, C.M.	*Geophysics*
Carroll, J.M.	*Computer Science*
Carroll, K.K.	*Chemistry*
Carroll, S.E.	*Surgery*
Carscallen, H.B.	*Psychiatry*
Carson, E.H.	*Law*
Cartwright, J.	*Political Science*
Casaubon, T.J.	*French*
Cass, F.P.	*Mathematics*
Castle, G.S.P.	*Engineering Science*
Cavers, P.B.	*Plant Sciences*
Cecil, R.G.	*Geography*
Chamberlain, L.W.	*Psychology*
Chamberlain, M.J.	*Medicine*
Chambers, D.A.	*Political Science*
Chambers, E.J.	*Political Sc.*
Chan, L.K.	*Mathematics*
Chan, R.K.	*Chemistry*
Chandra, U.	*Geophysics*
Chapin, D.F.	*English*
Cheevers, W.P.	*Cancer Research*
Cefurka, P.M.	*Physics*
Chefurka, W.	*Biochemistry*
Cherniak, E.A.	*Law*
Chernick, A.B.	*Family Medicine*
Chernick, B.A.	*Family Medicine*
Chertkow, G.	*Medicine*
Chess, G.F.	*Engineering Science*
Chittaro, E.	*Summer School Althouse*
Chodirker, W.B.	*Medicine*
Cholod, E.J.	*Medicine*
Chu, A.C.	*Political Science*
Church, W.R.	*Geology*
Chute, M.	*Plant Sciences*
Clancy, P.R.	*Anaesthesia*
Clark, C.S.	*Economics*
Clark, H.C.	*Chemistry*
Clark, J.G.	*Oral Medicine*
Clark, P.	*Trois Pistoles Summer School*
Clark, R.J.	*History Althouse*
Clark, W.B.	*Extension & Summer School*
Clark, M.	*Family Medicine*
Clarke, G.L.	*Family Medicine*
Clarke, J.	*Music*
Clarke, O.	*Medicine*
Clattenburg, R.E.	*Anatomy*
Clements, P.J.	*Music*
Clifford, T.J.	*Summer School Althouse*
Cline, A.	*Anatomy*
Coates, R.K.	*Diagnostic Radiology*
Code, W.R.	*Geography*
Coelho, P.R.	*Business Administration*
Cohen, A.M.	*Sociology*
Cohn, T.	*Political Science*
Cole, M.R.	*Psychology*
Cole, R.H.	*Mathematics*
Coleman, D.R.	*Business Administration*
Coles, J.C.	*Surgery*
Colhoun, E.H.	*Zoology*
Collins, J.A.	*Obstetrics and Gynaecology*
Collins, T.J.	*English*
Collins, W.M.	*Applied Mathematics*
Collyer, J.E.	*Family Medicine*
Collyer, R.H.	*Summer School Althouse*
Collyer, R.T.	*Ophthalmology*
Colpitts, B.	*Computer Science*
Colvin, L.C.	*Library and Information Science*
Conron, A.B.	*English*
Cook, C.B.	*Zoology*
Cook, F.S.	*Plant Sciences*
Cook, P.A.	*Extension and Summer School*
Cook, R.A.	*Biochemistry*
Cook, W.F.	*Summer School Althouse*
Copeland, G.G.	*Obstetrics and Gynaecology*
Corbett, J.J.	*Summer School Althouse*
Cornish, E.	*Oral Medicine*
Corrin, B.M.	*Psychiatry*
Corrin, R.C.	*Psychiatry*
Cortner, L.L.	*Music*
Cosentino, F.	*Physical Education*
Coulter, W.K.	*Medicine*
Courchene, T.J.	*Economics*
Cousineau, D.G.	*Extension and Summer School*
Cox, C.B.	*English*
Craig, A.W.	*Political Science*
Craig, R.A.	*Community Medicine*
Cram, D.M.	*Paediatrics*
Cranston, P.M.	*English*
Creeggan, S.	*Nursing*
Creighton, D.G.	*French*
Crisp, E.V.	*Teaching Aids Centre Althouse*
Critz, J.B.	*Physiology*
Crookell, H.	*Business Administration*
Crowther, N.B.	*Classical Studies*
Cunningham, D.A.	*Physical Education*
Cunningham, D.N.	*Science Althouse*
Currie, P.E.	*Social Dentistry*
Dale, W.S.A.	*Fine Art*
Dalkert, C.H.	*Music*
Dallner, R.G.	*Summer School Althouse*
Dauk, C.	*Nursing*
Davenport, A.G.	*Engineering Science*
Davies, B.	*French*
Davies, E.M.	*Pathology*
Davies, W.S.	*Summer School Althouse*
Davis, J.W.	*Philosophy*
Davis, P.F.	*Secretarial Science*
Davis, W.H.	*Engineering Science*
Davison, P.H.	*English*

Dawes, A.M.	*Mathematics*
Dawson, D.J.	*Physics*
Dawson, L.F.	*Extension and Summer School*
Dawson, W.F.	*Political Science*
Day, A.W.	*Plant Sciences*
Day, J.C.	*Geography*
Day, L.L.	*Plant Sciences*
Deakin, A.S.	*Applied Mathematics*
Dean, P.A.	*Chemistry*
Debenham, W.S.	*Library and Information Science*
Defoe, M.S.	*Diagnostic Radiology*
De Hart, F.E.	*Library and Information Science*
Deinum, E.J.	*Psychiatry*
de Kergommeaux, D.	*Fine Art*
Delkin, J.	*Mathematics*
Dellow, P.G.	*Physiology*
Demas, C.P.	*Chemistry*
De Mayo, P.	*Chemistry*
Denison, A.G.	*Paediatrics*
Dennis, S.C.	*Applied Mathematics*
Denny, J.P.	*Psychology*
Desautels, L.	*Trois Pistoles Summer School*
De Veber, L.L.	*Pathological Chemistry*
Devereux, E.J.	*English*
Dewdney, A.K.	*Computer Science*
Diamond, M.J.	*Anaesthesia*
Dick, T.J.O.	*Economics*
Dickie, G.L.	*Family Medicine*
Dickinson, S.M.	*Engineering Science*
Diehl, J.E.	*Spanish and Italian*
Dietrich, M.	*Pathology*
Digby, P.J.	*Extension and Summer School*
Dillon, M.T.	*Family Medicine*
Dillon, R.M.	*Engineering Science*
Dilmore, H.C.	*Music*
Dinel, B.	*Pharmacology*
Dingus, R.L.	*Psychiatry*
Dingus, R.M.A.	*Psychiatry*
Dinniwell, W.A.	*Oral Medicine*
Di Stefano, J.J.	*Business Administration*
Dixon, R.F.	*Journalism*
Dobell, W.M.	*Political Science*
Dobie, J.B.	*Summer School Althouse*
Doig, P.	*Summer School Althouse*
Dolan, J.	*Psychiatry*
Donaldson, E.F.	*Community Medicine*
Donisch, E.W.	*Anatomy*
Donisch, V.	*Biochemistry*
Donnelly, E.C.	*Library and Information Science*
Dore, A.J.	*Extension and Summer School*
Douglas, J.C.	*Medicine*
Dow, M.R.	*English Althouse*
Downham, D.	*Surgery*
Downs, P.G.	*Music*
Dragland, S.L.	*English*
Drake, C.G.	*Surgery*
Dreimanis, A.	*Geology*
Dreyer, F.A.	*History*
Drinkwalter, D.A.	*Business Administration*
Dubois, J.R.	*Paediatrics*
Duerden, I.J.	*Engineering Science*
Dunbar, R.W.	*Zoology*
Duncan, R.I.	*Biophysics*
Dundas, K.	*Business Administration*
Dunham, C.B.	*Computer Science*
Dunlop, C.C.	*Political Science*
Dunn, W.J.	*Dentistry*
Dupraz, J.Y.	*French*
Durnin, R.A.	*Physical Medicine and Rehabilitation*
Dyson, C.	*Ophthalmology*
Early, E.F.	*History*
Eastwood, A.W.	*Paediatric Dentistry*
Ebanks, G.E.	*Sociology*
Ebisuzaki, K.	*Cancer Research*
Ecclestone, E.R.	*Paediatric Dentistry*
Edgar, A.D.	*Geology*
Edgar, H.W.	*Diagnostic Radiology*
Edwards, K.	*Family Medicine*
Edwardson, B.	*Medical Rehabilitation Physical Therapy*
Egan, D.A.	*Medical Rehabilitation Physical Therapy*
Ehrman, J.B.	*Applied Mathematics*
Eichelbrenner, E.A.	*Applied Mathematics*
Elder, P.S.	*Law*
Ellert, J.C.	*Business Administration*
Elliott, D.	*Family Medicine*
Ellyatt, W.G.	*Family Medicine*
Emerson, R.L.	*History*
Emery, G.N.	*History*
Emmerson, G.S.	*Engineering Science*
Emmerton, R.J.	*Restorative Dentistry*
England, N.J.	*Medicine*
Enriquez, A.A.	*Pathology (Meek Lab)*
Eramian, G.M.	*Russian Studies*
Ernest, M.	*Medical Rehabilitation Occupational Therapy*
Evans, J.P.	*Psychology*
Evens, M.	*Music*
Evernden, L.N.	*Plant Sciences*
Evoy, B.	*Extension & Summer School*
Eynon, R.B.	*Physical Education*
Fairs, J.R.	*Physical Education*
Fama, A.	*Extension & Summer School*
Faras, A.J.	*Cancer Research*
Farbman, E.M.	*Extension & Summer School*
Farvolden, R.N.	*Geology*
Fay, T.L.	*Psychology*
Feasby, W.H.	*Paediatric Dentistry*
Fenwick, R.W.	*Fine Art*
Ferguson, D.A.	*Psychology*
Ferguson, H.I.	*Physics*
Ferguson, W.K.	*History*
Fetterly, J.C.	*Therapeutic Radiology*
ffolliott, J.D.	*Business Administration*
Fieguth, W.	*Geography*
Filipich, R.	*Medicine*
Findlay, J.A.	*Extension & Summer School*
Finlay, T.	*Summer School Althouse*
Fisher, A.	*Music*
Fisher, C.F.	*Medicine*
Fitz James, P.C.	*Biochemistry*
Fleck, P.D.	*English*
Fleet, M.E.	*Geology*
Fletcher, H.G.	*Family Medicine*
Flint, W.	*Spanish & Italian*
Florence, J.B.	*Mathematics*
Flumerfelt, B.A.	*Anatomy*

Ford, A.J.	*Music*
Ford, J.	*English*
Foreman, J.E.	*Engineering Science*
Forrest, J.	*Nursing*
Forsyth, G.R.	*Business Administration*
Forsyth, L.H.	*French*
Forsyth, P.A.	*Physics*
Fowler, J.B.	*Social Dentistry*
Fowler, P.	*Surgery*
Fox, M.	*English*
Fraleigh, D.M.	*Nursing*
Frankena, M.W.	*Economics*
Fraser, P.A.	*Applied Mathematics*
Fraser, W.P.	*Family Medicine*
Freed, B.	*Philosophy*
Frei, J.V.	*Pathology*
Frey, G.C.	*Paediatric Dentistry*
Fried, J.S.	*Economics*
Friedberg, S.	*Economics*
Frishette, W.A.	*Pathology*
Froelich, H.R.	*Physics*
Froese, E.	*Russian Studies*
Fry, J.N.	*Business Administration*
Fryer, B.J.	*Geology*
Fuke, R.P.	*History*
Fulford, J.A.	*Physics*
Fuller, M.	*Nursing*
Funston, G.	*Physical Education*
Fyfe, J.	*Library & Information science*
Gagnon, G.	*Trois Pistoles Summer School*
Gagnon, G.	*Trois Pistoles Summer School*
Gaily, D.	*Physics*
Galbraith, D.A.	*Psychiatry*
Galbraith, H.C.	*Psychiatry*
Gallagher, S.F.	*Extension & Summer School*
Gallaher, D.F.	*Physics*
Galsworthy, P.R.	*Biochemistry*
Galsworthy, S.B.	*Bacteriology*
Gambrill, R.B.	*Family Medicine*
Gammal, E.B.	*Obstetrics and Gynaecology*
Garber, L.A.	*English*
Gardner, D.G.	*Paediatric Dentistry*
Gardner, R.C.	*Psychology*
Gargantini, I.	*Computer Science*
Gately, D.	*Economics*
Gatfield, P.D.	*Biochemistry*
Gaudet, P.M.	*English*
Gavreluk, R.N.	*Summer School Althouse*
Gay, K.E.	*Family Medicine*
Geach, G.A.	*Engineering Science*
Gehman, J.G.	*Extension & Summer School*
Genest, M.H.	*Law*
George, J.A.	*Zoology*
George, P.M.	*Sociology*
Gerber, D.E.	*Classical Studies*
Gergely, N.F.	*Surgery*
Gerhard, W.J.	*Nursing*
Gettas, P.G.	*Otolaryngology*
Gibson, G.	*Family Medicine*
Gidney, R.D.	*History of Education Althouse*
Gilchrist, J.A.	*Therapeutic Radiology*
Gillick, R.H.	*Family Medicine*
Gilroy, J.	*Medical Rehabilitation Physical Therapy*
Giron, A.	*Music*
Giron, P.A.	*Music*
Girvan, G.R.	*Obstetrics and Gynaecology*
Girvin, J.P.	*Surgery*
Gladwell, S.A.	*Summer School Althouse*
Gleeson, D.M.	*Summer School Althouse*
Glennie, G.D.	*Oral Surgery*
Goddard, M.D.	*Medicine*
Goldberg, A.	*Anatomy*
Goldberg, B.	*Psychiatry*
Goldschlager, A.	*French*
Gollert, N.D.	*Summer School Althouse*
Gonser, G.	*Physical Education*
Good, H.	*Summer School Althouse*
Good, J.	*English*
Goodchild, M.F.	*Geography*
Goodstadt, M.S.	*Psychology*
Gordon, B.A.	*Biochemistry*
Gordon, D.	*Law*
Gordon, E.M.	*School Librarianship Althouse*
Gordon, J.R.	*Business Administration*
Gormley, W.	*Summer School Althouse*
Gort, G.	*Psychiatry*
Gourley, R.	*Family Medicine*
Gow, C.M.	*Nursing*
Gowdey, C.W.	*Pharmacology*
Graham, B.J.	*Summer School Althouse*
Graham, D.M.	*Chemistry*
Graham, G.S.	*History*
Graham, J.F.	*Business Administration*
Graham, J.W.	*English*
Grainger, R.W.	*Surgery*
Grantham, P.	*Medical Rehabilitation Physical Therapy*
Gratton, D.R.	*Restorative Dentistry*
Gray, D.F.	*Astronomy*
Gray, D.M.	*History Althouse*
Green, J.P.	*Music*
Greene, G.K.	*Music*
Greenfield, J.H.	*Oral Medicine*
Greenhow, P.	*Diagnostic Radiology*
Greenway, R.E.	*Otolaryngology*
Greyson, R.I.	*Plant Sciences*
Griew, S.	*Extension & Summer School*
Griffin, A.E.	*Nursing*
Grindlay, A.	*Business Administration*
Grindstaff, C.F.	*Sociology*
Groom, A.C.	*Anaesthesia*
Growse, J.M.	*Anaesthesia*
Guemple, D.L.	*Anthropology*
Guest, J.A.	*Restorative Dentistry*
Guinsburg, T.N.	*History*
Gunton, R.W.	*Medicine*
Gustafson, M.E.	*Music*
Gustafson, R.S.	*Music*
Guthrie, P.	*Chemistry*
Guthwin, J.G.	*Psychology*
Gutteridge, D.G.	*English Althouse*
Gwinnett, A.J.	*Restorative Dentistry*
Gwyn, D.G.	*Diagnostic Radiology*
Gwynne Timothy, J.R.	*History*
Gyorok, L.L.	*Geology*
Haenselman, C.F.	*Music*
Haessel, W.	*Economics*
Hagerman, E.S.	*Medicine*
Hahn, E.	*History*

Haines, D.S.	*Biochemistry*
Haines, R.A.	*Chemistry*
Hair, D.S.	*English*
Halip, J.W.	*Restorative Dentistry*
Hall, E.J.	*Technical Education Althouse*
Hall, P.R.	*Nursing*
Hallberg, E.T.	*Guidance Althouse*
Hamilton, G.	*Diagnostic Radiology*
Hamilton, J.T.	*Pharmacology*
Hamilton, W.B.	*History of Education Althouse*
Handy, A.E.	*Fine Art*
Hanna, E.	*Family Medicine*
Hannay, C.L.	*Bacteriology*
Hansen, K.	*Library and Information Science*
Hansford, D.	*Pharmacology*
Haq, M.S.	*Mathematics*
Harding, P.G.	*Physiology*
Hardy, K.G.	*Business Administration*
Hardy, M.	*Elementary Teaching Althouse*
Harland, R.F.	*Technical Education Althouse*
Harper, F.B.	*Psychology and Sociology Althouse*
Harper, W.	*Philosophy*
Harris, A.J.	*Community Medicine*
Harris, A.W.	*Mathematics Althouse*
Harrison, R.	*Summer School Althouse*
Hart, J.F.	*Computer Science*
Hart, W.S.	*Fine Art*
Harth, M.	*Medicine*
Hartry, M.	*Secretarial Science*
Harvey, T.G.	*Political Science*
Harwood, R.A.	*Diagnostic Radiology*
Hassard, J.H.	*Guidance Althouse*
Hatch, J.E.	*Business Administration*
Hatch, L.A.	*Bacteriology*
Hauch, P.P.	*Diagnostic Radiology*
Haust, H.L.	*Pathological Chemistry*
Haust, M.D.	*Paediatrics*
Havelka, J.	*Extension and Summer School*
Hay, D.R.	*Physics*
Hay, G.C.	*Professional Practice and Administration Althouse*
Hayatsu, A.	*Geophysics*
Hayden, D.B.	*Extension and Summer School*
Hayes, A.C.	*Sociology*
Hayes, D.L.	*Physical Education*
Hayman, L.	*Sociology*
Heagy, F.C.	*Therapeutic Radiology*
Heapy, N.	*Psychology*
Hedley, J.	*Secretarial Science*
Heffernan, J.J.	*Business Administration*
Heine, W.C.	*Journalism*
Heinicke, A.G.	*Mathematics*
Heller, L.M.	*French*
Hennen, B.	*Family Medicine*
Henshel, R.L.	*Sociology*
Henry, W.C.	*Philosophy*
Hensley, D.H.	*English*
Hersey, L.W.	*Pharmacology*
Heseltine, G.F.	*Psychiatry*
Hess, G.	*German*
Hession, B.L.	*Medicine*
Hewitt, A.	*Summer School Althouse*
Hey, M.H.	*Technical Education Althouse*
Hibbert, D.M.	*Nursing*
Hickey, M.C.	*Family Medicine*
Hickling, M.A.	*Law*
Hickman, C.J.	*Plant Sciences*
Hicks, B.E.	*Business Administration*
Hieatt, A.K.	*English*
Hieatt, C.B.	*English*
Hilborn, K.H.	*History*
Hill, M.B.	*Diagnostic Radiology*
Hill, S.J.	*Physical Education*
Hinckley, T.K.	*Extension and Summer School*
Hinton, G.G.	*Clinical and Neurological Science*
Hirst, M.	*Pharmacology*
Hiscock, R.S.	*Family Medicine*
Hobbs, G.E.	*Psychiatry*
Hobkirk, R.	*Pathological Chemistry*
Hockney, D.J.	*Philosophy*
Hodder, R.W.	*Geology*
Hodgson, R.C.	*Business Administration*
Hofstee, J.	*Extension and Summer School*
Hohner, R.A.	*History*
Holder, M.A.	*French*
Holmes, G.	*French*
Holsworth, W.N.	*Zoology*
Hooker, C.	*Philosophy*
Hoover, M.P.	*Psychiatry*
Hopkins, W.G.	*Plant Sciences*
Horn, E.M.	*Nursing*
Horrocks, G.	*Mathematics*
Hosse, H.A.	*Geography*
Hotimsky, C.M.	*Library and Information Science*
House, G.S.	*English*
Houston, B.E.	*Philosophy Althouse*
Howard, J.L.	*Business Administration*
Howard, V.A.	*Philosophy Althouse*
Howell, W.C.	*Chemistry*
Howey, M.	*Journalism*
Hrabik, M.J.	*Political Science*
Hudson, A.J.	*Clinical and Neurological Science*
Hughes, R.A.	*Music*
Hughes, T.	*Extension and Summer School*
Hugill, R.A.	*Restorative Dentistry*
Humphrey, J.A.	*Business Administration*
Humphreys, D.A.	*Extension and Summer School*
Hunter, A.T.	*Family Medicine*
Hunter, D.H.	*Chemistry*
Hunter, J.K.	*Oral Medicine*
Hunter, W.S.	*Paediatric Dentistry*
Huston, P.H.	*Summer School Althouse*
Hutchinson, R.W.	*Geology*
Hutchison, D.A.	*Community Medicine*
Hyatt, A.M.	*History*
Ignatieff, L.	*Russian Studies*
Immerwahr, R.	*German*
Inch, R.S.	*Geography and Geology Althouse*
Inch, W.R.	*Therapeutic Radiology*
Inculet, I.I.	*Engineering Science*
Irvine, S.H.	*Psychology and Sociology Althouse*
Isyumov, N.	*Engineering Science*
Jaatoul, N.	*Clinical and Neurological Science*
Jack, R.N.	*Oral Medicine*
Jackson, D.N.	*Psychology*

Jackson, J.E.	*Sociology*
Jaco, N.T.	*Paediatrics*
Jacobs, P.W.	*Chemistry*
Jaeger, L.L.	*Music*
Jamieson, A.	*Library and Information Science*
Jamieson, W.G.	*Surgery*
Jancey, R.C.	*Plant Sciences*
Janes, D.J.	*Library and Information Science*
Jandali, T.	*Engineering Science*
Janelle, B.	*Geography*
Janelle, D.G.	*Geography*
Janisch, H.N.	*Law*
Janota, I.	*Music*
Jarmain, W.R.	*Physics*
Jarvis, A.M.	*Oral Surgery*
Jarvis, G.K.	*Sociology*
Jasinski, J.	*Nursing*
Jeffs, J.I.	*Community Medicine*
Jenkins, G.E.	*Psychiatry*
Jenner, M.R.F.	*Paediatrics*
John, P.K.	*Physics*
Johnson, A.H.	*Philosophy*
Johnson, A.I.	*Engineering Science*
Johnson, D.J.	*Music*
Johnson, D.M.M.	*Psychiatry*
Johnson, F.G.	*Psychiatry*
Johnson, F.L.	*Obstetrics and Gynaecology*
Johnson, H.J.	*Philosophy*
Johnson, H.T.	*Economics*
Johnson, J.R.	*Extension & Summer School*
Johnson, L.N.	*Geography*
Johnson, L.N.	*Restorative Dentistry*
Johnson, R.H.	*Oral Medicine*
Johnston, C.B.	*Buiness Administration*
Johnston, D.W.	*Surgery*
Johnston, E.E.	*Diagnostic Radiology*
Johnston, K.A.	*Family Medicine*
Johnstone, R.G.J.	*Summer School Althouse*
Jondrow, J.M.	*Economics*
Jones, D.F.	*French*
Jones, D.S.	*Pathological Chemistry*
Jones, D.T.	*Medicine*
Jones, F.W.P.	*Business Administration*
Jones, J.	*Physics*
Jones, R.F.	*French*
Jordan, R.E.	*Restorative Dentistry*
Jory, T.A.	*Anatomy*
Judd, W.W.	*Zoology*
Jurjans, V.	*Psychiatry*
Kadiyala, K.R.	*Economics*
Kalia, D.R.	*Library & Information Science*
Kaluza, H.J.	*Business and Commerce Althouse*
Kandel, P.F.	*Oral Surgery*
Kaufman, J.J.	*Psychiatry*
Kaula, D.C.	*English*
Keating, J.	*Physical Education*
Keenleyside, M.H.	*Zoology*
Keeri Szanto, M.	*Anaesthesia*
Keidan, H.	*Family Medicine*
Keil, W.E.	*Psychiatry*
Kendall, S.B.	*Psychology*
Kalb, S.	*Psychiatry*
Kennedy, F.S.	*Medicine*
Kennedy, J.C.	*Surgery*
Kennedy, J.R.	*Business Administration*
Kenney, K.W.	*Elementary Teaching Althouse*
Kerr, D.G.G.	*History*
Kerr, J.P.	*Paediatric Dentistry*
Kertesz, A.	*Clinical Neurological Science*
Keske, W.G.	*Extension & Summer School*
Ketchum, E.J.D.	*Economics*
Ketchum, E.J.	*Library & Information Science*
Key, W.B.	*Journalism*
Khandwalla, P.N.	*Business Administration*
Khanh, H.K.	*Political Science*
Kidd, R.G.	*Chemistry*
Kieser, W.E.	*Modern Languages Althouse*
Kimber, R.W.	*Pathological Chemistry*
Kimura, D.	*Psychology*
King, D.A.	*Paediatric Dentistry*
King, J.F.	*Chemistry*
King, R.H.	*Geography*
King, R.W.	*Extension & Summer School*
Kinnear, T.C.	*Business Administration*
Kirkham, P.G.	*Economics*
Klass, W.	*Mathematics*
Klein, W.C.	*Oral Medicine*
Klinck, C.F.	*English*
Kline, P.	*Trois Pistoles Summer School*
Knight, R.M.	*Business Administration*
Knights, G.T.	*Engineering Science*
Kogon, S.	*Oral Medicine*
Kosaric, N.	*Engineering Science*
Koutsouvilis, A.P.	*Philosophy Althouse*
Krever, H.	*Faculty of Law*
Kroll, A.	*Medical Rehabilitation Communication Disorders*
Krupka, R.M.	*Biochemistry*
Krysztofiak, B.E.	*Physical Medicine and Rehabilitation*
Kuch, P.J.	*Economics*
Kuechle, D.	*Business Administration*
Kuehner, D.	*Computer Science*
Kunkel, J.H.	*Sociology*
Kymlicka, B.B	*Political Science*
Liagn, M.M.	*Journalism*
Lake, G.T.	*Computer Science*
Lamb, L.	*Family Medicine*
Lambert, D.M.	*Business Administration*
Lambert, G.R.	*Classics Althouse*
Lamont, C.T.	*Family Medicine*
Lander, J.R.	*History*
Laing, M.M.	*Journalism*
Lake, G.T.	*Computer Science*
Lamb, L.	*Family Medicine*
Laman, K.	*Nursing*
Lambert, D.M.	*Business Administration*
Lambert, G.R.	*Classics Althouse*
Lander, J.R.	*History*
Landstreet, J.D.	*Astronomy*
Lane Smith, D.R.	*Physics*
Langland, K.	*Computer Science*
Langmead, S.	*Library & Information Science*
Langman, R.C.	*Geography & Geology Althouse*
Langtvet, O.P.	*Geography*
LaPlante, R.	*Journalism*
Lapp, C.A.	*Psychiatry*
Lauchland, L.S	*Engineering Science*
Lawr, D.	*History of Education Althouse*

Lawrence, D.W.	*Obstetrics and Gynaecology*
Lawson, G.B.	*Mathematics Althouse*
Lay, M.	*Physical Education*
Leach, J.	*Philosophy*
Leach, P.G.	*Political Science*
Leake, J.	*Social Dentistry*
Lebner, S.	*Business Administration*
Leboldus, G.M.	*Otolaryngology*
Lee, R.E.	*Library & Information Science*
Lee, T.H.	*Political Science*
Leenders, M.	*Business Administration*
Leeson, J.	*Family Medicine*
Lefcoe, N.M.	*Medicine*
Leighton, E.A.	*Summer School Althouse*
Leishman, R.J.W.	*Political Science*
Leith, J.C.	*Economics*
Lemmon, J.C.	*Business Administration*
Lenardon, D.	*Extension & Summer School*
Lennon, T.M.	*Philosophy*
Lenz, A.C.	*Geology*
Leonard, B.	*English*
Lewis, F.N.	*Pathology*
Lewis, J.A.	*History of Medicine & Science*
Leyshon, G.	*Physical Education*
L'Heureux, W.J.	*Physical Education*
Li, K.T.	*Paediatrics*
Li, M.D.	*Paediatrics*
Linden, P.J.	*English Althouse*
Linsdell, F.J.	*Diagnostic Radiology*
Linton, A.L.	*Pathological Chemistry*
Little, W.B.	*Business Administration*
Littlewood, A.R.	*Classical Studies*
Livingstone, C.E	*Engineering Science*
Lo, K.Y.	*Engineering Science*
Lobb, H.O.	*Pshychology*
Locke, M.	*Zoology*
Logan, A.D.	*Art Althouse*
Long, R.	*Business Administration*
Longton, M.M.	*Music*
Lopez-Pacheco, J.	*Spanish & Italian*
Lorcini, M.	*Music*
Lord, R.J.	*Business Administration*
Lorimer, J.W.	*Chemistry*
Lovegrove, T.D.	*Pharmacology*
Lowe, R.P.	*Physics*
Luckman, B.	*Geography*
Luke, T.M.	*Applied Mathematics*
Lundgren, B.R.	*English*
Ly, T.	*French*
Lyon, G.F.	*Physics*
Macallum, A.B.	*Medicine*
MacDonald, A.C.	*Diagnostic Radiology*
MacDonald, I.T.	*Political Science*
MacDonald, J.A.	*Engineering Science*
MacDonald, J.C.	*Physics*
MacInnes, C.D.	*Zoology*
Mack, J.S.	*Medical Rehabilitation*
	Occupational Therapy
MacKay, R.S.	*Law*
MacKenzie, A.M.	*Engineering Science*
MacKenzie, D.A.	*Surgery*
MacLennan, M.O.	*Music*
MacRae, E.E.	*Otolaryngology*
MacRae, A.G.	*Medical Rehabilitation*
	Physical Therapy
MacRae, N.D.	*Geology*
Magee, G.R.	*Mathematics*
Magee, W.L.	*Biochemistry*
Mahoney, L.M.	*Nursing*
Malanchuk, R.	*Business Administration*
Mandel, R.J.	*Summer School Althouse*
Manners, D.O.	*Obstetrics and Gynaecology*
Manning, G.W.	*Physiology*
Mansinha, L.	*Geophysics*
Mantle, J.H.	*Nursing*
Manuel, P.W.	*Applied Mathematics*
Marchand, R.H.	*Summer School Althouse*
Marchuk, P.	*Family Medicine*
Marin, I.C.	*Sociology*
Marlborough, J.M.	*Astronomy*
Marples, L.W.	*Business Administration*
Marras, A.	*Philosophy*
Marshall, D.G.	*Surgery*
Marti, A.M.	*Spanish and Italian*
Martin, J.	*Physics*
Martin, J.E.	*Summer School Althouse*
Martin, S.A.	*Business Administration*
Martinello, B.P.	*Paediatric Dentistry*
Maun, D.	*Plant Sciences*
Max, P.	*Psychiatry*
May, J.D.	*Economics*
May, R.W.	*Extension and Summer School*
Maynard, P.	*Philosophy*
Mazan, A.	*Music*
Mazzone, P.J.	*Summer School Althouse*
McAlpine, K.L.	*Paediatrics*
McAninch, L.N.	*Surgery*
McCallum, E.	*Family Medicine*
McCamus, B.M.	*Library and Information Science*
McCarter, J.A.	*Cancer Research*
McClelland, W.J.	*Psychology*
McCormack, T.	*Sociology*
McCourtie, D.	*Medicine*
McCredie, J.A.	*Therapeutic Radiology*
McCue, D.	*Family Medicine*
McCullough, M.K.	*History*
McDaniel, R.	*Geography*
McDonald, J.W.D.	*Pathological Chemistry*
McDougall, A.K.	*Political Science*
McDougall, W.J.	*Business Administration*
McFarlane, D.C.	*Ophthalmology*
McFarlane, N.A.	*Oral Surgery*
McFarlane, R.M.	*Surgery*
McFetridge, D.G.	*Economics*
McGarry, M.	*Engineering Science*
McGhie, T.G.	*Family Medicine*
McGowan, J.W.	*Physics*
McGregor, K.M.	*Psychiatry*
McInnes, W.P.	*Clinical and Neurological Science*
McIntosh, J.S.	*Music*
McKay, D.O.	*Mathematics*
McKay, H.W.	*Social Dentistry*
McKeen, W.E.	*Plant Sciences*
McKellar, D.A.	*Music*
McKenzie, A.L.	*Law*
McKenzie, F.A.	*Psychiatry*
McKeon, P.J.	*Teaching Aids Centre Althouse*

McKibben, W.L.	*Business Administration*
McKim, J.C.	*Family Medicine*
McKim, J.S.	*Paediatrics*
McKim, M.E.	*Psychiatry*
McLachlin, A.D.	*Surgery*
McLachlin, J.A.	*Surgery*
McLarty, D.A.	*Plant Sciences*
McLarty, T.D.	*Surgery*
McLaughlin, J.P.	*History*
McLeish, E.A.	*Professional Practice and Administration Althouse*
McLeish, J.C.	*Psychiatry*
McLeod, J.	*Law*
McMaster, E.E.	*Nursing*
McMillan, D.B.	*Zoology*
McMurray, J.G.	*Psychology and Sociology Althouse*
McMurray, W.C.	*Biochemistry*
McNamara, C.	*Library and Information Science*
McParland, S.J.	*Social Dentistry*
McPeck, J.E.	*Philosophy Althouse*
McRae, D.M.	*Law*
McWhinney, I.R.	*Family Medicine*
McWhirter, J.	*Nursing*
Meads, G.E.	*Surgery*
Meath, W.J.	*Chemistry*
Medzon, E.L.	*Bacteriology*
Melchior, L.	*Nursing*
Mellamphy, E.N.	*English*
Meltzer, D.B.	*Pathological Chemistry*
Melvin, J.R.	*Economics*
Melvin, R.A.	*Political Science*
Menear, D.W.	*Professional Practice and Administration Althouse*
Mercer, P.F.	*Physiology*
Meredith, A.R.	*Family Medicine*
Mereu, J.	*Mathematics*
Mereu, R.	*Physics*
Merritt, J.O.	*Family Medicine*
Metcalfe, G.	*History*
Metzger, F.K.	*History*
Meyer, J.	*Music*
Middleton, W.W.	*Medicine*
Migneron, R.	*Applied Mathematics*
Mikalachki, A.	*Business Administration*
Milburn, G.	*History Althouse*
Millar, J.S.	*Zoology*
Miller, C.C.	*Anthropology*
Miller, A.J.	*Political Science*
Miller, C.	*Extension and Summer School*
Miller, C.B.	*Geophysics*
Miller, D.M.	*Chemistry*
Miller, C.B.	*Mathematics*
Miller, J.W.	*Summer School Althouse*
Millman, W.L.	*Anaesthesia*
Mills, D.M.	*Pathology*
Mills, D.W.	*Ophthalmology*
Milne, D.C.	*Physical Education*
Milne, K.	*Obstetrics and Gynaecology*
Milnes, P.	*Mathematics*
Misra, R.K.	*Zoology*
Mitalas, R.	*Astronomy*
Mitchell, P.	*Biochemistry*
Mogenson, G.J.	*Psychology*
Moir, G.N.	*Summer School Althouse*
Molineux, J.E.	*Family Medicine*
Montemurro, D.G.	*Anatomy*
Moorcroft, D.R.	*Physics*
Moore, D.S.	*Oral Medicine*
Moore, J.T.	*Mathematics*
Moore, M.R.	*Summer School Althouse*
Moorhead, J.M.	*Astronomy*
Morgan, S.M.	*Medical Rehabilitation Physical Therapy*
Moro, R.	*Technical Education Althouse*
Morris, R.W.	*Oral Medicine*
Moulton, M.E.	*Zoology*
Moulton, R.	*Family Medicine*
Mountain, H.E.	*Psychiatry*
Moxley, S.	*Physical Education*
Muehlmann, R.G.	*Philosophy*
Muir, J.M.	*Anaesthesia*
Mullen, E.	*Nursing*
Mullin, J.K.	*Computer Science*
Mumby, D.	*Community Medicine*
Munn, B.W.	*Spanish and Italian*
Munn, L.G.	*Music*
Munn, W.H.	*Music*
Murison, C.L.	*Classical Studies*
Murphy, K.C.	*Psychology*
Murphy, P.M.	*Music*
Murray, G.P.	*Political Science*
Murray, H.G.	*Psychology*
Murray, R.G.	*Bacteriology*
Murty, R.C.	*Physics*
Mutabirwa, C.C.	*Geography*
Naftolin, L.	*Family Medicine*
Nagai, T.	*Biophysics*
Nagar, A.L.	*Economics*
Naylor, D.	*Applied Mathematics*
Neal, L.E.	*Psychology*
Neary, P.F.	*History*
Neill, S.D.	*Library and Information Science*
Neilson, J.B.	*Community Medicine*
Nelson, J.G.	*Geography*
Nerenberg, M.A.	*Applied Mathematics*
Neufeld, A.H.	*Pathological Chemistry*
Neuhauser, R.	*Russian Studies*
Newell, J.P.	*Family Medicine*
Newkirk, R.L.	*Computer Science*
Newman, J.C.	*Spanish and Italian*
Newson, E.P.	*Business Administration*
Nicholas, J.M.	*Philosophy*
Nicholls, J.V.V.	*Ophthalmology*
Nicholson, J.P.	*Extension and Summer School*
Nicholson, J.R.	*Paediatrics*
Nicholson, J.T.	*Business Administration*
Nicholson, N.L.	*Geography*
Nicol, D.A.	*Diagnostic Radiology*
Nielsen, J.S.	*Anaesthesia*
Noakes, J.D.	*Extension and Summer School*
Nobbe, C.E.	*Sociology*
Nobbs, R.A.	*Business Administration*
Noel, S.J.	*Political Science*
Nordine, M.C.	*Oral Medicine*
Norry, H.T.	*Anaesthesia*
Nourse, R.E.	*Business Administration*
Novak, M.	*Engineering Science*
Nowak, E.S.	*Engineering Science*

Nugent, S.M.	*Psychiatry*
Oaxaca, R.L.	*Economics*
O'Brien, A.	*Political Science*
Ogelsby, J.C.	*History*
Ogilvie, D.M.	*Zoology*
Ogletree, J.	*Science Althouse*
O'Hea, E.K.	*Physiology*
Okraku, I.O.	*Sociology*
Oksanen, I.	*Summer School Althouse*
O'Leary, P.T.	*Philosophy Althouse*
Oliver, D.	*Business Administration*
Oliver, G.	*Ophthalmology*
Ollerhead, W.W.	*Surgery*
Olson, A.T.	*Engineering Science*
Olson, E.E.	*Library and Information Science*
Oneail, J.M.	*Journalism*
O'Neill, B.J.	*Psychology*
O'Neill, T.	*Family Medicine*
Orchard, J.W.	*Family Medicine*
Orloci, L.	*Plant Sciences*
O'Rourke, B.M.	*Summer School Althouse*
Osborn, R.W.	*Sociology*
Osuntokun, J.	*Extension and Summer School*
Ouellette, G.	*Business Administration*
Overton, R.C.	*History*
Owen, M.D.	*Zoology*
Owens, G.L.	*Extension and Summer School*
Pace, W.E.	*Medicine*
Packer, R.W.	*Geography*
Paivio, A.U.	*Psychology*
Palmer, E.E.	*Law*
Palmer, H.C.	*Geophysics*
Palmer, J.L.	*Engineering Science*
Palmer, J.P.	*Economics*
Palmer, R.B.	*Psychiatry*
Papke, C.J.	*Trois Pistoles Summer School*
Papmehl, K.A.	*Russian Studies*
Paradis, C.	*Trois Pistoles Summer School*
Parai, L.	*Economics*
Parisien, W.	*Trois Pistoles Summer School*
Park, P.	*Elementary Teaching Althouse*
Parker, G.D.	*English*
Parker, G.R.	*Medical Rehabilitation Occupational Therapy*
Parker, J.M.	*Pharmacology*
Parker, W.R.	*Summer School Althouse*
Parnell, A.G.	*Oral Surgery*
Passi, R.B.	*Surgery*
Pasternak, J.	*Chemistry*
Paterson, G.H.	*Extension and Summer School*
Paterson, J.C.	*Pathology*
Paterson, W.I.	*Physical Education Althouse*
Paton, G.A.	*Physical Education*
Patten, J.F.	*Family Medicine*
Patterson, J.	*Nursing*
Pattison, J.C.	*Economics*
Pavloff, V.N.	*History*
Payne, N.C.	*Chemistry*
Peach, D.A.	*Business Administration*
Peacock, W.H.	*Engineering Science*
Pearce, G.A.	*Philosophy*
Pederson, D.R.	*Psychology*
Pegg, W.	*Extension and Summer School*
Pellow, W.R.	*Oral Medicine*
Pendle, K.	*Music*
Pendrill, G.	*Library and Information Science*
Pennington, P.W.	*Family Medicine*
Percy, D.H.	*Bacteriology*
Peterson, D.	*Physical Education*
Petersen, K.B.	*Oral Medicine*
Petrie, B.	*Physical Education*
Pfisterer, J.	*Nursing*
Philbrick, A.K.	*Geography*
Philipchalk, P.R.	*Extension and Summer School*
Phillips, A.T.	*Summer School Althouse*
Phills, G.H.	*Extension and Summer School*
Philp, R.B.	*Pharmacology*
Phipps, J.B.	*Plant Sciences*
Pickard, H.A.	*Medicine*
Piotrowski, J.M.	*Extension and Summer School*
Piper, G.A.	*Family Medicine*
Planck, R.J.	*Zoology*
Pleva, E.G.	*Geography*
Plotkin, H.N.	*History of Medicine and Science*
Plourde, C.G.	*Economics*
Plunkett, E.R.	*Therapeutic Radiology*
Pollock, E.M.	*Law*
Porterfield, C.G.	*Home Economics Althouse*
Portis, B.	*Business Administration*
Possmayer, F.	*Obstetrics and Gynaecology*
Potter, T.I.	*Nursing*
Poucher, M.P.	*Engineering Science*
Pozsonyi, J.	*Paediatrics*
Pratt, G.E.	*Family Medicine*
Price, I.C.	*Medicine*
Price, P.	*Summer School Althouse*
Priestly, D.M.	*Law*
Procunier, E.R.	*English Althouse*
Prodrick, R.G.	*Library and Information Science*
Prueter, G.W.	*Obstetrics and Gynaecology*
Pryor, E.	*Sociology*
Prytulak, D.S.	*Psychology*
Prytulak, L.S.	*Psychology*
Purdy, J.D.	*History of Education Althouse*
Purekevich, R.	*German*
Purko, J.	*Zoology*
Purres, J.	*Medicine*
Pylyshyn, Z.W.	*Psychology*
Quigley, R.M.	*Geology*
Radcliffe, D.J.	*History of Education Althouse*
Radford, N.	*Library and Information Science*
Ragula, B.	*Family Medicine*
Rai, J.	*Psychiatry*
Rajan, B.	*English*
Rajic, D.S.	*Diagnostic Radiology*
Ramsay, J.	*Physical Education*
Rand, C.G.	*Community Medicine*
Rankin, S.A.	*Mathematics*
Rans, G.	*English*
Rao, V.S.	*Economics*
Raper, D.J.	*Summer School Althouse*
Rathbun, J.C.	*Paediatrics*
Raud, H.R.	*Pathological Chemistry*
Rawkins, P.M.	*Sociology*
Ray, D.W.	*History of Education Althouse*
Raymond, A.E.	*Classical Studies*
Rayner, W.B.	*Law*
Rea, W.H.	*Business Administration*

Ready, W.B.	*Library and Information Science*
Reaney, J.C.	*English*
Rechnitzer, P.A.	*Medicine*
Redden, C.S.	*Family Medicine*
Reddon, J.	*Restorative Dentistry*
Redekop, E.H.	*English*
Redinger, R.N.	*Medicine*
Reese, L.	*Therapeutic Radiology*
Reid, E.	*Physical Education*
Reid, J.A.	*Oral Medicine*
Reid, S.	*Summer School Althouse*
Reid Smith, E.A.	*Diagnostic Radiology*
Reis, C.M.	*Mathematics*
Reitz, W.E.	*Psychology*
Reitman, E.	*Library and Information Science*
Rendall, J.A.	*Law*
Rescher, N.	*Philosophy*
Reuber, G.L.	*Social Science*
Richardson, J.R.	*Physical Education*
Richardson, R.A.	*History of Medicine and Science*
Rider, P.E.	*History*
Ridkey, R.W.	*Extension and Summer School*
Riese, R.R.	*Paediatrics*
Rinehart, J.W.	*Sociology*
Riseling, R.A.	*Music*
Ritcey, L.F.	*Mathematics*
Ritenburg, V.	*Summer School Althouse*
Roach, M.R.	*Biophysics*
Roberts, T.R.	*Summer School Althouse*
Roberts, W.A.	*Psychology*
Robertson, A.	*Extension and Summer School*
Robertson, J.M.	*Community Medicine*
Robinow, C.F.	*Bacteriology*
Robinson, H.C.	*Family Medicine*
Robinson, H.M.C.	*Paediatrics*
Robinson, I.J.W.	*Mathematics*
Robinson, J.	*Bacteriology*
Robinson, J.B.	*Medicine*
Robinson, J.B.C.	*Physical Medicine and Rehabilitation*
Robinson, J.R.	*Chemistry*
Robinson, M.L.	*Obstetrics and Gynaecology*
Rodensky, R.	*Psychology*
Rodger, N.W.	*Medicine*
Rokeach, M.	*Psychology*
Rollman, G.B.	*Psychology*
Roney, J.P.	*Summer School Althouse*
Rosati, P.A.	*Engineering Science*
Rose, A.E.	*Music*
Rose, G.S.	*Physics*
Roslycky, E.B.	*Bacteriology*
Rosner, S.D.	*Physics*
Ross, M.H.	*French*
Rossiter, R.J.	*Vice President Academic*
Roth, R.R.	*Zoology*
Rottenberg, S.	*Extension and Summer School*
Rounthwaite, F.J.	*Medical Rehabilitation Communication Disorders*
Rowe, J.G.	*History*
Rowland, F.H.	*Business Administration*
Roy, C.	*Engineering Science*
Roy, P.N.	*Economics*
Rozanis, J.	*Bacteriology*
Ruby, R.F.	*Otolaryngology*
Russell, E.S.	*Anaesthesia*
Ruud, C.A.	*History*
Ryan, J.E.	*Restorative Dentistry*
Ryerse, S.	*Music*
Saeed, I.R.	*Pathology (Meek Lab.)*
Sakmar, I.A.	*Applied Mathematics*
Sales, J.L.	*Surgery*
Salomaa, A.K.	*Computer Science*
Samuel, I.	*English*
Samuels, J.W.	*Law*
Sanborn, C.E.	*English*
Sancton, A.B.	*Political Science*
Sanders, J.B.	*French*
Sanders, J.T.	*Psychology and Sociology Althouse*
Sangster, J.F.	*Family Medicine*
Sansom, T.R.	*Political Science*
Santor, D.M.	*Summer School Althouse*
Santosuosso, A.	*History*
Sapp, J.P.	*Oral Pathology*
Saraydar, A.C.	*French*
Saraydar, E.	*Economics*
Scheffman, D.T.	*Economics*
Schloessin, H.H.	*Geophysics*
Schluetter, H.J.	*German*
Schmidt, P.K.	*Guidance Althouse*
Schnore, M.M.	*Psychology*
Schulte-Albert, H.	*Library and Information Science*
Schofield, I.D.F.	*Oral Surgery*
Schofield, W.F.	*Summer School Althouse*
Schrader, J.	*Summer School Althouse*
Scott, A.E.	*Chemistry*
Scott, D.M.	*Zoology*
Scott, R.	*Plant Sciences*
Scott, R.L.	*Paediatric Dentistry*
Sea, T.F.	*History*
Sealey, R.	*Music*
Sears, G.A.	*Medicine*
Sears, G.M.	*Restorative Dentistry*
Seguin, J.J.	*Physiology*
Seiffert, S.L.	*Music*
Seldon, B.	*Secretarial Science*
Sellery, G.R.	*Anaesthesia*
Semotiuk, D.N.	*Physical Education*
Seneshen, M.J.	*Restorative Dentistry*
Sergovich, F.R.	*Anatomy*
Setterington, K.R.	*Restorative Dentistry*
Seufert, G.H.	*German*
Sexton, G.B.	*Medicine*
Shamis, S.L.	*Anthropology*
Sharpe, J.R.	*Surgery*
Sharratt, P.	*French*
Shaver, E.L.	*Anatomy*
Shaw, D.B.	*Medicine*
Shaw, D.C.	*Business Administration*
Shawyer, B.L.	*Mathematics*
Shawyer, J.S.	*Geography*
Shea, H.L.	*Nursing*
Shearer, R.S.	*Family Medicine*
Sheasby, J.S.	*Engineering Science*
Shelstad, K.A.	*Engineering Science*

Sherebrin, M.H.	*Engineering Science*
Shervill, R.N.	*Spanish and Italian*
Shivers, R.R.	*Zoology*
Shorten, S.J.	*Philosophy*
Shroyer, R.J.	*English*
Siegel, J.	*Psychology*
Siegel, W.	*Psychology*
Siess, T.F.	*Psychology*
Sills, P.S.	*Restorative Dentistry*
Silverman, R.A.	*Sociology*
Sim, V.W.	*Geography*
Simner, M.L.	*Psychology*
Simpson, C.M.	*History*
Simpson, D.G.	*History of Education Althouse*
Sinclair, N.R.	*Bacteriology*
Singer, B.D.	*Sociology*
Singh, B.	*Physical Education*
Singh, K.	*Economics*
Singh, R.P.	*Anatomy*
Singhal, S.K.	*Bacteriology*
Sinha, S.P.	*Law*
Skafel, S.A.	*Nursing*
Skelton, R.A.	*Music*
Skidmore, P.G.	*History*
Skinner, D.	*Restorative Dentistry*
Slade, J.F.	*Summer School Althouse*
Slater, P.E.	*Anaesthesia*
Slemon, A.G.	*Psychology and Sociology Althouse*
Slinger, R.P.	*Pathology*
Sloan, W.G.	*Obstetrics and Gynaecology*
Smallbridge, J.E.	*English Althouse*
Smeriglio, V.L.	*Psychology*
Smieja, F.L.	*Spanish and Italian*
Smith, B.E.	*Economics*
Smith, B.R.	*Paediatric Dentistry*
Smith, D.B.	*Biochemistry*
Smith, D.B.	*Business Administration*
Smith, D.M.	*Otolaryngology*
Smith, D.R.	*Medicine*
Smith, E.	*Community Medicine*
Smith, G.J.	*Physical Education*
Smith, J.M.	*Dental Clinics*
Smith, M.E.	*English*
Smith, T.	*Geography*
Smout, M.S.	*Pathology (Meek Lab.)*
Soltan, H.C.	*Paediatrics*
Somerset, J.A.	*English*
Sorrentino, R.M.	*Psychology*
Sorrill, P.W.	*Elementary Teaching Althouse*
Sosa, E.	*Philosophy*
Spence, I.	*Psychology*
Spence, M.W.	*Anthropology*
Spencer, E.Y.	*Biochemistry*
Spencer, H.	*German*
Spires, A.M.	*Summer School Althouse*
Spoerel, W.E.	*Anaesthesia*
Sproule, R.E.	*Business Administration*
Sprovieri, C.	*Library and Information Science*
Squire, G.W.	*Anaesthesia*
Squire, M.	*Summer School Althouse*
Squires, B.P.	*Physiology*
Stabler, E.	*Dean Althouse*
Stanko, S.C.	*English*
Stanley-Porter, D.P.	*Classical Studies*
Stark, J.A.	*Music*
Stark, S.	*Music*
Starkey, J.	*Geology*
Starratt, A.M.	*Chemistry*
State, E.	*Mathematics*
Stavraky, G.W.	*Medicine*
Stavraky, K.M.	*Community Medicine*
Stavraky, W.K.	*Surgery*
Steele, C.	*English*
Steele, I.K.	*History*
Steele, J.E.	*Zoology*
Steele, R.G.	*Zoology*
Steinby, M.	*Computer Science*
Stelling, J.G.	*Sociology*
Stennett, R.G.	*Psychology*
Stevenson, C.A.	*History of Education Althouse*
Stevenson, N.H.	*Practice Teaching Althouse*
Stewart, D.Y.	*Nursing*
Stewart, H.B.	*Biochemistry*
Stewart, J.H.	*Extension and Summer School*
Stewart, J.M.	*Anaesthesia*
Stewart, J.W.	*Engineering Science*
Stewart, T.W.	*Physics*
Stierwalt, R.	*Library and Information Science*
Stiller, C.R.	*Medicine*
Stingle, R.M.	*English*
Stinson, R.H.	*Zoology*
Stockdale, W.H.	*History*
Stoessl, A.	*Chemistry*
Stokes, J.L.	*Music*
Stothers, J.B.	*Chemistry*
Stouffer, J.L.	*Medical Rehabilitation Communication Disorders*
Strathern, G.M.	*Library and Information Science*
Straulman, A.T.	*English*
Strejan, G.H.	*Bacteriology*
Strickland, K.P.	*Chemistry*
Strube, R.F.E.	*Mathematics*
Stuart, N.	*Library and Information Science*
Stuart, R.K.	*Medicine*
Stubbs, M.	*Fine Art*
Stuliglowa, A.K.	*Library and Information Science*
Suffel, P.S.	*Family Medicine*
Sukava, A.J.	*Chemistry*
Sullivan, J.L.	*Engineering Science*
Sullivan, P.J.	*Applied Mathematics*
Summerby, J.H.	*Psychiatry*
Surette, L.	*English*
Sutherland, J.A.	*Extension and Summer School*
Sutherland, R.M.	*Therapeutic Radiology*
Sutterlin, P.G.	*Geology*
Suttie, I.P.	*Extension and Summer School*
Suzuki, M.	*Restorative Dentistry*
Svrcek, W.	*Engineering Science*
Swart, G.T.	*Physiology*
Swarthout, C.	*Library and Information Science*
Swartman, R.K.	*Engineering Science*
Sweeney, J.P.	*Surgery*
Szilard, A.L.	*Computer Science*
Tague, J.M.	*Library and Information Science*
Talman, J.D.	*Applied Mathematics*

Talman, J.J.	*History*
Tarasuk, J.D.	*Engineering Science*
Tatilon, C.D.	*French*
Tausky, T.E.	*English*
Taylor, C.P.S.	*Biophysics*
Taylor, F.W.	*Psychology*
Taylor, H.W.	*Geography*
Taylor, J.C.	*Business Administration*
Taylor, L.V.	*Restorative Dentistry*
Taylor, M.J.	*Physical Education*
Taylor, S.B.	*Extension and Summer School*
Teevan, J.J.	*Sociology*
Terry, E.W.	*Music*
Tevaarwerk, G.J.M.	*Paediatrics*
Teteruck, W.R.	*Restorative Dentistry*
Tew, W.L.	*Obstetrics and Gynaecology*
Tew, W.P.	*Medicine*
Thain, D.H.	*Business Administration*
Theoret, J.	*Family Medicine*
Thierrin, G.	*Mathematics*
Thiruchelvam, N.	*Medical Rehabilitation Physical Therapy*
Thomas, J.M.	*Summer School Althouse*
Thompson, C.A.	*Ophthalmology*
Thompson, E.S.	*Oral Medicine*
Thompson, G.	*Music*
Thompson, H.	*Family Medicine*
Thompson, J.M.	*Medicine*
Thompson, W.A.	*Business Administration*
Thomson, D.H.	*Therapeutic Radiology*
Thurlow, H.J.	*Community Medicine*
Tillmann, W.A.	*Psychiatry*
Timothy, H.B.	*Classical Studies*
Titherington, B.	*Nursing*
Tobias, S.F.	*Anthropology*
Tobin, W.G.	*Psychiatry*
Toda, Y.	*Economics*
Todd, M.E.	*Anatomy*
Tong, B.Y.	*Physics*
Toogood, J.H.	*Medicine*
Tracy, G.L.	*German*
Tremblay, M.L.	*Trois Pistoles Summer School*
Tremblay, R.	*Trois Pistoles Summer School*
Trevithick, J.R.	*Biochemistry*
Trider, M.	*Medical Rehabilitation Occupational Therapy*
Troughton, M.J.	*Geography*
Trout, E.E.	*Paediatrics*
Tsurumi, E.P.	*History*
Tsutsumi, T.	*Music*
Tuchmaier, H.S.	*French*
Tunaley, J.K.E.	*Physics*
Turnbull, D.I.	*Pathology (Meek Lab.)*
Turner, G.H.	*Psychology*
Tustanoff, E.R.	*Pathological Chemistry*
Uilenberg, C.	*Paediatrics*
Urquhart, A.M.	*Fine Art*
Usprich, S.	*Law*
Valentine, G.H.	*Paediatrics*
Valentine, P.	*Medical Rehabilitation Physical Therapy*
Valentine, T.J.	*Economics*
Vanderwolf, C.H.	*Psychology*
Van Fleet, F.M.	*Psychology*
Van Huystee, R.B.	*Plant Sciences*
Van Ostrand, G.	*Music*
Vansteenkiste, J.G.	*Summer School Althouse*
Veevers, J.	*Sociology*
Venesoen, C.A.	*French*
Vercier, B.	*French*
Vernon, R.A.	*Political Science*
Vickery, W.E.	*Economics*
Vidmar, N.J.	*Psychology*
Vigars, R.	*Physical Education*
Vigneault, M.	*Pathology (Meek Lab.)*
Vikar, A.B.	*French*
Vilquin, J.	*French*
Vincent, J.E.	*Paediatrics*
Vinger, I.	*Family Medicine*
Vitols, V.	*Engineering Science*
Vogan, E.L.	*Physics*
Von Kuster, C.A.	*Music*
Von Lanzenauer, C.H.	*Business Administration*
Vranch, J.K.	*Mathematics*
Wade, H.M.	*History*
Wainwright, R.J.	*Oral Medicine*
Walden, D.B.	*Plant Sciences*
Walker, E.H.	*Physiology*
Walker, F.W.	*Anaesthesia*
Walker, I.G.	*Biochemistry*
Walker, J.B.	*Medicine*
Walker, J.H.	*Surgery*
Walker, W.J.	*Restorative Dentistry*
Wallace, A.C.	*Pathology*
Wallace, D.L.	*Business Administration*
Waller, R.L.	*Secretarial Science*
Walsh, J.E.	*Computer Studies Althouse*
Walters, J.H.	*Obstetrics and Gynaecology*
Walters, R.L.	*French*
Wanklin, J.M.	*Community Medicine*
Warden, C.	*Library and Information Science*
Ware, W.R.	*Photochemistry Laboratory*
Warma, S.K.	*Anatomy*
Warnhoff, E.W.	*Chemistry*
Warnhoff, P.R.	*Chemistry*
Warntz, W.	*Geography*
Warren, B.A.	*Pathology*
Warren, K.R.	*Family Medicine*
Warwick, O.H.	*Therapeutic Radiology*
Washington, J.B.	*Business Administration*
Watson, A.	*Engineering Science*
Watson, E.M.	*Medicine*
Watson, J.H.	*Community Medicine*
Watson, J.K.	*Chemistry*
Watson, R.C.	*Physical Education*
Watson, T.A.	*Therapeutic Radiology*
Watson, W.C.	*Medicine*
Watt, A.J.	*Medicine*
Waud, R.A.	*Medicine*
Way, D.C.	*Social Dentistry*
Wearing, M.P.	*Obstetrics and Gynaecology*
Wearne, D.	*Summer School Althouse*
Wearring, G.A.	*Physical Education*
Weaver, S.	*Music*
Webber, H.D.	*Science Althouse*
Weber, M.E.	*Nursing*
Webling, D.D.	*Medicine*
Webster, A.C.	*Anaesthesia*

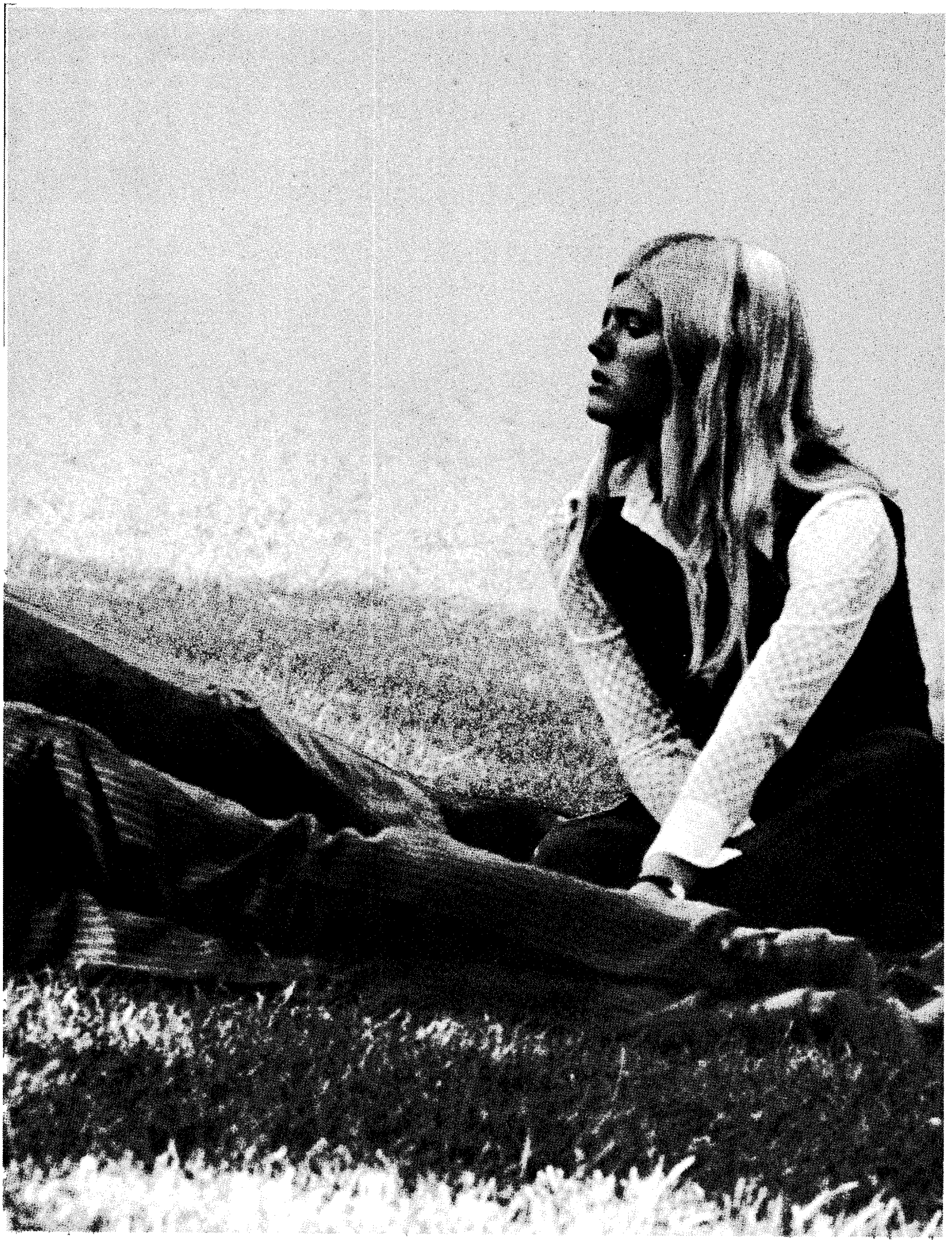
Wechsler, M.	*Music*
Wehlau, A.	*Astronomy*
Wehlau, W.H.	*Astronomy*
Wellman, A.M.	*Plant Sciences*
Werezak, G.	*Chemistry*
West, B.K.	*Summer School Althouse*
West, N.W.	*Physical Education Althouse*
Westgate, D.G.	*Business and Commerce Althouse*
Westmacott, M.W.	*Political Science*
Weston, W.	*Family Medicine*
Wettlaufer, J.	*Business Administration*
Whebell, C.F.	*Geography*
Whelen, W.S.	*Paediatrics*
Whippey, P.W.	*Physics*
Whitby, J.L.	*Bacteriology*
White, D.F.	*Therapeutic Radiology*
White, J.	*Music Althouse*
White, J.H.	*Library and Information Science*
White, R.	*Geography*
Whitehead, P.C.	*Sociology*
Whiteman, D.E.	*Oral Medicine*
Whitman, C.	*Oral Medicine*
Whittingham, W.M.	*Political Science*
Wickware, D.M.	*Psychiatry*
Wien, F.C.	*Sociology*
Wightman, R.W.	*Geography*
Wigston, F.	*Physical Education Althouse*
Wilburn, J.H.	*Summer School Althouse*
Wilcox, L.D.	*Medicine*
Wild, J.L.	*Journalism*
Wilkins, L.	*Music*
Wilkins, P.O.	*Engineering Science*
Wilkins, W.W.	*Diagnostic Radiology*
Wilkinson, F.R.	*Psychology*
Williams, J.I.	*Sociology*
Williams, M.E.	*Philosophy*
Williamson, D.R.	*Business Administration*
Willis, C.J.	*Chemistry*
Willis, G.D.	*English*
Wilson, A.S.	*Anatomy*
Wilson, C.E.	*Journalism*
Wilson, D.G.	*Plant Sciences*
Wilson, H.R.	*English*
Wilson, R.C.	*Family Medicine*
Wilson, R.K.	*Russian Studies*
Winder, C.G.	*Geology*
Wise, D.D.	*Extension and Summer School*
Wolfe, B.	*Medicine*
Wolff, R.N.	*Business Administration*
Wong, G.L.	*Otolaryngology*
Wonnacott, R.J.	*Economics*
Wonnacott, T.H.	*Mathematics*
Wood, A.R.	*Business Administration*
Wood, E.	*Oral Medicine*
Wood, T.E.	*Medicine*
Wood, V.	*Nursing*
Woodman, R.G.	*English*
Woodward, R.S.	*Economics*
Wright, B.H.	*Political Science*
Wright, G.Z.	*Paediatric Dentistry*
Wright, J.S.	*Science Althouse*
Wright, K.H.	*Oral Medicine*
Wright, M.J.	*Psychology*
Wright, V.C.	*Obstetrics and Gynaecology*
Wrigley, L.	*Business Administration*
Wyatt, J.K.	*Surgery*
Wynne, E.	*Nursing*
Yeats, R.B.	*Extension and Summer School*
Young, A.M.	*English*
Young, G.M.	*Geology*
Young, J.A.	*Paediatrics*
Young, M.L.	*English*
Youssef, Z.	*French*
Yovetich, W.S.	*Medical Rehabilitation Communication Disorders*
Yuhasz, M.S.	*Physical Education*
Yuzpe, A.A.	*Obstetrics and Gynaecology*
Zabransky, F.	*Business Administration*
Zaharia, W.	*Pathological Chemistry*
Zajic, J.E.	*Engineering Science*
Zallen, T.S.	*Psychology*
Zaltz, M.	*Family Medicine*
Zamir, M.	*Applied Mathematics*
Zaslow, M.	*History*
Ziegler, W.H.	*Engineering Science*
Ziegler, E.F.	*Physical Education*
Zoltvany, Y.	*History*
Zulqar-Nain, B.J.	*Oral Medicine*



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NOTES



Faculty of Arts

Faculty of Dentistry

Faculty of Engineering Science

Faculty of Graduate Studies

Faculty of Law

Faculty of Medicine

Medical Rehabilitation Programs

Faculty of Music

Faculty of Nursing

Faculty of Physical Education

Faculty of Science

Faculty of Social Science

Althouse College of Education

School of Business Administration

School of Library and Information Science

Affiliated Colleges

Appendices — Financial Aid, Faculty