THE UNIVERSITY OF WESTERN ONTARIO

LONDON • CANADA



FACULTY OF ARTS AND SCIENCE CALENDAR 1966-67

University College

Middlesex College

Talbot College

The College of Science

The College of Music

Affiliated Colleges:

Huron College

Brescia College

King's (Christ the King) College

Calendar

ii

1966

JANUARY						
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Academic Calendar

1966

July 4, Monday.....Summer Session begins

August 1 to 6
Monday to Saturday.....Supplemental Examinations

August 17, Wednesday.....Summer Session ends

September 21, 22
Wednesday, Thursday.....All Freshmen enroll, Thames Hall

September 23, 24
Friday, Saturday.....All Upperclass students enroll, Thames Hall

September 26, Monday.....Lectures and laboratory work begin

September 29, 30 Faculty of Graduate Studies enrolls
Thursday, Friday.....9.00 - 11.30 and 1.30 - 3.30 in Thames Hall

October 4, Tuesday.....Council of the Faculty of Arts and Science

October 10, Monday.....Thanksgiving Day, Holiday

October 17, Monday.....Last day for the enrolment of full-time students
Last day for adding any subject

October 17, Monday.....Arts Educational Policy Committee of the Senate

October 19, Wednesday.....Executive Committee of the Senate

October 20, Thursday.....Meeting of the University Senate

October 21, Friday.....Autumn Convocation

November 1, Tuesday.....Council of the Faculty of Arts and Science

November 11, Friday.....Remembrance Day Ceremony

November 14, Monday.....Arts Educational Policy Committee of the Senate

November 15, Tuesday.....Last day for dropping a course without penalty

December 6, Tuesday.....Council of the Faculty of Arts and Science

December 12, Monday.....Arts Educational Policy Committee of the Senate

December 15, Thursday.....Executive Committee of the Senate

December 16, Friday.....Meeting of the University Senate

December 21, Wednesday..... Christmas Vacation begins

Academic Calendar

1967

January 4, Wednesday.....Lectures resume

January 7, Saturday.....First term ends

January 9, Monday.....Second term begins

January 10, Tuesday.....Council of the Faculty of Arts and Science

January 12, 13
Thursday, Friday.....Summer School Supplemental Examinations

January 23, Monday.....Arts Educational Policy Committee of the Senate

February 1, Wednesday.....Last day for receiving applications for Graduation

February 7, Tuesday.....Council of the Faculty of Arts and Science

February 20, Monday.....Arts Educational Policy Committee of the Senate

February 27 - March 4.....Conference Week

March 2, Thursday.....Executive Committee of the Senate

March 3, Friday.....Meeting of the University Senate

March 7, Tuesday.....Council of the Faculty of Arts and Science

March 7, Tuesday.....Founder's Day

March 20, Monday.....Arts Educational Policy Committee of the Senate

March 24, Friday.....Good Friday, Holiday

April 4, Tuesday.....Council of the Faculty of Arts and Science

April 15, Saturday.....Second term ends

April 17, Monday.....Arts Educational Policy Committee of the Senate

May 2, Tuesday.....Council of the Faculty of Arts and Science

May 6, Saturday.....Examinations end

May 15, Monday.....Arts Educational Policy Committee of the Senate

May 26, Friday.....Council of the Faculty of Arts and Science

May 29, Monday.....Executive Committee of the Senate
Meeting of the University Senate

May 30, 31, June 1, 2, 3
Tues., Wed., Thur., Fri., Sat.....Spring Convocation

June 1, Thursday.....Last day for receiving applications for Summer Session from students registering for the first time

June 15, Thursday.....Last day for receiving applications for Summer Session from students previously registered

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The University

The University of Western Ontario is composed of The Faculty of Arts and Science, The Faculty of Medicine, The Faculty of Graduate Studies, The Faculty of Law, The School of Nursing, The School of Business Administration, The Faculty of Engineering Science and The Faculty of Dentistry. The Faculty of Arts includes the university colleges: University College, Middlesex College, The College of Music, The College of Science, Talbot College and Althouse College of Education; and the following arts colleges affiliated with the University: Huron College, Brescia College and King's (Christ the King) College.

By its charter the University of Western Ontario may confer degrees, diplomas and certificates in any subject taught in the University or in theology as taught in any of the affiliated colleges.

The degrees conferred by the University are:

Honorary Degrees: Doctor of Divinity; Doctor of Science; Doctor of Laws; Doctor of Letters; Doctor of Music; Doctor of Civil Law.

Degrees by Examination: Bachelor of Arts; Bachelor of Laws; Bachelor of Science; Bachelor of Engineering Science; Bachelor of Science in Nursing; Bachelor of Divinity; Bachelor of Music; Master of Arts; Master of Laws; Master of Science; Master of Clinical Science; Master of Science in Nursing; Master of Engineering Science; Master of Business Administration; Doctor of Medicine; Doctor of Divinity; Doctor of Philosophy.

The diplomas awarded by the University are:

Diploma in Business Administration; Diploma in Journalism; Diploma in Public Health Nursing; Diploma in Nursing Education; Diploma in Nursing Service Administration; Music Graduate in Paedagogy.

HISTORY

"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.

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

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 re-named the Faculty of Arts and Science. In 1958 Middlesex College was 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. The work of the college was extended in 1961 and the name was changed to The College 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 re-located on the main campus.

A separate Faculty of Graduate Studies was created in 1947 although post-graduate degrees had been conferred for many years.

The School of Business Administration was founded in 1950. Business Administration had been an honours programme 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 honours programme in the Faculty of Arts and Science.

The Faculty of Dentistry was established in 1964.

Althouse College of Education was established in 1965.

Huron College became affiliated in 1878.

Brescia College became affiliated in 1919 as Ursuline College.

King's (Christ the King) College became the Arts section of St. Peter's Seminary College of Arts in 1955. It has become directly affiliated with the University in 1966.

LIBRARY

Arts and Science students have available the resources of the General Library, housed in the Lawson Memorial Library Building, and those of three reading rooms in the Physical and Chemical Sciences and Biological and Geological Sciences Buildings and Middlesex College. In addition, there are extensive collections of books and periodicals covering specific subjects in Business, Engineering, Law, Medicine, Music and Nursing. These collections are designed primarily for the use of students in these fields, but they may be consulted by any registered student. The affiliated colleges each provide good undergraduate libraries with collections meant to complement holdings of other libraries.

The book collections of the University total more than 312,000 volumes. Currently the University receives annually about 3,200 periodicals in all subjects and in many languages.

Detailed information is provided in "The Students' Guide to the Library" which is given to freshmen at registration.

The Board of Governors

Officers of the Board:

Lt.-Col. D. B. Weldon, Chairman.

Mr. W. L. Duffield, Vice-Chairman.

Mr. Budd E. Smith, Secretary.

Ex officio Members:

The Chancellor, The President, The Vice-President of the University, His Worship the Mayor of London, The Warden of the County of Middlesex.

Honourary Members:

Dr. Arthur R. Ford, Mr. Chester F. Stevens.

Appointed Members:

By the Lieutenant-Governor in Council—Mr. John W. Adams, Mr. W. L. Duffield, Brig. W. H. Hemphill, Lt.-Col. D. B. Weldon.

By the London City Council—Mr. Harry Fraleigh, Capt. Joseph Jeffery, Mr. Robert H. Reid, Lt.-Col. J. Gordon Thompson.

Elected Members:

By the Board of Governors—Mr. W. J. Blackburn, Mr. A. E. Shepherd, Mr. J. H. Stevens, Mr. J. Allyn Taylor.

By the Alumni Association—Mr. K. S. Murray, (one vacancy).

The Senate

Officers of the Senate:

The President and Vice-Chancellor (Chairman), The Vice-President of the University (Vice-Chairman), The Registrar (Secretary).

Ex officio Members:

The Chancellor, the Vice-Chancellor, the Vice-President of the University; the Vice-President (Arts and Science), the Vice-President (Health Services), the Dean of University College, the Dean of Middlesex College, the Dean of the College of Music, the Dean of the College of Science, the Principal or other head of each affiliated college, the Dean of each Faculty and School of the University, the Librarian, the Chairman of the Board of Governors, the Registrar, the Director of the Summer School and Extension Department, the Director of the French Summer School, the President of the General Alumni Association (or his deputy).

Elected or Appointed Members:

Ten representatives of the General Alumni Association.

Six representatives of the City of London (three appointed by the City Council, two by the Board of Education, and one by the Separate School Board).

Four representatives, to be elected from their own number by the Principals of the Secondary Schools in the fourteen counties of Western Ontario listed below.

The following number of representatives of each Faculty and School of the University (in addition to its Dean): The Faculty of University College—two; the Faculty of Middlesex College—two; the Faculty of Medicine—two; the Faculty of the College of Science—two; the Faculty of Graduate Studies—one; the School of Nursing—one; the School of Business Administration—one; the Faculty of Engineering Science—one.

One representative of each of the following: The Board of Governors; each affiliated college which offers a degree program; each City Council and each County Council in the Counties of Brant, Bruce, Elgin, Essex, Grey, Huron, Kent, Lambton, Middlesex (except the City of London), Norfolk, Oxford, Perth, Waterloo and Wellington; the graduates of each affiliated college.

University Officers

(Unless otherwise stated, degrees are from this university)

Visitor: His Honour, the Lieutenant-Governor of Ontario.

Chancellor: Verschoyle P. Cronyn.

President and Vice-Chancellor: George Edward Hall, B.S.A., M.S.A., M.D., Ph.D., Toronto; D ès Sc., Laval; LL.D., F.R.S.C.

Vice-President of the University: Ross Baxter Willis, B.A., M.A.

Vice-President (Arts and Science): Mark Keith Inman, B.A. Acadia; M.A., Ph.D. Harvard; D.Litt., Acadia.

Vice-President (Health Sciences): Orlando Harold Warwick, B.A. Mount Allison; M.D.C.M. McGill; M.A. Oxon.; M.R.C.P., F.A.C.P.

Dean of Men: Thomas Leslie Hoskin, B.A., M.A., Northwestern.

Dean of Women: Leola Ellen Neal, B.A., M.A.; Ph.D., Toronto.

Comptroller: R. R. Glover, B.A.

Chief Librarian: James John Talman, B.A., M.A.; Ph.D., Toronto; D.Litt, Waterloo; F.R.S.C.

Physician: Richard John Bowen, B.A., M.D.

Registrar: James Keith Watson, B.A., M.A., McMaster; M.A., Ph.D., Toronto.

Administrative Departments

Alumni Affairs:
Co-ordinator: G. Campbell McDonald, B.A.
General Secretary: George Hartwell, B.A.

Athletics:
Director of Intercollegiate Athletics: John Pius Metras.
Business Manager of Athletics: Ernest Slatter.

Buildings and Grounds:
Superintendent: John Shortreed, B.A.Sc., Toronto.
Assistant Superintendent: R. M. Yeo, B.Sc., Queen's.

Comptroller: R. R. Glover, B.A.

Food Services:
Manager: George A. Bullas.

Information Services and University Publications:
Director: G. Campbell McDonald, B.A.

Library:
Chief Librarian: James John Talman, B.A., M.A., Ph.D., Toronto; D.Litt., Waterloo, F.R.S.C.
Deputy Chief Librarian: John F. Macpherson, B.A., A.L.A.
Assistant Librarian-Administration: Lillian Rea Benson, B.A.
Chief, Technical Services: E. Jean Elson, B.A., B.L.S., McGill.

Museum of Indian Archaeology:

Honorary Curator: Wilfrid Jury, D. ès L., Montreal.

Honorary Assistant Curator: Elsie McLeod Jury, B.A., B.L.S., Toronto; A.M. Columbia.

Registrar's Office:

Registrar: James Keith Watson, B.A., M.A., McMaster; M.A., Ph.D., Toronto.

Associate Registrar: Margaret P. May, B.A.

Admissions Officer: George Lionel Amyot, B.A. Manitoba

Summer School and Extension:

Director: Angela M. Armitt, B.A.

Faculty of Arts and Science

Vice-President (Arts and Science): Mark Keith Inman, B.A., M.A., Ph.D., D.Litt.

UNIVERSITY COLLEGE

Dean: Albert William Trueman, B.A., M.A., D.Litt., LL.D.

MIDDLESEX COLLEGE

Dean: Robert Newton Shervill, B.A., M.A., Ph.D.

TALBOT COLLEGE

Dean: John Gordon Rowe, S.B., M.A., B.D., Ph.D.

COLLEGE OF SCIENCE

Dean: Robert James Uffen, B.A.Sc., M.A., Ph.D., P.Eng., F.R.S.C.

Assistant Dean: George Harold Reavely, M.A., D.I.C.

COLLEGE OF MUSIC

Dean: Clifford von Kuster, Mus. Bac.

AFFILIATED COLLEGES

The affiliated colleges are associated with the University Faculty of Arts and Science. See Affiliated Colleges section.

Huron College

Dean: The Rev. J. Grant Morden, B.A. Toronto; L.Th., B.D., D.D. Wycliffe; S.T.M. *Union Theological Seminary*; D.Th. *General Theological Seminary*, N.Y.

Brescia College

Dean: Mother M. Dominica, B.A., M.A.

King's (Christ the King) College

Dean: Rev. E. P. LaRocque, M.A.

Admission Requirements

FIRST YEAR — GENERAL REQUIREMENTS

The academic requirement for admission to the first year is a minimum average of 60% on nine credits of Ontario Grade 13 or equivalent standing which must include:

English, 2 credits; a language other than English chosen from French, Francais, German, Spanish, Russian, Italian, Greek and Latin, 2 credits; a second language other than English **OR** 2 of Algebra, Analytic Geometry and Trigonometry, 2 credits; 3 other credits, not already chosen above, from the following: Algebra (1), Analytic Geometry (1), Trigonometry (1), Botany (1), Zoology (1), Biology (2), Chemistry (1), Physics (1), History (1), Geography (1), Music (1), Art (1) and the 2-credit languages listed above, 3 credits.

A combination of two (2) Western Ontario Conservatory of Music or equivalent certificates (Grade VIII Practical and Grade II Theory) is accepted in lieu of one (1) credit of Ontario Grade 13 standing. Both certificates are required in lieu of one (1) Grade 13 credit.

The overall average for admission is calculated on the basis of nine credits of Ontario Grade 13 or equivalent standing. The one-paper Ontario Grade 13 examinations in English and the languages written in June 1966 are considered to be 2-credit examinations in the calculation of the overall average for admission to this University in September, 1966. The marks obtained in the English and the language examinations are doubled.

The marks obtained in Music examinations other than Grade 13 Music are not used in the calculation of the overall average. The overall average of a student who submits Music certificates in lieu of one credit of Grade 13 standing is calculated on the basis of the other eight credits.

The University reserves the right to limit the number of applicants admitted to the first year of a particular programme. This means that on the basis of their academic records some applicants may be admitted to the first year of a programme other than their first choice of programme.

The University also reserves the right to reject, on the basis of his or her complete academic record, an applicant whose academic qualifications may meet technically the published admission requirements.

ACADEMIC STANDING ACCEPTED AS EQUIVALENT TO ONTARIO GRADE 13 STANDING FOR ADMISSION

Canada (provinces other than Ontario)

Provided that the subjects are acceptable for admission, the following certificates and/or academic standings are accepted as equivalent to Ontario Grade 13 standing:

Senior Matriculation standing accepted as equivalent to Ontario Grade 13 standing for admission to The University of Western Ontario in September, 1966.

British Columbia, Grade 13 OR First Year at University of British Columbia, Simon Fraser University, Victoria University or Notre Dame University (Nelson); Alberta, Grade 12; Saskatchewan, Grade 12; Manitoba, Grade 12; Quebec, Grade 12 (5th Year High School) OR First Year at McGill, Sir George Williams, Bishop's Universities or Loyola College OR the Senior School Certificate—

McGill University; Prince Edward Island, Honour Diploma of the 3rd Year at Prince of Wales College OR First Year at St. Dunstan's University; New Brunswick, Grade 13 OR First Year at New Brunswick Universities; Nova Scotia, Grade 12 OR First Year at Nova Scotia Universities; Newfoundland, First Year at Memorial University of Newfoundland.

The United Kingdom and Other Countries of the Commonwealth

A student from the United Kingdom or other countries of the Commonwealth is eligible to apply for admission to the first year at this University on the basis of a General Certificate of Education (G.C.E.) or an equivalent certificate, with passes in at least five acceptable subjects of which two must be at the advanced (A) level, or with passes in four acceptable subjects of which three must be at the advanced (A) level. These subjects must include English language, a language other than English, a second language other than English OR Mathematics and other subjects appropriate to the programme to which admission is sought.

School Certificates and Higher School Certificates awarded by an approved authority are accepted in lieu of the G.C.E. A pass with credit in a School Certificate or a pass at the subsidiary standard in a Higher School Certificate is accepted as a G.C.E. pass in the same subject at the ordinary (O) level. A pass at the principal standard in a Higher School Certificate examination is accepted as a pass at the (A) level in a G.C.E. examination.

The United States of America

A student from the U.S.A. who has graduated from high school (Grade 12) and who has completed successfully the Freshman Year at an accredited American junior college, college or university, is eligible to apply for admission to the FIRST YEAR at this University.

The applicant's Freshman programme must include English (six semester hours), a language other than English (six semester hours), a second language other than English OR two of Algebra, Analytic Geometry, Trigonometry (six semester hours) and other subjects (twelve semester hours) similar to the Ontario Grade 13 subjects required for admission to the programme to which admission is sought.

Languages other than English must be languages studied in both high school and the Freshman Year. Beginners' courses in languages at the Freshman level are not acceptable to meet the admission requirement.

Hong Kong

A student from Hong Kong is eligible to apply for admission to the first year at this University on the basis of the Matriculation Certificate of the University of Hong Kong or the General Certificate of Education (G.C.E.) with passes in at least five acceptable subjects of which two must be at the advanced (A) level or with passes in at least four acceptable subjects of which three must be at the advanced (A) level. These subjects must include English language, a language other than English, a second language other than English OR Mathematics and other subjects appropriate to the programme to which admission is sought.

Credit-passes in the Hong Kong Local School Certificate Examinations (1965 and 1966 only) are accepted as equivalent to passes, subject for subject, at the ordinary (O) level in the University of Hong Kong Matriculation Examinations.

ADMISSION WITH ADVANCED STANDING

Students from other universities, colleges and institutions of post-secondary education may be admitted to the Faculty of Arts and Science with advance standing if they are acceptable for admission to the institutions from which they wish to transfer.

Undergraduate credits obtained while in attendance at another university will be assessed in terms of advance credit at this University by the Admissions Committee of the Faculty of Arts and Science. 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 advance standing will be dealt with individually by the Admissions Committee.

PROFICIENCY IN ENGLISH

Since lectures, seminars and examinations in this University are, for the most part, conducted in English, it is essential that all students have an adequate knowledge of written and spoken English. An applicant for admission, for whom English is a second language, must submit with his application evidence, acceptable to this University, of his proficiency in English.

Most applicants, from countries where English is not the common language, meet this requirement by writing the English Proficiency Test administered by the English Language Institute of the University of Michigan. Normally, this test may be administered on request in most countries of the world at any time during the academic year.

Applicants are to make their own arrangements for the administration of the English Proficiency Test by writing (Airmail) to The English Language Institute, The University of Michigan, Ann Arbor, Michigan, U.S.A.

Applicant's scores in the English Proficiency Test are forwarded directly to this University by the English Language Institute.

An undergraduate student at this University whose native language is not English may offer English at the university level as the foreign language of his university programme if he submits acceptable evidence of his proficiency in another acceptable language and if he has not attended Grades 7 to 13 in Ontario schools or their equivalent in schools in other provinces or countries in which the language of instruction is English.

MATURE APPLICANTS

An applicant not less than twenty-five 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.

In general, mature applicants are expected to have obtained Ontario Grade 13 or equivalent standing in English and at least one other subject, preferably a language other than English.

Mature applicants who do not possess academic qualifications higher than Junior Matriculation standing or the equivalent of Grade 12 in Ontario are advised to obtain some of the required Grade 13 standing before submitting application for admission.

In Ontario, Grade 13 standing may be obtained by attending evening classes conducted in at least one Secondary School in each large centre of population or through Correspondence Courses available from the Correspondence Course Division of the Ontario Department of Education (Toronto).

Mature applicants for admission must write Aptitude tests which will be administered in Room 110, Stevenson Hall at 9.15 a.m. on the following Saturdays: 2nd, 16th and 30th of April, 14th and 28th of May, 11th of June, 23rd of July, 6th and 20th of August, 10th of September, 1966.

The fees for the administration of the University of Western Ontario Aptitude tests are $5.00 a person in Room 110, Stevenson Hall and $10.00 a person at another Canadian university.

ADMISSION OF TEACHERS (ONTARIO)

A teacher of any age whose academic qualifications do not meet in full the published admission requirements is eligible to apply for admission to the first year at this University if

a) his or her Ontario Grade 13 standing meets the requirements for admission to the one year programme offered at an Ontario Teachers' College, i.e. a minimum of eight (8) credits of Ontario Grade 13 standing with no examination mark below 50 and

b) he or she has completed successfully the one year programme at an Ontario Teachers' College and

c) he or she has completed a minimum of two years of employment as a teacher on a full time basis.

ALL APPLICANTS FOR ADMISSION IN THIS CATEGORY MUST WRITE THE APTITUDE TESTS DESCRIBED ABOVE.

Admission Procedures

All prospective students who have not previously attended the University of Western Ontario must submit a completed Application For Admission form with the required supporting documents to the Admissions Officer before the prescribed terminal date.

TERMINAL DATES

Final Dates for the Acceptance of Applications for Admission — 1966-67

1 JUNE, 1966 — Applications for admission to register for 1966 SUMMER SESSION

1 JULY, 1966 — Applications for admission to register for 1966-67 WINTER SESSION (intramural students)

1 SEPTEMBER, 1966 — Applications for admission to register for EXTENSION COURSES, 1966-67 WINTER SESSION.

A non-refundable late application fee of $25.00 must accompany each application submitted after the final date.

HOW TO APPLY

Application forms may be obtained from the principals or the head of Guidance Departments of Ontario Secondary Schools, or by writing to the Admissions Officer, The University of Western Ontario, London, Canada.

Completed application for admission forms and the required supporting documents are to be mailed to the Admissions Officer, University of Western Ontario, London, Canada as early as possible to 1966.

It is the responsibility of each applicant to insure that the following certificates, documents and information accompany his application for admission:

Admission Procedures

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A regular full-time day student in Grade 13 in 1965-66 must submit the following supporting documents:

A Confidential Report of Secondary School Record mailed directly to this University by the Principal or Director of the Guidance Department.

Original Grade 13 Certificates for all Grade 13 examinations written in 1965, 1964, 1963 or previous years, and original Conservatory of Music Certificates submitted in lieu of Grade 13 standing.

An applicant who is attending or has attended institutions of post-secondary education must submit the following supporting documents:

A Confidential Report of Secondary School Record mailed directly to this University by the Principal or Director of the Guidance Department of the last secondary school attended.

Original Grade 13 Certificates for all Grade 13 examinations written in 1965, 1964, 1963 or previous years.

Official Certified Transcripts of academic record mailed directly to this University by the Registrars of the institutions attended.

An applicant whose full-time formal education has been interrupted for more than four months must submit the following supporting documents:

A Confidential Report of Secondary School Record mailed directly to this University by the Principal or Director of the Guidance Department.

Original Grade 13 Certificates for all Grade 13 examinations written in 1965, 1964, 1963 or previous years.

Official Certified Transcripts of academic record mailed directly to this University by the Registrars of the institutions of post-secondary school education attended.

A Resume of occupation or employment for all the academic years (September to June), during which the applicant has not been a full-time day student, confirmed by letters from employers.

A mature applicant for admission as an Adult Special Student must submit the following supporting documents:

A Confidential Report of Secondary School Record mailed directly to this University by the Principal or Director of the Guidance Department of the last Secondary School attended.

Original Grade 13 Certificates for all Grade 13 examinations written in 1965, 1964, 1963 or previous years.

A Resume of occupation or employment for all the academic years (September to June) during which the applicant has not been a full-time day student, confirmed by letters from employers.

A Birth Certificate or other proof of age.

All mature applicants must obtain satisfactory scores in aptitude tests.

A married woman must submit her Marriage Certificate with her supporting documents if they bear her maiden name.

Copies of Grade 13 certificates will be made at the University and the originals will be returned promptly.

Applicants for admission in September, 1966 should note that the holding of the published minimum academic requirements for admission does not guarantee admission but means that they are eligible for selection for admission.

Fees

Fees are due and payable in full on registration day but if necessary the fees may be divided into two instalments payable on the first day of each 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 or diploma until their tuition fees, fines and other accounts owed to the University are paid, except by permission of the Dean or Principal of their Faculty and the Comptroller.

Students registered in a College of the University and transferring during the same year to an affiliated college will be charged by the University, on such transfer, a minimum penalty of $50.

Students transferring from an affiliated college to the University under similar circumstances will be charged by the University the full annual fee for the year regardless of the date of the transfer.

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

ANNUAL FEES

Full-time intramural undergraduate students:

The following amounts include, for full-time students Student Activity and Health Insurance fees totalling $51.50.

Arts and Science (all courses and years)	$515
If paid in two instalments	
Registration day	$300
First day of Second Term	$220
Late Registration Fee	
First day	$ 10
each day additional	$ 3
Maximum	$ 25

Part-time Intramural Students

Per Course	$100
Laboratory Fee	$ 10

Summer School, Extension and Correspondence Students

Per Course	$100
Laboratory Fee	$ 10
per Half Course	$ 50
Non-Credit	$ 50

Late Registration Fee

Applicable to all Part-time fees	$ 5

EXAMINATION FEES

Payable at time of application for any of the following:

Supplemental, each paper	$ 10
Presiding fee at an outside centre, each half-day	$ 5
Aptitude Test	$ 5
Special examination	$ 15

CERTIFICATES

Evaluation of non-Canadian certificates for admission	$ 2
Transcript of record, first two copies, each	$ 1
Additional copies, each	.25

DEGREES AND DIPLOMAS

Degree of B.D.	$ 24

(The fees for all other degrees and diplomas are included in the annual fees.)

STUDENT EXPENSES

The following is an estimate of the expenses of a first year student:

Tuition fees, which include registration fees, regular examination fees, students and athletic association fees, health insurance and health service fees	$ 515 to $ 600*
Board and Lodging (34 weeks)	$ 600 to $ 825*
Books, stationery, instruments	$ 75 to $ 125
Other expenses	$ 210 to $ 425
TOTAL	$1400 to $1975**

*1966-67 First Year tuition fees and residence fees are subject to change.

**First year students who live with their parents or relatives in the London area may require no more than $900 to $1200 for the first year.

Residence Accommodation

Accommodation for approximately 2,000 students is provided in the University residences, the affiliated colleges and Westminster College.

UNIVERSITY RESIDENCES

Spencer Hall, for women, 551 Windermere Road, and The Second Women's Residence, on the campus, have a combined capacity of 556. Priority will be given to undergraduate students and especially freshmen. For information write to: Dean of Women, University of Western Ontario.

Medway Hall and Sydenham Hall, for men, University Drive, have a combined capacity of 600. Freshmen are given preference but some accommodation is reserved for students in other years, including graduate students. For information write to: Warden, Medway Hall, University of Western Ontario.

AFFILIATED COLLEGES

Brescia College, for women, Western Road, has accommodation for 120 students. Only students enrolled in Brescia College are accepted for residence. For information write to: Dean, Brescia College.

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: Warden, Huron College, London, Ontario.

King's (Christ the King) College, for men, Waterloo Street North, has accommodation for 116 students. Preference is given to students enrolled in this College but students in Science courses are accepted. For information write to: The Business Office, King's College.

WESTMINSTER COLLEGE

The United Church-sponsored residence, for men and women, on Richmond Street at the north edge of the campus, has accommodation for 117 men and 113 women. Freshmen are given preference, but accommodation is available for students in other years, including graduates and students from other countries. For information write to: Bursar, Westminster College.

HOUSING BUREAU

Students who will not be living in residence may apply to the Housing Bureau, Room 23, Thames Hall, between August 2nd and October 31st for assistance in finding accommodation in private homes. The Housing Bureau office is open Monday through Saturday noon except on Labour Day week-end when it will be closed from Friday until Tuesday morning.

As it has proved impracticable to send out lists of boarding houses in advance, students are required to inquire in person at the Housing Bureau. Freshmen, however, should not make application until they have been granted official permission to register at the University. While it is not possible to guarantee accommodation for married students the Housing Bureau does lend every assistance possible on their behalf.

Students registering in an affiliated college should apply to the Dean of Residence of their college for assistance in finding private accommodation.

Health Services

A physical examination 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. This is the responsibility of the incoming student prior to registration, the information to be submitted on the form supplied.

The Health Services operate a clinic, Sommerville Hall, where students may consult the university physicians for preliminary diagnosis, minor treatment or advice. A Victorian Order Nurse is in attendance. The Health Service secretary deals with inquiries and assists with insurance claims.

All students must take intracutaneous testing for tuberculosis at the time of registration. Students showing a positive reaction must have a chest x-ray, this 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 test repeated each year.

Examination results will not be sent to students who fail to observe these *regulations.*

Since January 1959, the Ontario Plan of Hospital Care Insurance offered by the Ontario Hospital Services Commission has been the only form of basic hospitalization permitted in Ontario. All students are expected to possess this protection as individuals or, if under 19 through their parents' policies.

Students registering for the first time from provinces which do not possess a reciprocal provincial hospital scheme, and those coming from outside Canada, are reminded that the Ontario Plan now requires a three months' waiting period before benefits may be obtained.

Medical in-hospital, surgical and diagnostic benefits are arranged by the university for all full-time students through a group of associated life insurance companies.

Conduct of Students

The Board of Governors and the Senate have established the regulations and the conditions of admission to and continuance at the University. The payment of tuition fees, which represent approximately one-third of the cost to the University of a student's education, does not alone entitle the student to membership in the University. As the Senate imposes academic standards so, too, the Board of Governors requires a standard of personal conduct in keeping with the status of a university student. The following regulations must be observed by all students:

All students are expected to conduct themselves in a manner becoming scholars and ladies and gentlemen. The University reserves the right at any time to suspend or dismiss a student whose conduct or academic standing is in its judgment unsatisfactory.

Intoxication, or disorder and bad manners arising from the use of alcoholic beverages, are particularly serious offences and may subject the student involved to the penalty of suspension or dismissal from the University.

Any student may be placed under discipline when, in the opinion of the Dean of a Faculty or the Dean of a College or School, his attitude toward his University obligations has been unsatisfactory.

All regulations relating to the conduct of students shall extend to conduct anywhere off the campus in circumstances that by any means associate the student with the University, as, for example, while going to or returning from, or attending in a group of any number, a sports contest or other activity, in which representatives of this and/or other universities participate.

A student who is suffering from any illness or physical disability is expected to report it immediately to the University Health Office even if he or she is to be treated by physicians outside the University.

The Board of Governors grants permission to students to bring cars into the grounds of the University on condition that the University's traffic regulations are obeyed and that the cars are parked in parking areas designated by the Board. This general privilege may be restricted by the Board from time to time as need arises, and will be withdrawn from any student who persistently disobeys the regulations. Campus parking for students may have to be restricted very soon due to the rapidly growing enrolment of the University. Students are advised to avoid bringing cars on the campus. Bus service within the City is able to supply adequate transportation from almost any part of London to bus stops throughout the campus.

The Board of Governors reserves the right to establish regulations with respect to dress as well as conduct on the premises of the University.

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

The Board of Governors collaborates fully with the University Students' Council in the interpretation and enforcement of these regulations.

STUDENT ACTIVITIES

No class or group of students may engage in any public effort as a body *representing the* University or any organization within the University without the permission of the Advisory Committee of the Board of Governors. Nor may the name of the University be used in any publication without the permission of the Advisory Committee.

The constitution of any proposed club or society sponsored by the University Students' Council must be approved by the Advisory Committee before such organization can be recognized.

Military Studies

Military Studies may be credited as a half course in the General Programme.

THE RESERVE PLANS

The Canadian Officers' Training Corps (COTC) of the Canadian Army, and the University Reserve Training Plan (URTP) of the Royal Canadian Air Force offer undergraduates a training plan to qualify for the Queen's Commission in the service of their choice while attending University.

Winter Training is one night a week up to a maximum of 64 hours a winter for two or three academic years with pay up to a maximum of 16 days (approx. $120) a winter.

Summer Training, taken with the Regular Force, is a maximum of 15 weeks for two summers and, for selected cadets, a third summer of 12 weeks. Summer pay is at the rate of $250.00 per month. Rations, quarters, transportation, uniforms and medical and dental care are provided during the summer training period.

When the student completes the service training program and graduates from University, he will have qualified for the Queen's Commission, to serve voluntarily with the Regular Force, the Active Reserves or be transferred to the Non-active Reserves.

After registering at the University apply to: The Canadian Officers' Training Corps, Room 113, Thames Hall or, 105 University Squadron RCAF, Room 112, Thames Hall.

THE REGULAR FORCE PLANS

The Tri-Service Regular Officer Training Plan (ROTP) is a completely subsidized university plan covering tuition, books, year-round room and board, pay, and medical and dental care for up to four years of undergraduate study.

The University Medical Subsidization Plan (USMP) and the University Dental Subsidization Plan covers the above, with the addition of a graduated pay and rank throughout four years of undergraduate study.

Graduates of these plans are commissioned in the Regular Force and are given the option of a Permanent Commission or release after four years' Regular Service for members of the ROTP, three years' Regular Service for members of the UMSP and five years' Regular Service for members of the Dental Subsidization Plan.

Students interested in any of the above Regular Force Plans may either enquire at the COTC Office, Room 113, Thames Hall, the RCAF in Room 12, Thames Hall or to any Canadian Armed Forces Recruiting Centre (CAFRC). The London CAFRC is located at 120 Queens Avenue, telephone 433-5124.

Admission Scholarships

An Admission Scholarship is an Award Made for Academic Excellence to a First Year Student.

Normally, Admission Scholarships are awarded by the Scholarship Committee on the basis of the marks obtained by applicants in Ontario Grade 13 examinations but they may, at the discretion of the Scholarship Committee, be awarded to applicants from provinces of Canada other than Ontario on the basis of Senior Matriculation standing considered equivalent to the required Ontario Grade 13 standing.

To become eligible for the award of a U. W. O. Admission Scholarship an applicant must

a) obtain pass standing in at least 8 Ontario Grade 13 examinations written in June 1966

b) obtain a minimum total of 600 marks (75% average) on 8 Ontario Grade 13 examinations written in June 1966.

(1966 Ontario Grade 13 examinations in English, the languages and Biology are counted as 2 examinations for the award of U. W. O. Admission Scholarships.)

For a student in his first year in Grade 13 who has written Grade 13 examinations in his regular Grade 11 and/or 12 year, a maximum of two Grade 13 examination marks in subjects other than English written in 1965, 1964 or 1963, may be counted in his Admission Scholarship average provided that at least eight additional examinations are written and passed in June 1966.

Scholarships may not be deferred. Winners must register for a full year's work in the academic session following the award. In order to retain the privilege of *continuing* scholarships, the winners must maintain a required degree of proficiency in each year of their academic programme.

The Admission Scholarships listed below are not tenable in the affiliated colleges (Huron, Brescia, King's). For information about admission scholarships awarded by the affiliated colleges, students should write to the registrars of those colleges.

The Board of Governors of the University of Western Ontario Admission Scholarships (1966-67):

A. Eight (8) continuing "National" Scholarships, each valued at $1,000.00 a year for a maximum of four years ($4,000.00).

B. Seventy-five (75) continuing Scholarships each valued at $500.00 a year for a maximum of four years ($2,000.00).

C. First year Board of Governors' Scholarships valued at $200.00 each.

Aluminum Company of Canada Limited Scholarship: Value $500 payable the first year for the highest standing on six Grade 13 credits: Physics, Chemistry, Mathematics (any 2 papers) and two other credits.

The General Motors Canadian Scholarship: Value $800 to $8000 ($200 to $2000 in each of four years), the amount depending on the student's financial need. For Canadian citizens on the basis of academic record and all-round ability.

Harriet M. Giddens Scholarship: Value $200 payable the first year for the highest ranking student from the City of London who has not qualified for a more valuable award. The capital fund for this Scholarship was bequeathed to the University by the late Harriet M. Giddens of London.

Inco Scholarship: Value $300 plus tuition and incidental fees, each year for four years. For a student enrolling in an engineering, geology, geophysics or physics and mathematics programme. The award is based on academic record, character, and financial need.

The London Life Actuarial Scholarship: Value $2400 ($600 in each of the four years) for a student entering the Honours Mathematics programme to take the actuarial option. Based on highest standing in nine Grade 13 credits with high standing in Mathematics.

Two Queen Elizabeth Scholarships of the Corporation of the City of London: Value $1000 payable the first year. For the man and the woman with the highest standing in nine Grade 13 credits 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.

Captain Jack Birnie Smith Scholarship: Value $150 payable the first year. For proficiency in single subjects to the student who enters first year pre-business.

Three George Williamson Young Memorial Scholarships: Value $500 ($300 the first year, $200 the second year). For the highest standing in (i) six Grade 13 credits: English (2), History (1), and a language (2) and one other credit. (ii) English (2), Mathematics (any 2), and 2 other credits (iii) English (2), French (2), and German (2) or Greek (2) or Latin (2) or Spanish (2). The capital fund for this Scholarship was bequeathed to the University by the late George Williamson Young of Port Stanley.

SCHOLARSHIPS TENABLE AT ANY ONTARIO UNIVERSITY

H. J. Heinz Company of Canada Scholarship: Value $2000 ($500 for each of four years). For a student enrolled in the district high schools in **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 1st.

Imperial Leaf Tobacco Scholarship: Value $1000 ($600 the first year, $400 the second). For highest standing in nine 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.

Institute of Chartered Accountants of Ontario Scholarship: Value $1000. For students who register for an Honours Programme in Business Administration leading to a B.A. degree. Applications are to be submitted to the Institute of Chartered Accountants of Ontario, 69 Bloor Street W., Toronto 5, before June 20th.

London Board of Education Awards: Value $500 each year for four years and $1000 while attending the Ontario College of Education. For students from London Secondary Schools, who enrol in an Honours Programme leading to Type A certification in the Ontario College of Education. The winners must agree to teach in the Secondary School system in Ontario for three years after graduation. Applications are to be submitted to the London Board of Education by June 1st.

National Secretaries Association Scholarship: Value $100 payable the first year. For a student from a secondary school in Windsor or Riverside, Ontario, who registers in a Secretarial Science Programme. Applications are to be submitted to the Scholarship Chairman, Windsor Chapter of the National Secretaries' Association, 1163 Pierre Avenue, Windsor, Ontario.

Two Ontario Department of Education and National Council on Fitness and Amateur Sport Admission Scholarships: Value $500 payable in the first year. For the man and woman recommended for competence and promise in physical education by the Heads of the Departments in physical education in their secondary schools who obtain the highest "A" averages on the nine Grade 13 credits required for admission to this university. Application must be submitted by Sept. 1 on forms obtainable from the Awards Officer, U.W.O., or Department of Physical and Health Education, U.W.O. Awarded after registration.

Undergraduate Scholarships and Prizes

No applications are required. Awards are made by the Arts and Science Scholarship Committee on the basis of examination standing. Scholarships are not ordinarily awarded to students who do not obtain a first class standing.

To be eligible for an award, a student must take the prescribed subjects in his year and programme. Students who take courses out of sequence or fail to write any examination due to illness or other reasons, are not eligible. Recipients of continuing scholarships must maintain a required degree of proficiency in each year of their academic programme.

Except for The Governor-General's Medal and the Brescia College Prizes and Awards, scholarships and prizes will be granted only to full-time students in the colleges of the university.

No limit is placed on the number of awards a student may receive in any one year. Where a student receives more than one award, the Scholarship Committee may place a limit on the total amount of money received by the student in that year.

Awards of more than $1000 will be paid in two instalments on November 1st and February 1st.

Board of Governors' Scholarships: For general proficiency in the following: General Programme (Natural Sciences), first year: $60. General Programme (Humanities and Social Sciences), first year: $60.

Board of Governors' Scholarships: $60 each; for highest standing in the Second and Third Year of Honours Programmes when no other scholarship is awarded.

Board of Governors' Scholarship: $50 for the student from General Programme first year, with the highest standing who enters one of the following second year Honours Programmes: English and History, History and Philosophy, Philosophy and Psychology, Philosophy and Sociology.

The Allied Chemical Canada (Limited) Scholarship: $250 and tuition fees: for an outstanding student entering the final year of Honours Chemistry or the Chemical option of Engineering Science. He must be a citizen of Canada or the United States, and must not hold other awards exceeding $250. Intellectual capabilities, scientific ability, breadth of interest and leadership qualities shall form the basis of selection, rather than financial need.

Alumnae Association Prize: $10; Third Year Canadian History (History 31); only women are eligible for competition.

The J. P. Bickell Foundation Scholarship: $1500; $500 a year for three years for a student entering the second year of the Honours Geology Programme; or the Chemical option of Engineering Science; if he maintains First Class Honours standing from year to year.

The Hon. Edward Blake Scholarship, No. 1: $100; for Honours Economics, Second Year. Offered in 1967-68.

The Hon. Edward Blake Scholarship, No. 2: $100; for Honours Economics, Third Year. Offered in 1967-68. These Scholarships were endowed by the late Major Hume Cronyn, K.C., M.P., in memory of his uncle, the Hon. Edward Blake, sometime Premier of Ontario, and, later, member of the British House of Commons.

The B'Nai Brith Scholarship: $50; for the highest ranking student in General Programme 2, first year, who enters one of the humanities programmes: English, Ancient or Modern Languages and Literatures, or Philosophy. Given each year by the London Branch of the Order.

Brescia College Home Economics Prize, No. 1: $25; for Third Year Clothing (Home Economics 30x).

Brescia College Home Economics Prize No. 2: $25; for Third Year Foods (Home Economics 32x).

Bruce County Scholarships: Two, $100.00 scholarships, one for the man, one for the woman, from Bruce County who stands highest in any year of any regular programme in the University. Each scholarship can be held two years in succession, provided there is no other scholar qualified to receive it.

The Richard and Julia Butler Scholarship: $60; for Second Year Honours Botany. This Scholarship was bequeathed to the University by the late Mrs. Mary E. B. Moorhouse.

The Canadian Association of Geographers: Book prize to the graduating student who has demonstrated the greatest proficiency in this subject.

Chemical Institute of Canada Prize: $25; in books to be awarded to the student with the highest standing in Chemistry Courses in the Honours Chemistry with Physics option Programme of the third year.

The Gordon Dixon Memorial: Presented by the Geology class of 1957. A book to a senior student who has demonstrated interest and proficiency in Pleistocene Geology.

Elgin County Scholarships: Two, $100 scholarships, one for the man, one for the woman, from Elgin County (excluding the City of St. Thomas) who stand highest in any year of any regular programme in the University. These Scholarships were voted by the Council of Elgin County in June, 1945. Application must be made to the Registrar by October 1st.

The Famous Players Canadian Corporation Scholarship: $500; to be awarded for high standing in the Journalism subjects of the penultimate year of the Honours Journalism programme; the award may be augmented by a waiver of fees of the Trois Pistoles Summer School for a candidate who agrees to attend that Summer Session.

Gamma Phi Beta Alumnae Jubilee Prize: $10; Second Year Secretarial Science (Secretarial Science 30, 37, 38, 39).

The Andrew Grant Scholarship, No. 1: $100; for Honours Economics, Second Year. Offered in 1966-67.

The Andrew Grant Scholarship, No. 2: $100; for Honours Economics, Third Year. Offered in 1966-67.

The Andrew Grant Scholarship, No. 3: $100; for Honours Political Science, Second Year.

The Andrew Grant Scholarship, No. 4: $100; for Honours Political Science, Third Year. These Scholarships were bequeathed to the University by Mrs. Grant as a memorial to her husband, Mr. Andrew Grant, St. Thomas.

Huron County Scholarships: Two, $100 scholarships; one for the man, one for the woman, from Huron County who stand highest in any year of any regular programme in the University. These scholarships were voted by the Council of Huron County in 1944. Application must be made to the Registrar by October 1st.

The International Nickel Company Award in Journalism: A plaque and a portable typewriter for the student completing the Graduate Diploma Programme in Journalism with the highest average, provided the average is at least 66 percent. The award shall be made by the Scholarship Committee on recommendation of the Head of the Department of Journalism.

The Albert O. Jeffery Scholarship, No. 1: $60; for Honours Biology, Second Year.

The Albert O. Jeffery Scholarship, No. 2: $60; for Honours Biology, Third Year.

The Albert O. Jeffery Scholarship, No. 3: $60; for Honours Mathematics, Third Year. These three Scholarships were bequeathed to the University by the late Mrs. Jeffery as a memorial to her husband, Mr. Albert O. Jeffery, K.C., D.C.L., LL.D., former president of the London Life Insurance Company.

The F. G. Jewell Scholarship: $50; the highest ranking student in General Programme 2 or Pre-Business, First Year, who enters one of the professional programmes: Honours Business Administration, Business Administration and Secretarial Science, Journalism or Physical and Health Education. Given in memory of the late Francis G. Jewell, C.A., former Auditor of the University.

The Kennecott Copper Corporation Minerals Exploration Scholarship: $1,000, to be awarded to a male student entering the third or the fourth year of the Honours Geology Programme or Honours Geophysics Programme. Application must be made to the Registrar by May 1st.

The A. N. Knowles Scholarship: $60; for Honours Chemistry, Second Year.

The J. C. Knowles Scholarship: $60; for Honours Chemistry, Third Year. The above Scholarships are donated to the University as memorials by Mrs. A. N. Knowles, London.

Sir Wilfrid Laurier Memorial Scholarships: Two scholarships, one elementary ($30) and one advanced ($50); awarded annually for proficiency in French conversation: open only to Canadian-born English-speaking students, or the sons and daughters of naturalized British subjects not of French parentage. The capital fund of these Scholarships was the gift of the Women's Liberal Association.

The John McEachern Scholarship: $150; in memory of Mr. Thomas E. Carr, a graduate of this university; for the student with the highest standing in Third Year Honours English and History who enrols in the Fourth Year.

The John Gordon McIntosh Scholarship, No. 1: $60; for Honours Physics, Second Year.

The John Gordon McIntosh Scholarship, No. 2: $60; for Honours Physics, Third Year. These Scholarships were endowed by the late Mrs. John Gordon McIntosh, of Winnipeg, in memory of her husband.

The Wilhelmina and J. Gordon McIntosh Prize, No. 4: $60; for Honours Geography, Second Year, tenable in the Third Year of Honours Geography.

The Wilhelmina and J. Gordon McIntosh Prize, No. 5: $60; for Honours Geography Third Year. These prizes were bequeathed to the University by the late Wilhelmina Morris McIntosh, of Winnipeg and London.

The Joseph Henry Marshall Scholarship: $60; for Honours History, Third Year. Open only to Canadian-born students. Bequeathed to the University by Mrs. Amy Marshall as a memorial to her late husband, Joseph Henry Marshall, M.P., to commemorate his interest in all phases of Canadian History.

The Mathematics Class of 1949 Prize: $25; for the highest standing in first year Calculus.

The Midland-Osler Securities Scholarship: $100; for the student with the highest standing in Journalism 20, who registers in the Honours Journalism programme.

The National Council of Jewish Women of Canada (London Section) Scholarship: $60; for a graduating student in Honours Psychology.

Benjamin Noble Scholarship, No. 1: $75; for Honours Business Administration and Secretarial Science, Second Year.

Benjamin Noble Scholarship, No. 2: $75, for Honours Business Administration and Secretarial Science, Third Year.

The Northern Electric Undergraduate Scholarships: Two, $500 each; one in Honours Business Administration and the other in Engineering Science or Honours Physics, for a student who is a Canadian citizen or landed immigrant with at least one year successfully completed at a recognized university. The award is renewable for one year and is tenable in any year except the first.

The Stan C. Reade Award: $250; for the student with the highest (at least Second Class Honours) standing in the Honours courses of the second year, who registers for the third year of the Honours Physics programme.

The Stan C. Reade Essay Prize: A single reflex camera, for competition among fourth year Honours students in Physics.

The Reader's *Digest* Journalism Scholarships: Two at $500 each; for students entering the second, third or fourth years of the Honours Journalism Programme. The candidates selected by the Scholarship Committee, on recommendation of the Head of the Department of Journalism, shall have attained an average of First Class standing in the Journalism and the other Honours courses of the previous academic year, with an average of at least Second Class standing in the remaining courses. If no undergraduate student qualifies for one of the scholarships, it will be awarded to a student entering the Graduate Diploma Programme in Journalism at this University, on the basis of his academic record in his final undergraduate year, provided that his average is First Class.

No student shall hold both of these scholarships in one year, unless no other student, undergraduate or graduate, qualifies for the second scholarship.

The Rhoda Ann Rinn Scholarship in English Literature: $1,000; to be awarded on the basis of academic standing in General Programme 2, first year, to a student in a College of the University who enrols in the second year of Honours 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. $500 will be payable in the second year, $300 in the third year and $200 in the final year, provided the student maintains First or Second Class Honours and remains in the Honours Programme in English Language and Literature. This Scholarship was established as a memorial to his mother, by the late Lionel Harris Rinn, Honours English graduate of this University.

The W. J. Roche Scholarship: $50; for the highest ranking student in General Programme 2, first year, who enters one of the social science programmes: Honours Economics, Politics, Geography, History or Psychology. Given in honour of the late Hon. W. J. Roche, M.D., LL.D., C.M.G., former Chancellor of the University.

The Myrtle Rowntree Memorial Scholarship: $60; for Honours English Language and Literature, Third Year. This Scholarship was established as a memorial to the late Myrtle Martindale Rowntree, a graduate in Honours English and History, by her brothers and sisters.

The Society of Chemical Industry Merit Award: A gold key and a year's subscription to the Journal of the Society (Chemistry and Industry) for the highest standing in the final year of Honours Chemistry or Honours Chemistry with Physics Options, provided that First Class Honours is obtained and the course has been completed in four years.

The Sons of Italy Italian Award, No. 1: $25 for Italian 20.

The Sons of Italy Italian Award, No. 2: $25 for Italian 30 or 40.

Legation of Switzerland: Book prizes to students in modern languages, on recommendation of the Departments of Romance Languages and German.

Summer School for French and English, Trois-Pistoles, Quebec: Applications for the following scholarships available for study at Trois-Pistoles will be received by the Registrar up to April 30th. The winners will be selected by a special committee:

Robert Simpson Company Limited Scholarships: two; $150 each.

Imperial Oil Company Limited Scholarship: $150.

Lachapelle Scholarship: $100.

Board of Governors' Scholarship: $60.

The W. Sherwood Fox Scholarship.

W. W. Tamblyn Prize: $75; 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 in this University.

The Timken International Fund Scholarship: Four at $250; two for the highest standing in the first and second years of Honours Mathematics and two for the highest standing in the first and second years of Honours Engineering Science.

The Frances M. Weir Scholarship: $100; when the winner of the Governor-General's Medal is a woman, she will receive a Scholarship in memory of Miss Frances M. Weir, who won the Governor-General's Medal when she graduated from this University in 1916; as a gift of Mr. Samuel E. Weir, Q.C. through The Weir Foundation.

Albert E. Wells: $150.00 for Second Year Honours Chemistry with Physics option.

The Helen Atfield White Scholarship: $250.00 for the U. W. O. student registering in the first year of the Faculty of Medicine, with the highest average in the previous year's work.

The William Wyatt Scholarship, No. 1: $60.00 for Honours English Language and Literature, Second Year.

The William Wyatt Scholarship, No. 2: $60.00 for Honours History, Second Year. The capital fund for these Scholarships was bequeathed to the University by the late William Wyatt, of London.

Medals Awarded to Graduating Students:

These medals are competitive and are awarded through selection by the Scholarship Committee from among students with first class standing.

Students in affiliated colleges are eligible for The Governor-General's Medal only.

The Helen M. B. Allison Gold Medal: Honours English Language and Literature. (Endowed by the Undergraduate Women's Organization.)

The Alumni Gold Medals: Honours Chemistry, Honours English and French, Honours Music, and the degree programme in Nursing. These medals were endowed by the Alumni Association of the University.

Brescia College of Arts Award: Gold Medal: Home Economics.

The A. R. Davidson Gold Medal: the final year of the General Programme, completed in the Summer School, Correspondence and Extension Department; endowed by Arthur Robert Davidson, a graduate of this University.

The Raymond Compton Dearle Gold Medal: Honours Physics and Mathematics. Endowed by former students and friends of Dr. Dearle, M.B.E., F.R.S.C., Head of the Department of Physics, 1919-1949; Research Professor of Physics, 1949-57.

The Dillon Gold Medal: Honours Applied Mathematics.

The Robert LaVerne Eagleson Gold Medal in History: Endowed by Miss Lyla Eagleson of Toronto, in memory of her brother who graduated from the University with the University Gold Medal in History in 1925.

The S. F. Glass Awards: Gold Medals: one in Honours Economics and the other in Honours Political Science. Endowed by the estate of the late S. F. Glass of London.

Governor-General's Medal: General Programme.

The Joseph J. and Annie R. Kingston Gold Medal: Honours Mathematics Programme I, endowed by the late Dr. H. R. Kingston in memory of his parents.

The Maude Holt Kingston Gold Medal: Honours Astronomy, endowed by the late Dr. H. R. Kingston in memory of his wife.

The R. B. Liddy Gold Medal: Honours Psychology; endowed in memory of the late Professor R. B. Liddy, Head of the Department of Psychology in this University, 1931-54, by his children, Catherine and James, both graduates of this University.

The London Life Insurance Company Gold Medal: Honours Actuarial Mathematics.

The Northern Life Gold Medal: Honours Statistical Mathematics.

The Thomas B. Richardson Gold Medal: Honours Geography, endowed by Leverne and Ronald Richardson in honour of their father.

The A. Dorothy Turville Gold Medal: Honours French and Spanish.(Endowed by the Undergraduate Women's Organization.)

University Gold Medals: For all Honours Programmes when no other medal is awarded.

The Frances Weir Gold Medal and Scholarship: $100 in English and History: the gift of Mr. Samuel E. Weir, Q.C. 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 Honours English and History Course.

Admission Bursaries

ADMISSION BURSARIES

To be eligible for an admission bursary, an applicant must show genuine financial need and have an average of 66% in eight (8) Ontario Grade 13 examinations of which four (4) must have been written in June 1966.

Generally, an admission bursary is applied for before final examinations are written. Students who need assistance should, therefore, apply for admission bursaries **without being concerned** about their probable final marks.

The following are applied for before registration:

A.T.A. Trucking Industry Bursaries: $500 each for non-residents or $250 each for students from the city of London. Application should be made by June 1st to the Student-Aid Committee, Ontario Department of Education, 44 Eglinton Avenue West, Toronto 12, Ontario, through your Secondary School Principal. The Federal-Provincial Type A application form automatically includes this bursary.

Atkinson Charitable Foundation Bursaries: $400 each for non-residents or $200 each for residents of the city of London. Applicants must be deserving students from the Province of Ontario. Apply by May 1st to the Awards Officer, University of Western Ontario, through your Secondary School Principal.

The Bobby Bauer Memorial Award: Up to the total expenses of one academic year, depending on need. Available to students demonstrating outstanding proficiency in Hockey. Apply by August 31st to The Bobby Bauer Memorial Foundation, 60 Victoria Street North, Kitchener, Ontario.

The Children of the War Dead (Education Assistance Act): Fees and monthly allowances are 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 scholarship and bursary aid to children of deceased veterans. Apply through your local branch.

Federal-Provincial Student-Aid Bursaries, Type A: $500 each for non-residents and $250 each for residents of the city of London. Apply through your Secondary School Principal by June 1st.

Fireco Sales Ltd. Bursary: $515 to $600 (full tuition for programme of applicant). Available to a student who has worked in a grocery store during the last year of High School. Application forms, which are available at 1,500 grocery stores throughout Canada, should be forwarded to the Awards Officer not later than August 14th — awards will be announced by September 1st.

Leonard Foundation Bursaries: Up to $400 each (for from one to four years). 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 Lieut.-Colonel and Mrs. Reuben Wells of St. Catharines, Ontario. Application forms may be obtained from the Awards Officer and must be filed by February 15th of the year preceding the award.

London Free Press Printing Company Limited Award: $250 each and summer employment worth $1,000 or more, renewable each year for scholarship satisfactory to the Selection Committee. Only students who have attended secondary schools in the fourteen 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.

Ontario Department of Education and National Fitness Council and Amateur Sports Awards: Up to $500. Available to students who intend to continue in the Honours P.H.R.E. programme. Apply to the Awards Officer by September 1st.

Ontario Hockey Association Bursary: Value $100.00 payable the first year. 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. Apply after publication of Grade XIII marks, but not later than September 1st, to the Awards Officer, U. W. O.

O-Pee-Chee Company Bursaries: $500 each renewable for two additional years. Apply after publication of grade 13 marks but not later than August 15th to the Awards Officer, University of Western Ontario. Awards will be announced by September 1st.

The Steel Company of Canada Bursaries: $500 each renewable for three additional years. Apply after publication of grade 13 marks but not later than August 15th to the Awards Officer, University of Western Ontario. Awards will be announced by September 1st.

Many companies offer bursaries or scholarships for children of their employees. Applications should be submitted through the Company concerned.

RESTRICTED AND UNRESTRICTED BURSARIES

These bursaries are awarded to students who have an average of B (66%) or better in their previous year's work, and who demonstrate genuine financial need. Unless otherwise stated application should be made to the Awards Officer, anytime in November.

RESTRICTED BURSARIES

Except for the Federal-Provincial Student-Aid Bursary, Type B, which requires a special form, an application for any "restricted" bursary (regardless of the value shown for it in the list) is **automatically** considered for awards from all other bursary funds, up to the total amount of the need established in the application. It is unnecessary, therefore, to complete more than one application in addition to the application for the Federal-Provincial Type B Bursary.

The following bursaries are restricted by residence, sex, course or year, as indicated:

The J. P. Bickell Foundation Bursaries: Up to $500 each. Students registered in the Department of Geology or in the Chemical Engineering course are eligible.

The Isabel Dingman Memorial Bursary: $50. Women students entering the third or fourth year of the Honours Journalism programme are eligible for this bursary, which is a gift of the Canadian Women's Press Club (London Branch).

Lady Eaton Bursaries: Up to $250 each. Students registered in the College of Music or in the General Arts course with Music Options are eligible.

Federal-Provincial Student-Aid Bursaries, Type B: Up to $500 each. This bursary is available to 2nd, 3rd and 4th year students with financial need and an academic average of B or better in the previous year. Apply by October 5th.

The Maude Gordon Educational Fund: Up to $500 each. 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.

The Greek Ladies' Philoptochus Society Award: $100. This bursary is provided annually to a student of Greek descent.

The Kathleen Gordon Hanna Educational Fund: Up to $500 each. 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.

Huron County Bursaries: Up to $250 each. This bursary is available to students who have lived in Huron County for at least three years.

Hydro Electric Power Commission of Ontario: Up to $250 each. Available to students in the second year in Engineering, Business Administration, or Mathematics and Physics.

I.O.D.E. (London Air Force Chapter) Bursary: $100. Third year students in any branch of Honors Physics, or any allied programme are eligible for this bursary.

I.O.D.E. (Grace Blackburn Chapter) Bursary: $100. Students enrolled in the second Pre-medical year are eligible, with the idea of subsequent awards to the same student throughout the programme.

I.O.D.E. (Dr. John Dearness Chapter) Bursary: $100. Students in Honours Biology, preferably in a Mycology course, are eligible for this bursary.

I.O.D.E. (The Colonel William Gartshore Chapter) Bursary: $100. This bursary is available to a student in any year in the Humanities.

I.O.D.E. (Nina Moore Jamieson Chapter) Bursary: $100. Students in the third year of the Honours Programme in English and French are eligible for this bursary.

I.O.D.E. (Municipal Chapter) Bursary: $100. Students in any year of a degree programme in Honours Science are eligible for this bursary.

I.O.D.E. (Overseas Chapter) Bursary: $100. Students in the final year of any degree programme are eligible.

I.O.D.E. (The Sir George Ross Chapter) Bursary: $100. This bursary is available to a student in the third or fourth year of a programme in the Humanities or Social Sciences.

I.O.D.E. (William E. Saunders Chapter) Bursary: $100. Students registered in the Botany option of Honours Biology during the preceding session are eligible. This bursary may be awarded, under special circumstances, to a student registered in a programme other than Botany.

I.O.D.E. (Nicholas Wilson Chapter) Bursary: $100. Students enrolled in the final year of any Honours or Professional course are eligible for this bursary.

The Joseph Kerbel Student-Aid Bursary: $100. Available to a student, preferably from a new Canadian family, registered in any year of any course in the Faculty of Arts and Science.

Leonard Foundation Bursaries: Up to $400 each (for from one to four years). 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 Lieut.-Colonel and Mrs. Reuben Wells of St. Catharines, Ontario. Application forms may be obtained from the Awards Officer and must be filed by February 15th of the year preceding the award.

The Olga Alice Miller Bursary: $100. This bursary is available to a woman in any year of any programme. The Selection Committee shall be the Dean of Women and the Awards Officer. This bursary is a memorial to the late Olga Alice Miller, who was a 1928 graduate in Honours English and History and Assistant Registrar 1933-51. It was established by her mother, Mrs. A. E. Miller and her sister, Helen.

Ontario Department of Education and National Fitness Council and Amateur Sports Awards: Up to $500 each. Available to students in the Honours Physical Health and Recreation Education programme. Apply after registration but not later than September 30th.

Oxford County Bursaries: Up to $250 each. Students from Oxford County, excluding Ingersoll and Woodstock, are eligible.

Perth County Bursaries: Up to $250 each. Students from Perth County, excluding St. Marys and Stratford, are eligible.

The James H. Rattray Memorial Trust Fund: Up to $200 each. Available to students in any year of Engineering Science or a Science programme which includes English 20.

The Melvin Vernon Rayner Memorial Bursaries: Up to $250 each. Students registered in the College of Music are eligible.

Royal Canadian Legion (London) Student-Aid Fund: Up to $200 each. Deserving undergraduates who are veterans or dependents of veterans are eligible.

The London Centennial Chapter, National Secretaries Association (International) Bursary: $100. This bursary is available to a woman in a senior year of the Secretarial Science or Honours Business Administration and Secretarial Science programme. It is awarded by a committee consisting of the Dean of Women, the Head of the Department of Secretarial Science, the Awards Officer, and a member of the Executive of the London Centennial Chapter of the National Secretaries Association (International).

The Undergraduate Women's Organization Bursary: $100. This bursary is available to a woman in any year of any programme selected by a Committee composed of the Dean of Women, the Awards Officer, and the President and Chairman of the Undergraduate Women's Organization.

The University Women's Club Bursary: $100 each. These bursaries are available to women in the third or preferably the fourth year in any Faculty. They are awarded on the basis of academic standing and some financial need

by a committee consisting of the Dean of Women, the Awards Officer and, from the University Women's Club of London, a Convener and the President or her representative.

Wellington County Bursaries: Up to $250 each. Students from Wellington County, excluding Guelph, are eligible.

UNRESTRICTED BURSARIES

Unrestricted bursaries are available to students in any year of any degree programme. An application for any unrestricted bursary (regardless of the value shown for it in the list) is **automatically** considered for awards from other unrestricted funds, up to the total of the need established in the application. It is unnecessary, therefore, to apply for more than one unrestricted bursary, or to apply for any unrestricted bursary if application has been made for a restricted bursary.

The following bursaries are unrestricted:

Atkinson Charitable Foundation Student-Aid Funds: Up to $200 each. Students who are residents of Ontario are eligible.

A.T.A. Trucking Industry Educational Foundation Fund: Up to $250 each.

Board of Governors Awards: Up to $500 each.

The Circle "K" Club Award: $100.

H.M.C.S. Prevost Student-Aid Fund: $75.

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: $100.

I.O.D.E. (Nicholas Wilson Chapter) Bursary: $100.

The Interprovincial Pipe Line Company Bursaries: Up to $250 each.

The Gilbert A. Labine Bursaries: Up to $500 each.

The Local 27 U.A.W. Bursary: $250.

The Procter and Gamble Company of Canada Bursaries: Up to $250 each.

The W.F. Thomas Student-Aid Fund: Up to $300 each. Preference is given to applicants whose residence is in St. Thomas or Elgin County.

The U.W.O. Alumni Association Bursary: Up to $400 each.

Wellington Square Purple-Spur Society Student-Aid Fund: $100 each.

Walter Wright Scholarships: Up to $250 each.

The Masonic Foundation of Ontario Special Awards: (See "Grants" section).

GRANTS

A "grant" is an award to a student who demonstrates financial need and who has a satisfactory academic standing.

Application should be made to Awards Officer anytime in November.

Grants of up to $200 may be made from the following funds, which are described in the preceding bursary sections:

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 Wellington Square Purple-Spur 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 Awards Officer.

DECISIONS ON APPLICATIONS

Decisions on applications for restricted bursaries, unrestricted bursaries and grants are promulgated by letter on the first day following the Christmas vacation.

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 Awards Officer before February 1.

Canada Student Loans: Up to a *maximum* of $1,000 a year depending on the applicant's financial need. Detailed information is available in a brochure which may be obtained from the Awards Office, banks and other institutions.

University Loan Funds: Up to $400. Available to full-time students in any year of any programme.

Commercial Bank Student Loans: Several Canadian banks make money available to students for educational purposes. Interested students should consult the bank of their choice.

Academic Regulations

RESIDENCE REQUIREMENT FOR A DEGREE

A candidate for a degree must have attended intramural classes of this University for two academic years, or for one academic year and two summer sessions, or for five summer sessions. This requirement may be reduced to one year of intramural classes, or three summer sessions, if other courses for degree have been obtained through attendance at Extension classes of this University, or by transfer of credits from an approved college or university. A minimum of five senior courses must be taken at this University.

CLASS AND LABORATORY ATTENDANCE

Freshmen and sophomore students are required to attend eighty percent 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 College. 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 examinations in that course.

CREDIT FOR FOREIGN LANGUAGE BEGUN AT UNIVERSITY

When a student begins a foreign language in the University, one course numbered 1 to 9 may be credited towards a general programme degree. To gain credit for an additional course numbered 1 to 9, the student must complete successfully a second course in the same subject. This rule applies only to the student who meets the normal admission requirements.

EXTRA COURSES

Permission to take an extra course must be obtained in writing from the Dean or his designate either prior to registration or at the time of registration. Only students with over-all B average in the previous year's work may apply.

ADDING AND DROPPING COURSES

Following registration, a student may add a course only with the joint approval of the Dean of the College and the Head of the Department of his Honours or Major programme. A course cannot be added after October 15.

A student may drop a course only with the joint approval of the Dean of the College or his designate, and the Head of the Department of his Honours or Major Programme. A course cannot be dropped without penalty after November 15.

SUBSTITUTING COURSES

A student may substitute a course only with the consent of the Head of the Department of his Honours or Major Programme and cannot do so without penalty after October 15. All substitutions must conform to the basic requirements as laid down by the Senate.

UNSATISFACTORY KNOWLEDGE OF ENGLISH

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

Examinations

REGULAR

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.

SUPPLEMENTAL

Supplemental Examinations are conducted in August, for students conditioned in the regular examinations, and in January for students of the Summer School (subject to Regulations concerning Supplementals, see below).

All supplemental examinations must be written at the University of Western Ontario or at another Canadian university more than 150 miles from London. This rule does not apply to students serving in the Armed Forces.

SPECIAL

A special examination is any examination other than the regular or supplemental examination and it may be offered only with consent of the Department concerned and with the permission of the Academic Standing Committee.

A Special Examination may be written only at this University or at one of its Affiliated Colleges.

COMPREHENSIVE EXAMINATIONS

Various departments of the Faculty of Arts and Science require comprehensive examinations for Honours students.

These examinations, partly oral and partly written, are given at the end of the senior year to cover the broad aspects of the student's Honours Programme and are additional to the course examinations.

DEFERRED EXAMINATIONS

Permission to defer an examination is given by the Academic Standing Committee only on compassionate grounds. A student must petition the Academic Standing Committee for this privilege. A deferred examination is written normally during the supplemental examination period. No supplementals will be allowed for a student who is permitted to defer examinations. No examination fee is charged for deferred examinations.

A Deferred Examination may be written only at this University or at one of its Affiliated Colleges.

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.

He may, with the approval of the Head of the Department concerned, petition the Academic Standing Committee for permission to write a special examination. Petitions will be entertained only when they are submitted on compassionate grounds with supporting documents.

AEGROTAT STANDING IN THE GENERAL PROGRAMMES

Aegrotat Standing (academic standing without examination) is given only to students in the third and final year of the General Programmes. On compassionate grounds, and with supporting documents, a student may petition the Academic Standing Committee for:

(a) the privilege of writing deferred examinations
or
(b) Aegrotat Standing which would be 50% in non-major courses and 60% in major courses.

ELIGIBILITY FOR SUPPLEMENTAL EXAMINATIONS

A student is allowed two supplemental examinations in his first year and only one in each succeeding year. A student who is granted a supplemental privilege must write the supplemental the first time it is offered. A supplemental thus missed is recorded as a failure.

To be eligible for a supplemental examination a student must:

In the General Programme:

Pass two-thirds of his year's work.

Obtain grade E (40% to 49%) in the course in which a supplemental may be written.

Formally apply to the Registrar for the privilege of taking the examination.

In an Honours Programme:

Pass two-thirds of his year's work.

Obtain grade E or V (40% to 49%) in the course in which a supplemental may be written.

Obtain the consent of the Department in which he takes his honours work.

Formally apply to the Registrar for the privilege of taking the examination.

EXAMINATION TIMETABLE

Each course offered in the Faculty of Arts and Science has an examination code number. This will be found in the course description following the designation of the number of class hours. (e.g. 3 hours—1).

Final examinations in 1967 will be held according to the following schedule:

First Week		Second Week		Third Week	
Monday	9 a.m. —13	Monday	9 a.m. —25	Monday	9 a.m. — 1
	2 p.m. —14		2 p.m. —26		2 p.m. — 2
Tuesday	9 a.m. —15	Tuesday	9 a.m. —27	Tuesday	9 a.m. — 3
	2 p.m. —16		2 p.m. —28		2 p.m. — 4
Wednesday	9 a.m. —17	Wednesday	9 a.m. —29	Wednesday	9 a.m. — 5
	2 p.m. —18		2 p.m. —30		2 p.m. — 6
Thursday	9 a.m. —19	Thursday	9 a.m. —31	Thursday	9 a.m. — 7
	2 p.m. —20		2 p.m. —32		2 p.m. — 8
Friday	9 a.m. —21	Friday	9 a.m. —33	Friday	9 a.m. — 9
	2 p.m. —22		2 p.m. —34		2 p.m. —10
Saturday	9 a.m. —23	Saturday	9 a.m. —35	Saturday	9 a.m. —11
	2 p.m. —24		2 p.m. —36		2 p.m. —12

Grades

TABLE OF GRADES

The marking system of examinations allows for six grades as follows:

A	indicating	a	grade	of	75	percent	or	higher	
B	"	"	"	"	66	"	to	74	percent inclusive
C	"	"	"	"	60	"	to	65	" "
D	"	"	"	"	50	"	to	59	" "
E	"	"	"	"	40	"	to	49	" "
F	"	"	"	"	less than 40 percent.				

ACADEMIC AVERAGE

The academic average is compiled from the marks for all courses, taken in an academic year, in which a mark of 40% or higher has been attained. No average will be compiled for a student who has failed a course.

SUPPLEMENTAL EXAMINATION GRADES

A student will receive either a "pass" or "failed" grade for a course after a supplemental examination. A "pass" will give the student credit for the course but will not change his average for the year.

GENERAL PROGRAMME

For students in General Programmes with majors:

The passing grade in all courses is 50 percent, but a student must obtain at least 60 percent in each course of his major subject in order to retain his standing as a major in that subject.

For students in General Programmes with Options:

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

HONOURS PROGRAMMES

A student will be automatically accepted if he has an average of at least 66% with no grade of less than 60% 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 65% in the principal courses of his Honours Programme and a passing grade in each of the subsidiary courses, may be accepted by special permission of the Department(s) concerned.

A student who passes *all* courses in his Honours Programme in the Third Year but who has failed to obtain the requisite average for honours (60%) *must* meet the requirements of the General Programme to qualify for the General B.A. degree.

A candidate in an Honours Programme for the degree of Bachelor of Arts who has obtained 50% in each course of his final year, but has failed to obtain the requisite average for honours (60%), may be awarded a B.A. degree without designation. The candidate may write a subsequent examination for an Honours degree.

A candidate in an Honours Programme for the degree of Bachelor of Science who has obtained 50% in each course of his final year, but has failed to obtain the requisite average for honours (60%), may, on the recommendation of the Academic Standing Committee, be awarded a Bachelor of Science degree without designation. The candidate may write a subsequent examination for an Honours degree.

TERM WORK

A student may be debarred from writing the final examination because of failure to maintain satisfactory academic standing throughout the year.

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

FAILED YEAR

A failed year is:

(a) A normal year in which the student fails to pass at the Spring examinations two-thirds of the courses in which he is registered after the last date for change of programme;

(b) A repeated year in which, regardless of the programme taken, the student fails to pass all courses at the Spring examinations.

Summer School and/or supplemental privileges are not granted to a student who has failed his year.

A first-year student who has failed his year may apply to the Admissions Committee for permission to re-enter the first year.

If a student fails in his second or third year and wishes to repeat his year, he may, upon application to the Admissions Committee, be given permission to re-enter the University immediately, or be requested to stay out a year, or be required to withdraw.

A student who has failed his year and is given permission to repeat his year's work shall not be allowed to hold credit for any course of that failed year. Courses passed with a minimum of 66% in a failed year will not be repeated but the student shall substitute for such a course another course of equivalent weight approved by his Dean or his designate. When the course passed with 66% or higher standing is a required course in a student's programme, he will be credited with meeting this requirement when he has successfully completed the courses substituted for it in his repeated year.

FAILED COURSES

If a student is carrying a first year course into his second year, regardless of the time-table, he must take that course and not carry it into the third year.

Only one failed course may be carried into the second or third year.

A student who is permitted by the Admissions Committee to enter a programme with one condition must remove that condition by September 1st of the following year.

A copy of the Senate regulations governing appeals by students may be consulted in the Registrar's Office.

A student who wishes to petition the Academic Standing Committee for special consideration on medical, compassionate or other grounds, should submit his petition in writing to the secretary of the Committee (the Registrar).

Teachers' Courses and Certificates

PROGRAMMES FOR TEACHERS:

The Faculty of Arts and Science through the Summer School and Extension Department offers General Programme courses leading to a General B.A. degree for students unable to attend the intramural winter sessions. These subjects are available in three ways: (1) at the Summer Session in London, (2) during the Winter Session in London and 10 other centres in Western Ontario and (3) by correspondence.

HIGH SCHOOL ASSISTANTS' CERTIFICATES:

Type B: The academic standing for admission to the course in the Ontario College of Education leading to a High School Assistant's Certificate, Type B, is a degree in Arts and Science from a British University, based upon programmes approved by the Minister of Education.

The University programme should include a minimum of seven full University courses in at least two subjects that provide background for Secondary School teaching.

Type A: Subject to the conditions specified below, an Honours Degree in Arts or in Science (66 per cent) is the academic standing required for admission to the courses leading to High School Assistant's Certificate, Type A, in Biology, Chemistry, Classics, Economics and Sociology, English, English and French, English and Russian, English and German, English and History, English and Latin, French and German, French and Russian, French and Spanish, French Language and Literature, Geography, Geology, History, Latin and French, Latin and Greek, Mathematics, Mathematics and Physics, Music, Physical Education, Physics, Political Science.

For the University of Western Ontario, the courses specified above shall be the corresponding Honours Programmes as defined in the current Calendar of the Faculty of Arts and Science, and shall extend over four years from Grade 13.

Candidates shall attend for at least the complete third and fourth academic years.

The Minister of Education shall have authority to deal with any case not already covered. The University shall submit to the Minister a recommendation on any case whose merits justify special consideration.

Graduates in General Programmes who wish to obtain Type A standing should submit formal transcripts of their University records to the Dean, Althouse College of Education, London.

PUBLIC SCHOOL INSPECTORS' CERTIFICATES

By agreement with the Minister of Education the work described below satisfies the academic requirements for a Public School Inspector's Certificate:

An Honours Degree in Arts or Science in accordance with the present agreement prescribed for Type A qualifications; or a General Programme Degree in Arts and Science with a standing of 66 per cent on the work of the final year of the programme; and including English in any three of the first, second, third and fourth year courses of study. For professional requirements, candidates should consult the Ontario Department of Education, Toronto 5, Ontario.

Programmes

The Faculty of Arts and Science offers:

Three-year general programme leading to a B.A. degree with concentration in a major subject.

Four-year honours programmes leading to a B.A. or B.Sc. or Mus.B. degree.

Programmes leading to admission to other Faculties and Schools; Business, two years; Dentistry, two years; Law, two years; Medicine, two years.

First Year students will register in one of the areas of the

General Programme:
Humanities, Social Sciences, Natural Sciences, Secretarial Science, Home Economics, Music

Pre-Business

Degree Programme in Music

Availability of Options: The student's choice of options within any academic programme is subject to the constraints both of the lecture and final examination timetables.

Students intending to enter Dentistry or Medicine should register in the College of Science (Natural Sciences). For further guidance see the Health Sciences calendars.

COURSE-NUMBERING SYSTEM

Courses 1-9 are equivalent to corresponding subjects of Secondary School Grade 12 (Ontario).

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

Courses 20-29 are First year General Courses.

Courses 30-39 are Second year General Courses.

Courses 40-49 are Third year General Courses.

Courses 200-299 are Second year Honours Courses.

Courses 300-399 are Third year Honours Courses.

Courses 400-499 are Fourth year Honours Courses.

A course-number followed by "a" is offered in the first term only; followed by "b" in the second term only; followed by "x" in an affiliated college only.

A half course is one which meets less than two hours a week throughout the academic year or less 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.

General Programme

GENERAL REGULATIONS FOR B.A. DEGREE

The courses are grouped into four divisions: see page 43.

Division A — The Humanities

Division B — The Social Sciences

Division C — The Natural Sciences including Astronomy, Computer Science and Mathematics

Division D — Other Subjects.

For a General Programme B.A. a student must:

Pass sixteen courses, which must include: one laboratory course from Division C, English 20, one other language at the 20 level.

Select, before he enters the 2nd year, a major subject consisting of four senior courses (numbered 30 or higher) in a particular subject, e.g., English, Psychology, Chemistry, etc.

Obtain a minimum of C (60%) in each course of the major subject and a minimum passing grade of D (50%) in other courses.

No more than six courses in any one subject may be counted toward a degree.

No more than two courses from Division D may be counted toward a degree.

Out of the 10 courses required in the last two years of the programme, at least seven must be senior courses.

The purpose of the First Year General Programme is to offer one year of basic general education and to postpone the selection of a specific programme until the beginning of the second year. Thus the student can make a final decision as to his future programme 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 Programme, the student is eligible to register in the second year of the General Programme, or the second year of one of the Honours Programmes.

The General Programme requires two more years for completion and leads to the B.A. degree. Honours Programmes require three more years and lead to an Honours B.A. or an Honours B.Sc. degree, and permit specialization in one or two subjects.

GENERAL PROGRAMME — Humanities and Social Sciences

This programme leads to Honours Programmes in the Humanities, Social Sciences, Mathematics, Journalism, Physical and Health Education, and fulfills admission requirements for Faculty of Law.

Requirements for Admission

Grade 13 standing in English (2 credits), another language (2 credits), language or mathematics (2 credits), other subjects (3 credits). Total — 9 credits. Minimum average — 60%.

GENERAL PROGRAMME — FIRST YEAR

HUMANITIES
(6 courses)

(1)
(2) } 3 courses from HUMANITIES
(3)
(4) 1 course from SOCIAL SCIENCES
(5) 1 course from NATURAL SCIENCES II
(6) 1 course from HUMANITIES, SOCIAL SCIENCES, NATURAL SCIENCES I, NATURAL SCIENCES II, ELECTIVES.

SOCIAL SCIENCES
(6 courses)

(1)
(2) } 3 courses from SOCIAL SCIENCES
(3)
(4) 1 course from HUMANITIES
(5) 1 course from NATURAL SCIENCES II
(6) 1 course from HUMANITIES, SOCIAL SCIENCES, NATURAL SCIENCES I, NATURAL SCIENCES II, ELECTIVES.

NATURAL SCIENCES
(6 courses)

(1)
(2) } 3 courses from NATURAL SCIENCES I
(3)
(4) 1 course from HUMANITIES
(5) 1 course from SOCIAL SCIENCES
(6) 1 course from NATURAL SCIENCES I, NATURAL SCIENCES II, HUMANITIES, SOCIAL SCIENCES, ELECTIVES.

PREREQUISITES

HUMANITIES

Courses	Prerequisites
English 20	Grade 13
French 20	Grade 13
Spanish 20	Grade 13
German 20	Grade 13
Italian 20	Grade 13
Russian 20	Grade 13
Latin 20	Grade 13
Greek 20	Grade 13
Hebrew 20	Grade 13
Philosophy 20	None
Music 20 or 20y	None

SOCIAL SCIENCES

Courses	Prerequisites
Economics 20	*None
Geography 20	*None
History 20	None
Politics 20	None
Psychology 20	None
Sociology 20	None

NATURAL SCIENCES I

Courses	Prerequisites
Astronomy 20	*None
Biology 22	None
Botany 20	None
Zoology 20	None
Geology 20	None
Chemistry 20 or 22	Grade 13
Physics 20 or 22	Grade 13
Mathematics 20	Grade 13
Mathematics 24	Grade 13

NATURAL SCIENCES II

Courses	Prerequisites
Astronomy 21	None
Biology 21	None
Chemistry 21	None
Physics 21	None
Geology 21	None
Mathematics 20	Grade 13
Mathematics 24	Grade 13

ELECTIVES

Courses	Prerequisites
Journalism 20, 21	None
Physical Ed. 20	None
Business 20	None
Rel. Knowledge 20X	None
Greek 1	None
Greek 10	Grade 12
Latin 1	None
Latin 10	Grade 12
German 1	None
German 10	Grade 12
Italian 1	None
Italian 10	Grade 12
Spanish 1	None
Spanish 10	Grade 12
Russian 1	None
Russian 10	Grade 12
Hebrew 1	None
Hebrew 10	Grade 12

*Grade 13 Mathematics recommended.

GENERAL PROGRAMME — Natural Sciences

This programme leads to Honours Programmes in Computer Science, Mathematics, the Natural Sciences, some of the Social Sciences and fulfills the first year requirements for admission to the Faculties of Dentistry and Medicine.

Requirements for Admission

Grade 13 standing in English (2 credits), another language (2 credits), Algebra (1 credit), Geometry (1 credit), Trigonometry (1 credit), Chemistry (1 credit), Physics (1 credit). Total — 9 credits. Minimum average — 60%. If student plans to specialize in Anatomy, Bacteriology and Immunology, Biochemistry, Biology, Biophysics or Physiology or apply for admission to the Faculties of Dentistry or Medicine, he may substitute Biology, Botany or Zoology for Trigonometry and Statics.

GENERAL PROGRAMME — First Year

See page 41.

GENERAL PROGRAMME — Second Year

Two courses in major subject.

Three courses from at least two Divisions (See pages 43 and 44), with no more than one from the Division of the Major and no more than one from Division D.

GENERAL PROGRAMME — Third Year

Two courses in major subject.

Three courses from at least two Divisions (See pages 43 and 44), with no more than one from the Division of the Major. One Division D course may be included unless two Division D courses have been completed in Years I and II.

THE DIVISIONS

DIVISION A (The Humanities)

Junior Courses

(numbered 1-29)
Classics: Greek 1, 10, 20
Latin 1, 10, 20
English 20
German 1, 10, 20, 22; 5, 35
Hebrew 1 - 10 (or 1 and 10), 20
Music 10, 20, 20y
Philosophy 20
Romance Languages:
French 10, 20, 22
Italian 1, 10, 20
Spanish 1, 10, 20, 22
Russian 1, 10, 20, 22

Senior Courses

(numbered 30-499)
Classics: Greek 30, 40
Latin 30, 34, 40, 44
English 32, 34, 36, 37, 38, 44, 45, 49
German 30, 40, 42, 44
Hebrew 30
Music 30, 30y, 40
Philosophy 30, 31, 32, 34, 35, 36, 42, 43, 44, 47, 48, etc. and in affiliated colleges 30x-36x, 42x-47x
Romance Languages:
French 30, 31, 34, 36, 38, 41, 45
Italian 30, 40
Spanish 30, 31, 35, 40, 41, 48
Russian 30, 35, 37, 40, 45, 281, 337, 391

DIVISION B (The Social Sciences)

Junior Courses

(number 1-29)
Economics 20
Geography 20
History 20
Political Science 20
Psychology 20, 21
Sociology 20

Senior Courses

(numbered 30-499)
Economics 30, 31, 32, 33, 35, 36, 37, 38, 39
Geography 32, 39, 45, 46, other courses with permission
History, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 46
Political Science 31, 37, 42, 44, 48, 350, other courses with permission
Psychology 31, 32, 33, 36, 39, 41, 42, 46, 48, 49
Sociology 30, 31, 32, 34, 35, 36, 38, 41, 45

DIVISION C (The Natural Sciences, including Astronomy, Computer Science and Mathematics)

Junior Courses

(numbered 1-29)
Astronomy 20, 21
Biology 21, 22
Botany 20
Chemistry 20, 21 ,22
Geology 20, 21
Geophysics 21
*Mathematics 20, 24
Physics 20, 21, 22
Zoology 20

Senior Courses

(numbered 30-499)
Botany 33, 35, 36, 37, 42
Chemistry 32, 33, 44, 46
Computer Science 30, 31, 33, 34, 41, 42
Mathematics 30, 31, 32, 34, 35, 40
Physics 34, 35, 38, 39, 43, 46
Zoology 30, 34, 37, 41, 43, 44, 45, 47

*Does not satisfy requirements as a laboratory course in the General Programme.

DIVISION D (Other Subjects)

These subjects may not be used as major subjects and not more than two courses may be counted toward a General Programme degree.

Junior Courses

(numbered 1-29)
Business Administration 20
Engineering 21
Home Economics 23, 25
Journalism 20, 21
Military Studies
Physical Education 20
Religious Knowledge (in the affiliated colleges) 10x, 20x, 21x
Secretarial Science 28, 29

Senior Courses

(numbered 30-499)
Business Administration 250
Speech 39, Dramatics 46
Journalism courses with permission
Physical Education 31
Religious Knowledge (in the affiliated colleges) 30x, 31x, 32x, 37x, 40x, 41x, 42x, 44x, 47x
Secretarial Science 30, 36, 37, 38, 39

Students interested in 'x' courses offered in the affiliated colleges should refer to the calendars of the affiliated colleges for further information.

GENERAL PROGRAMME — SECRETARIAL SCIENCE

Requirements for Admission: Grade 13 standing (with an average of 60%) in English, another language (French preferred), Latin or Mathematics (two credits). and three credits from Biology, Geography, History, Music, Physics, Chemistry, another language, another mathematics.

The Department of Education of Ontario accepts a degree in this programme as the academic qualification for High School Assistant's Certificate, Type B, for teaching in the elementary or secondary schools of Ontario.

Enrolment is limited and students are admitted on the quality of their secondary school certificates.

Students must obtain credit for all of the first year before beginning any second year work.

First Year

Business 20
English 20
Natural Science 21
One of: French 20; German 10, 20; Spanish 20
Secretarial Science 28, 29

Second Year

Economics 20
A Senior English
Philosophy 30 or Politics 20 or Psychology 21
One of: French 31; German 20, 30; Spanish 31
Secretarial Science 30, 37, 38, 39

Third Year

One of: English 36, 38, 44, 45, 49
History 31
Secretarial Science 47, 48, 49
One of: French 43; German 30, 40; Spanish 30, 40, 41

GENERAL PROGRAMME — HOME ECONOMICS

Requirements for Admission: Grade 13 standing (with an average of 60%) in English, another language, a language or Mathematics (any two) and three credits of which at least one, preferably two, must be Science. (Chemistry and Biology preferred.)

This programme, which leads to the B.A. degree in Home Economics, is offered jointly by University College and Brescia College. University College students in the course will take all their classes at University College except in Home Economics; Brescia College students will take all their science courses in College of Science. Home Economics and Chemistry courses must be taken in the order and year designated.

On graduation, students may take dietetic interne training in institutions approved by the Canadian Dietetic Association for professional standing. Students who have obtained 60% or more in the work of the final year, may attend College of Education and obtain the High School Assistant's Certificate, Type B, for teaching in the Elementary and Secondary schools of Ontario.

First Year

Biology 21
Chemistry 21
English 20
French 20 or language at 20 level
Home Economics 23x, 25x
Psychology 20 or Economics 20

Second Year

Botany 36
Chemistry 33
Senior English course
Home Economics 30x, 31x, 32x, 33x

Third Year

Chemistry 46
Home Economics 40x, 41x, 42x, 45x, 48x

GENERAL PROGRAMME — MUSIC

This three year general music programme is offered at the College of Music. A student may major in piano, voice, organ, or one of the orchestral instruments. All students must reach the minimum of the Associate level in performance in their major practical music subject before graduation.

Requirements for Admission:

Academic requirements: Grade 13 standing (or the equivalent) with an average of 60% in English, another language and three other credits (exclusive of music).

Musical requirements: Satisfactory results in an audition to be held at the College of Music before July 15th or between August 20th and September 1st, by appointment.

And *either of the following:*

(a) Grade VIII piano; Grade II Theory; Grade III Harmony

(b) Grade VIII voice, organ or orchestral instrument; Grade II Theory; Grade III Harmony; Grade VI piano. (Students may be admitted conditioned in piano but must clear this requirement before the end of second year.)

Grade 13 Music of the Ontario Department of Education may be substituted for Grade II Theory and Grade III Harmony in either of the above categories.

First Year

Music 21, 21A (except for piano majors), 24, 25, 26, 27

English 20

One of: French 20; German 1, 10, 20

One of: History 20; Mathematics 20; Philosophy 20; Psychology 20; a second language

Second Year

Music 31, 31A (except for piano majors), 35, 36, 37, 38

English 32

One of: French 30, 31; German 10, 20, 30

One of: History 36; a senior course in mathematics; Philosophy 30; Psychology 21, 36; French; German; another language

Third Year

Music 41, 45, 47, 48

One music elective approved by the College of Music

Three courses in Arts or Science

PRE-BUSINESS

Requirements for Admission: Grade 13 standing in English, Mathematics (two credits), one other language, and three other credits with an average of 60%.

First Year

Business 20

Economics 20

English 20

French 20 or Foreign Language 20

Mathematics 20

Psychology 20

Second Year

Business 250

A Senior English

One of: History 20, 31, 33, 36; Philosophy 30; Politics 20

One of: Biology 21; Chemistry 21; Geology 21; Physics 21

Two courses in Arts and Sciences leading to fulfilling the concentration requirement, the option requirement, or both. See Announcement of the School of Business Administration.

Admission to third year is granted by the School of Business Administration on the courses of the first two years with an overall average of 60%.

DENTISTRY:

For guidance see **Faculty of Dentistry General Information Brochure 1966-1967.**

ENGINEERING SCIENCE:

For guidance see **Faculty of Engineering Science Bulletin 1966-67.**

LAW:

For guidance see **Faculty of Law Calendar 1966-1967.**

MEDICINE:

For guidance see **Faculty of Medicine Announcement 1966-1967.**

NURSING:

For guidance see **School of Nursing Calendar 1966-1967.**

Honours Programmes

The first year of an Honours Programme is First Year General Programme (Humanities, Social Sciences, Natural Sciences).

The first year of an Honours Programme in Chemistry or Physics may also be Engineering Science I.

The length of an Honours Programme is four years past Grade 13 or equivalent standing.

The Honours Programmes in Anatomy, Bacteriology and Immunology, Biochemistry, Biology, Biophysics, Chemistry, Geology, Geophysics, Physics, Physics: Major-Minor, Physiology, Physiology and Pharmacology, lead to an Honours Bachelor of Science degree (B.Sc.). All other Honours Programmes lead to an Honours Bachelor of Arts degree (B.A.).

The Department of Education accepts a degree in an Honours Programme as the academic qualification for a High School Assistant's Certificate, Type B, for teaching in the elementary and secondary schools of Ontario. Some Honours Programmes lead to Type A Certificates for High School Specialists, and these are indicated at the top of the respective programmes.

A student expecting to enter an Honours Programme should consult that programme before selecting his options in General Programme.

In all years of all Honours Programmes options must be approved by all departments concerned.

ADMISSION TO AND PROGRESS IN HONOURS PROGRAMMES

A student will be automatically accepted if he has an average of at least 66% with no grade of less than 60% 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 65% in the **principal courses** of his Honours Programme and a passing grade in each of the subsidiary courses, may be accepted by special permission of the Department(s) concerned.

ANATOMY

Requirements for Admission: The admission requirements are determined by the prerequisites of the programme selected for the Second Year (see below).

Second Year

One of:

(a) **Second Year of Programme in Honours Biology**
For prerequisite and courses see page 53.

(b) **Second Year of Programme in Honours Chemistry**
For prerequisite and courses see page 57.

(c) **Second Year of other Honours Programmes**
With permission of the Department of Anatomy, a student may petition the Vice-President (Arts and Science) for recognition of the Second Year of such other Honours Programmes as permit inclusion of a course in Organic Chemistry.

Third Year

Either

Third Year Anatomy

Principal Courses

Anatomy 300

Two of: Bacteriology 300; Biochemistry 300; Biophysics 300; Physiology 300

One of: Botany 255; Physiology and Pharmacology 301; Zoology 255, 270, 352

Subsidiary Courses

One of: French 20; German 5; Russian 1; Spanish 1

One of: Economics 20; Senior Pass Course in English; Mathematics 20, 24, 277, 377; Philosophy 20, 31, 34; Politics 20; Psychology 21; Sociology 20

Mathematics 20 or 24 is required for students who have not previously taken a university course in Mathematics. Students who have completed a Social Sciences or Humanities Option in Second Year may, with permission of the Department of Anatomy, substitute another course in Honours Science.

Or

First Year, Faculty of Medicine

Students planning to proceed to the degree of M.D. after completing the degree of B.Sc. may wish to take the First Year of the Faculty of Medicine as the Third Year of this programme. Such students must obtain acceptance from the Admissions Committee, Faculty of Medicine, and written approval of the Vice-President (Arts and Science) and the Vice-President (Health Sciences).

Fourth Year

(to be offered in 1967-68 and subsequent years)

Principal Courses

Anatomy 440a, 440b, 480, 481

Two of: Anatomy 461-468 (as available)

One of: Bacteriology 460-471; Biochemistry 460-468; Biophysics 460-463b; Botany 454; Pharmacology 460, 461b, 467; Physiology 460-469; Zoology 454, 456, 470

Subsidiary Courses

One of: French 31; German 35; Russian 35; Spanish 45

ASTRONOMY

Requirements for Admission: First Year General Programme (Natural Sciences) with Astronomy 20, Mathematics 24 and Physics 20, as principal courses. For grades required for admission and progression see page 48.

Students entering or continuing in the Honours Astronomy Programme are required to consult with the Department for approval of their programmes.

Honours Programmes

50

This Programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Mathematics and Physics, provided that Algebra, Geometry, Trigonometry and Statics have been completed in Grade 13.

Second Year

Principal Courses	Subsidiary Course
Astronomy 220	German 5 or Russian 1
Mathematics 230, 256	
Physics 250, 254, 255, 259	

Third Year

Principal Courses	Subsidiary Course
Astronomy 320	German 35 or Russian 35
Mathematics 378P	
Physics 350, 357	
One additional Mathematics or Physics course at the 300 or 400 level	

Fourth Year

Principal Courses	Subsidiary Course
Astronomy 420	*One course from Division A or B*
Physics 453, 457	
Two additional courses at the 300 or 400 level, from Astronomy, Mathematics or Physics	

BACTERIOLOGY AND IMMUNOLOGY

The admission requirements are determined by the prerequisites of the Programme selected for the Second Year.

Second Year

Either

(a) **Second Year of Programme in Honours Biology**
For prerequisites and courses see page 53.

Or

(b) **Second Year of other Honours Programmes**
With permission of the Department of Bacteriology and Immunology, a student who has completed First Year General Programme (Humanities or Social Sciences), may petition the Vice-President (Arts and Science) for recognition of the Second Year of such other Honours Programmes as permit inclusion of a course in Organic Chemistry.

Third Year

Either

Third Year Bacteriology

Principal Courses

Bacteriology 300

Two of: Anatomy 300; Biochemistry 300; Biophysics 300; Physiology 300

One of: Botany 342, 353; Physiology and Pharmacology 301; Chemistry 353, 354; Zoology 370

Subsidiary Courses

One of: French 20; German 5; Russian 1; Spanish 1

One of: Economics 20, Senior Pass Course in English; Mathematics 20, 24, 277; Philosophy 20, 31, 34; Politics 20; Psychology 21; Sociology 20

Mathematics 20 or 24 is required for students who have not previously taken a university course in Mathematics. Students who have completed a Social Sciences or Humanities Option in Second Year may, with permission of the Department of Bacteriology and Immunology, substitute another course in Honours Science.

Or

First Year, Faculty of Medicine

Students planning to proceed to the degree of M.D. after completing the degree of B.Sc. may wish to take the First Year of the Faculty of Medicine as the Third Year of this Programme. Such students must obtain acceptance from the Admissions Committee of the Faculty of Medicine, and written approval of the Vice-President (Arts and Science) and the Vice-President (Health Sciences).

Students who wish to enter the Fourth Year of this Programme after completion of First Year Medicine may be required to show evidence of having some previous experience of this field, either as a completed course or as practical experience, and they may be required to pass an appropriate examination in the first week of the Fourth Year.

Fourth Year

(to be offered in 1967-68 and subsequent years)

Principal Courses

Bacteriology 440a, 440b, 460, 480, 481

Two of Bacteriology 461-471 (as available)

Two of: Anatomy 461-468; Biochemistry 460-468; Biophysics 400-463b; Botany 460a and 461b; Chemistry 453, 454; Pharmacology 460-463; Physiology 460-469; Zoology 471

Subsidiary Courses

One of: French 31; German 35; Russian 35; Spanish 45

BIOCHEMISTRY

Requirements for Admission:

The admission requirements are determined by the prerequisites of the Programme selected for the Second Year.

Second Year

One of:

(a) **Second Year of Programme in Honours Biology**

For prerequisites and courses see page 53.

(b) **Second Year of Programme in Honours Chemistry**

For prerequisites and courses see page 57.

(c) **Second Year of other Honours Programmes**

With permission of the Department of Biochemistry, a student may petition the Vice-President (Arts and Science) for recognition of the Second Year of such other Honours Programmes as permit inclusion of a course in Organic Chemistry.

Third Year

Either

Third Year Biochemistry

Principal Courses

Biochemistry 300

Two of: Anatomy 300; Bacteriology 300; Biophysics 300; Physiology 300

One of: Botany 255; Chemistry 351, 353, 354, 374; Physiology and Pharmacology 301; Zoology 255

Subsidiary Courses

One of: French 20; German 5; Russian 1; Spanish 1

One of: Economics 20; Senior Pass Course in English; Mathematics 20, 24, 277, 377; Philosophy 20, 31, 34; Politics 20; Psychology 21; Sociology 20

Mathematics 20 or 24 is required for students who have not previously taken a university course in Mathematics. Students who have completed a Social Sciences or Humanities Option in Second Year may, with permission of the Department of Biochemistry, substitute another course in Honours Science.

Or

First Year, Faculty of Medicine

Students planning to proceed to the degree of M.D. after completing the degree of B.Sc. may wish to take the First Year of the Faculty of Medicine as the Third Year of this Programme. Such students must obtain acceptance from the Admissions Committee, Faculty of Medicine and written approval from the Vice-President (Arts and Science) and the Vice-President (Health Sciences).

Fourth Year
(to be offered in 1967-68 and subsequent years)

Principal Courses

Biochemistry 440a, 440b, 480, 481
Two of: Biochemistry 460-468 (as available)
One of: Anatomy 461-468; Bacteriology 460-471; Biophysics 460-463b; Botany 255; Chemistry 451, 453, 454, 474; Pharmacology 460-463; Physiology 460-469; Zoology 255; any Third Year Principal Course not previously taken.

Subsidiary Courses

One of: French 31; German 35, 45; Russian 35; Spanish 45

BIOLOGY

Requirements for Admission: First Year General Programme (Natural Sciences) including either Biology 22 **or** both Botany 20 and Zoology 20 as principal courses. One of the following two programmes must be taken:

Biology 22
Chemistry 20 or 22
Physics 20, 21 or 22
One course from Division A
One course from Division B
One of:
Mathematics 20 or 24
Geology 20
Course from Division A, B or D

OR Botany 20
Zoology 20
Chemistry 22
Physics 21 or 22
One course from Division A
One course from Division B

Physics 20 or 22 is the normal Physics prerequisite for entrance into Second Year Honours Biology but Physics 21 will be accepted for those lacking Grade 13 Physics. For Chemistry 20 and Physics 20, Mathematics 24 is required.

For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as Academic qualification for the High School Assistant's Certificate, Type A, Biology.

Second Year

Principal Courses

Botany 250
Botany or Zoology 255
Zoology 270

Subsidiary Courses

Chemistry 203, 204
One of: Mathematics 20, 24; Geology 20; Physics 204
One course from Division A or B

All students entering Third and Fourth Years are required to participate in the Field Courses conducted by their respective Departments.

All Third and Fourth year students must consult the head of the Department of Botany or the head of the Department of Zoology before registering in any of the courses prescribed for third and fourth years.

Third Year
(a) Botany Option

Principal Courses	Subsidiary Courses
Botany 300, 342, 351, 353, 357	Chemistry 406 or an Honours Course other than Botany from Division C One of: French 20; German 5; Russian 1

(b) Zoology Option

Principal Courses	Subsidiary Course
Zoology 352, 354, 370, 454 Chemistry 406 One of: Zoology 453, 456, 460, 470, 471, 473; Botany 357, 452, 453, 454, 466, 471; Geology 20, 363, 367; Mathematics 35	One of: French 20; German 5; Russian 1

Fourth Year
(a) Botany Option

Principal Courses	Subsidiary Courses
Botany 499 Four of: Botany 442, 443, 452, 453, 454, 455, 457, 459, 460, 461, 466, 471	One course other than Botany from Division C One of: French 31; German 35; Russian 35

(b) Zoology Option

Either

Principal Courses	Subsidiary Course
Zoology 437 Five of: Zoology 453, 456, 460, 465, 470, 471, 473, 480	One of: French 31; German 35; Russian 35

Or

Principal Courses	Subsidiary Course
Zoology 437 Four of the above Zoology courses One of: Botany 357, 452, 453, 454, 466, 471; Geology 20, 363, 367; Mathematics 35; Chemistry 402	One of: French 31; German 35; Russian 35

BIOPHYSICS

Requirements for Admission: The admission requirements are determined by the prerequisites of the programme selected for the Second Year, except that Mathematics 24 and Physics 20 should have been included.

Second Year

One of:

(a) **Second Year of Programme in Honours Physics**
For prerequisites and courses see page 87.

(b) **Second Year of Programme in Honours Biology**
For prerequisites and courses see page 53.

(c) **Second Year of Programme in Honours Chemistry**
For prerequisites and courses see page 57.

(d) **Second Year of other Honours Programmes**
With permission of the Department of Biophysics, a student may petition the Vice-President (Arts and Science) for recognition of the Second Year of such other Honours Programmes as permit inclusion of a course in Organic Chemistry.

Third Year

Either

Third Year Biophysics

Principal Courses

Biophysics 300
Anatomy 300
One of: Physiology 300; Bacteriology 300; Biochemistry 300; Physiology and Pharmacology 301
One of: Botany 352; Physics 366; Physics 250; Zoology 352; Chemistry 204

Subsidiary Courses

One of: French 20; German 5; Russian 1; Spanish 1; Chemistry 203
One of: Economics 20; Senior Pass Course in English; Mathematics 20, 24, 277, 377; Philosophy 20, 31, 34; Politics 20; Psychology 21; Sociology 20

Chemistry 203 is permitted only for students from Second Year of the Honours Physics Programme. Chemistry 204 is compulsory for students who have not previously taken Chemistry 204 or 254.

Students who have completed a Social Sciences or Humanities option in Second Year may, with permission of the Department of Biophysics, substitute another course in Honours Science.

Or

First Year, Faculty of Medicine

Students planning to proceed to the degree of M.D. after completing the degree of B.Sc., may wish to take the First Year of the Faculty of Medicine as the Third Year of this Programme. Such students must obtain acceptance from the Admissions Committee, Faculty of Medicine, and written approval of the Vice-President (Arts and Science) and the Vice-President (Health Sciences).

Fourth Year

(to be offered in 1967-68 and subsequent years)

Principal Courses	Subsidiary Course
Biophysics 440a, 440b, 460, 480, 481 Two of: Biophysics 461, 462, 463 (as available) One of: Anatomy 461-468; Bacteriology 460-471; Biochemistry 460-468; Botany 255; Pharmacology 460-463; Physics 250, 350; Physiology 460-469; Zoology 255 Any Third Year Principal Course not previously taken.	One of: French 31; German 15, 35; Russian 35; Spanish 45

A student who has not previously taken Physics 250 must do so in his Fourth Year.

BUSINESS ADMINISTRATION AND SECRETARIAL SCIENCE

Requirements for Admission: First Year General Programme (Humanities or Social Sciences), with Economics 20 and Business 20 as principal courses. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Course
Business 250 (Accounting) Economics 237, 33 Secretarial Science 28, 29, 36	Geography 39

Third Year

Principal Courses	Subsidiary Course
Business 351 (Marketing) and 357 (Control) Secretarial Science 37, 38, 39	A senior course in English

Fourth Year

Principal Courses	Subsidiary Courses
Business 456 (Commercial Law and Documents of Commerce) One of: Business 460b (Auditing); 461 (Retailing); 471 (Advertising) Secretarial Science 47	Two of: Economics 36; A senior course in English; History 36, 31, 44; Philosophy 30

CHEMISTRY

Requirements for Admission: First Year General Programme (Natural Sciences) with Chemistry 20 or 22, Mathematics 24 and Physics 20 or 22 as principal courses, or Engineering Science I with all courses as principal courses. For grades required for admission and progression see page 48.

The Honours Chemistry programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Physics and Chemistry.

Second Year

Principal Courses

Chemistry 253, 254, 261
Mathematics 277
Physics 250, 256

Third Year

Principal Courses

Chemistry 351, 353, 354, 374
Mathematics 387C (under certain circumstances another course may be elected in consultation with the Chemistry Department)

Subsidiary Courses

One of: French 20; German 5; Russian 1
One option — from the Humanities or Social Sciences

Fourth Year

Principal Courses

Chemistry 409, 452, 459, 474
Three of: Chemistry 451, 453, 454; Physics 350, 355, 366 Biochemistry 456

Subsidiary Course

One of: French 31; German 35; Russian 35

CLASSICS

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Greek 20 and Latin 20 as principal courses, English and another modern language as recommended options. This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Classics.

Second Year

Principal Courses

Greek 230, 250, 251
Latin 230, 250, 251
Greek and Latin 257

Subsidiary Course

One option from Division A, B, or C

Third Year

Principal Courses

Greek 340, 350, 351, 352
Latin 340, 350, 351, 352

Fourth Year

Principal Courses

Greek 450, 451, 452, 453
Latin, 450, 451, 452, 453
Greek and Latin 457

COMPARATIVE LITERATURE

Requirements for Admission: First Year General Programme (Humanities or Social Sciences), with History 20, Philosophy 20 and Russian 1 or 10 or 20 as principal courses. Students beginning Russian at the University, who register for this programme, will take Russian 20 in the second year. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Course
English 253, 270	History 236
French 270	
German 290	
Russian 280	

Third Year

Principal Courses	Subsidiary Course
English 380	Politics 348 or History 337
French 380	
German 390	
Russian 390	

Fourth Year

Principal Courses	Subsidiary Course
English 480	History 460
French 490	
German 480	
Russian 420	

COMPUTER SCIENCE

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) with Mathematics 24 as a principal course. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
Computer Science 200, 206	Two options from the Natural Sciences or Social Sciences
Mathematics 250 or 230 and 256	One option

Third Year

Principal Courses	Subsidiary Courses
Computer Science 306, 313	One course in Mechanics or thermodynamics
Mathematics 363	One course in Physiology
Mathematics 355	One option

Fourth Year

Principal Courses	Subsidiary Courses
Computer Science 404, 405	Two courses at the 300 or 400 level from Natural Sciences or Social Sciences
Mathematics 453	One option, preferably a course in the history of development of scientific ideas.

ECONOMICS

Requirements for Admission: *First Year General* Programme (Humanities, Social Sciences or Natural Sciences) or Pre-Business with Economics 20 as a principal course. Students may be allowed to enter the Honours Programme without Economics 20 if they have an average of 70% in all courses taken in First Year. For grades required for admission and progression see page 48. It is recommended that an option in Mathematics be taken as early as possible.

Second Year

Principal Courses	Subsidiary Courses
Economics 230, 237, 255	Two options other than Economics
Business 250 or Mathematics 20 or 24	

Third Year

Principal Courses	Subsidiary Courses
Economics 333, 351	Two options other than Economics
Two of:	
Economics 434, 447, 450, 455, 463	

Fourth Year

Principal Courses	Subsidiary Course
Economics 440, 460	One option
Two of:	
Economics 434, 447, 450, 451, 455, 463, 480, 495, 497	

ECONOMICS WITH HISTORY OPTIONS

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Economics 20 and History 20 as principal courses. For grades required for admission and progression see page 48. It is recommended that an option in Mathematics be taken as early as possible.

Second Year

Principal Courses	Subsidiary Course
Economics 230, 255, 237 2 options in Honours History	1 option

Third Year

Principal Courses	Subsidiary Course
Economics 333, 351, 447 2 options in Honours History	1 option

Fourth Year

Principal Courses	Subsidiary Course
Economics 497 Two Honours Economics courses One Honours History course	1 option

ECONOMICS WITH MATHEMATICS OPTIONS

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) with Economics 20 and Mathematics 24 as principal courses. For grades required for admission and progression, see page 48.

Second Year

Principal Courses	Subsidiary Courses
Economics 230, 255, 237 Mathematics 250, 256	

Third Year

Principal Courses	Subsidiary Course
Economics 333, 351 Mathematics 355, 363 One Honours Economics course	1 option

Fourth Year

Principal Courses	Subsidiary Course
Economics 440, 460 Mathematics 453 One Honours Economics Course	1 option

ENGLISH

There are two English options in all English Honours Programmes: the first emphasises the study of English literature, the second emphasises the study of the English language. Most of the principal courses in each year of every programme are common to both of these English options.

In the descriptions of the Honours Programmes which appear below, each English language course specifically required as a part of the English Language option is placed in square brackets, and either replaces an English literature course or is included among a group of courses from which a selection is to be made.

ENGLISH AND FRENCH

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with English 20 and French 20 as principal courses. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English and French.

Students who elect the English Language option (see above) must take the courses in square brackets; others may take them, if they wish to do so.

Second Year

Principal Courses	Subsidiary Course
English 237, 256, 270 French 270, 271	One of: German 290, Latin 230 and 250, Spanish 231 and 230

Students who begin Spanish in the University will take Spanish 20 in the second year and defer Spanish 231 until the third year.

Third Year

Principal Courses	Subsidiary Course
English 360, 354 or [373], 380 French 380, 381 One of: French 338, 350	One of: History 30, 32, 36, Philosophy 31, 35, Psychology 21, 49, [English 263]

Fourth Year

Principal Courses

English 459, 480
One of: English [427], 436, 438, 444
French 490, 491, 499

ENGLISH AND GERMAN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) and German 20 as principal courses. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English and German.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others may take them, if they wish to do so.

Second Year

Principal Courses	Subsidiary Course
English 237, 256, 270	One of: History 30, 36
German 290, 291	Another Option

Third Year

Principal Courses	Subsidiary Course
English 360, 380, 354 or [373]	One Option [English 263]
German 333, 390, 391	

Fourth Year

Principal Course

English 459, 480
One of: English 263, [427], 436, 438, 444
German 420, 480, 481

ENGLISH AND HISTORY

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with English 20 and History 20 as principal courses. For grades *required for admission and progression see page 48.*

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English and History, provided that the student takes English 237, which should be taken in second year.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others may taken them, if they wish to do so.

Second Year

Principal Courses	Subsidiary Courses
English 256, 270	One foreign language option
History 236	Another option [English 237]
History 231 or 234	

Third Year

Principal Courses

English 380, 354 or [373]
History 335
One of: History 330, 331, 333, 336, 337, 338, 339

Subsidiary Courses

A foreign language option
Another option, preferably an Honours course [English 263]

Fourth Year

Principal Courses

English 480
English 438 or 459
A third honours English course if chosen [427]
Two or three of: History 431, 432, 433, 441, 444, 452, 456, 460
Five courses constitute a normal load in Fourth Year.

ENGLISH AND LATIN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with English 20 and Latin 20 as principal courses. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English and Latin.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others make take them, if they wish to do so.

Second Year

Principal Courses

English 237, 256, 270
Latin 257
Latin 230, 250, 251

Subsidiary Course

One of: French 270, Greek 20, 230 and 250, German 20, 290

Third Year

Principal Courses

English 360, 380, 354 or [373]
Latin 340, 350, 351, 352

Subsidiary Course

One of: History 30, 32, 35, [English 263]

Fourth Year

Principal Courses

English 459, 480
One of: English [427], 436, 438, 444
Latin 450, 451, 452, 453

ENGLISH AND PHILOSOPHY

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with English 20 and French 20 or German 20 or Latin 20 as principal courses. For grades required for admission and progression see page 48.

Sequence B is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English, provided that the student takes three courses in English in the final year. For this certificate, French is the language preferred by the Department of Education.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others may take them, if they wish to do so.

Sequence A

Second Year

Principal Courses	Subsidiary Courses
English 256, 270	[English 237 and one option]
Philosophy 254, 257	or
	Two options

Third Year

Principal Courses	Subsidiary Courses
English 354 or [373], 380	[English 263 and one option]
Philosophy 256, and one of: 355, 357, 362	or
	Two options

Fourth Year

Principal Courses

Two or three of: English 360, 459, 480, and 436 or 438 or 444 or [427]
One of: Philosophy 456, 458, 466, 467, 477
One of: Philosophy 450, 454, 464, 474
If an additional Philosophy course is required, one of 338, 456, 458, 466, 467, 477

Sequence B

Second Year

Principal Courses	Subsidiary Course
English 237, 256, 270	One of: French 270 and 271, German 290 and 291, Latin 230 and 251
Philosophy 254, 257	

Third Year

Principal Courses	Subsidiary Course
English 360, 380	One of: French 380, German 390, Latin 340, [English 263]
One of: English 354, [373]	
One of: Philosophy 256, 355	

Fourth Year

Principal Courses

English 480, and 438 or 459
Two of: Philosophy 357, 456, 458, 466, 467, 477
An additional Honours English course [English 427] or an additional Honours Philosophy course

ENGLISH AND RUSSIAN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with English 20 and Russian 1, 10 or 20 as principal courses. Students who begin Russian at the university will take Russian 20 in the second year. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English and Russian.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others may take them, if they wish to do so.

Second Year

Principal Courses	Subsidiary Courses
English 237, 256, 270	History 37
Russian 280, 281	One option

Students who begin Russian at the University will take Russian 20 in the second year.

Third Year

Principal Courses	Subsidiary Course
English 360, 380 and 354 or [373]	One option [English 263]
Russian 390, 391	

Fourth Year

Principal Courses

English 459, 480
One of: English 436, 438, [427]
Russian 420, 490, 491, 493

ENGLISH LANGUAGE AND LITERATURE

Requirements for Admission: Sequence A: First Year General Programme (Humanities or Social Sciences) with English 20 and a foreign language as principal courses; **Sequence B:** First Year General Programme (Humanities or Social Sciences) with English 20 and two foreign languages as principal courses. Latin 20 and Philosophy 20 are preferred as First Year options. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English.

Students who elect the English Language option (see page 61) must take the courses in square brackets; others may take them, if they wish to do so.

Second Year

Principal Courses

English 256, 263 or [237], 270, 280

Subsidiary Courses

Sequence A:

History 30

One of: French 30, German 30, Latin 30, Greek 30

Sequence B:

Two of: French 270, German 290, Latin 230, Greek 230, History 30

Third Year

Principal Courses

English 354 or [263], 360, 373, 380

Subsidiary Courses

Sequence A:

Two of: History 32, 35, 36, a Philosophy course, a foreign language course, English 366

Sequence B:

One of: French 380, German 390, Latin 340, Greek 352

One of: History 32 or another history, a Philosophy course, French 38, an Honours course in a second foreign language, English 366.

Fourth Year

Principal Courses

English 438, 459, 480

One of: English 400, 401, [427], 436, 444

Subsidiary Courses

Sequences A and B:

English 263, if not already taken,

OR

One of: English 237, 354; French 490; German 480; Latin 452; Greek 452; an Honours course in History; an Honours course in Philosophy

Students in the Fourth Year of Honors English Language and Literature must pass the English Comprehensive Examination, which is held on the first Saturday in April. The Reading List on which the examination is based may be obtained from the Department of English.

FRENCH LANGUAGE AND LITERATURE

Requirements for Admission: First Year General Programme (Humanities) with French 20 and English 20 as principal courses, a Natural Science 21 or Latin 20, History 20, Philosophy 20 and one of Politics 20, Psychology 20, Sociology 20 or Economics 20. For grades required for admission and progression see page 48.

Candidates for the High School Assistant's Certificate, Type A, French Language and Literature, are required to attend a French-speaking university for one year. This year may be substituted for the Third Year of this programme if comparable courses are available; otherwise a fifth year will be needed to complete the requirements laid down by the Department of Education of Ontario.

Second Year

Principal Courses	Subsidiary Courses
French 22, 270, 271	History 36
English 256 or 280	One of: Philosophy 31, 35, 254, Psychology 21, Politics 20, Sociology 20, a Natural Science 21.

Third Year

Principal Courses	Subsidiary Course
French 338, 350, 380, 381	One of: Philosophy 47, Politics 37, Psychology 49, Sociology 30.
English 480	

Fourth Year

Principal Courses	Subsidiary Courses
French 490, 491, 499	Two of: Philosophy 48, History 460, Politics 434, Economics 447.
One of: English 270, 360, 459	

FRENCH AND LATIN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with French 20 and Latin 20, as principal courses. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, French and Latin. Three years, or the equivalent, of Greek or German must be taken.

Second Year

Principal Courses	Subsidiary Courses
French 270, 271	One of: English 32, 34, 44
Latin 230, 250, 251, 257	German 20 or Greek 20

Third Year

Principal Courses	Subsidiary Courses
French 350, 380, 381	German 30 or Greek 30
Latin 340, 350, 351, 352	One of: English 49, History 35, 36, Philosophy 31, 35, Psychology 21, 49.

Fourth Year

Principal Courses

French 490, 491, 499
Latin 450, 451, 452, 453

GEOGRAPHY

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) with Geography 20 as a principal course. A student who wishes to enter Second Year and has not taken Geography 20 will cover a prescribed reading programme 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. For grades required for admission and progression see page 48.

Second class honours standing in this programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Geography, provided that five approved courses are selected in the following subjects: Astronomy, Economics, Geology, History, Mathematics, Sociology.

Second Year

Principal Courses	Subsidiary Courses
Geography 200, 230, 241	Two options

During the first two years the following courses must be completed: Economics 20, Geology 21, French 20 or another foreign language.

Third Year

Principal Courses	Subsidiary Courses
Geography 339, 345, 346 Geology 367	Two options other than Geography courses.

Students who intend to continue into Graduate studies are advised to take French 20 or foreign language 20 not later than Second Year.

Fourth Year

Principal Courses	Subsidiary Courses
Geography 443 (half course), 448 (half course), 450 (one and a half courses)	One of: French 45, German 45, Russian 45, Spanish 45 (half course)
One of: Geography 430, 431, 432, 433, 434, 435, 439, 440, 447.	One option
One of: Geography 460, 461, 462, 463, 464, 465, 466, 467, 468.	

GEOLOGY

Requirements for Admission: First Year General Programme (Natural Sciences). The student should elect four sciences, including Geology 20, Chemistry 20, and Mathematics 24. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Geology.

The programme listed below will pertain to 1966-67 only.

Second Year

Principal Courses	Subsidiary Courses
Chemistry 204	German 5 or Russian 1 or French 20
Geology 200, 251, 261, 263	One of: Botany 20, Mathematics 277, Zoology 370, Physics 251, Computer Science 200B
Physics 254, 259	

Immediately following the final examinations, the Department will conduct a field camp (Geology 200, 300) of ten day's duration in which second and third year are required to participate. The cost to the student will not exceed $60.00.

Third Year

Principal Courses	Subsidiary Courses
Geology 300, 352, 354, 355, 363, 365, 367	One course from the Humanities or Social Science Divisions
	One of: German 35, Russian 35, French 31

Fourth Year

Principal Courses	Subsidiary Course
Geology 458, 460	One course from the Humanities or Social Sciences
Three of: Geology 452, 454, 462, 463, 475, Geophysics 365	

GEOPHYSICS I (Physical)

Requirements for Admission: First Year General Programme (Natural Sciences) with Physics 20 or 22 and Mathematics 24 as principal courses, and Geology 20.

Students planning to enter a graduate school are advised to start a language (German, Russian or French) in their first year.

Second Year

(Content identical with second year Honours Physics)

Principal Courses	Subsidiary Courses
Physics 250, 251, 254, 255, 259	Mathematics 230, 256
	One option

Third Year

Principal Courses	Subsidiary Courses
Geology 251, 261	Mathematics 378P
Physics 350, 355	Geology 200
Geophysics 365	

Fourth Year

Principal Courses	Subsidiary Courses
Geology 355	Geophysics 458
Geophysics 470	One Option
Physics 366	
Two of: Astronomy 459, Geology 352, 462	
Mathematics 478, Physics 450, 451, 453, 457	

GEOPHYSICS II (Geological)

Requirements for Admission: First Year General Programme (Natural Science) with Physics 20 or 22 and Geology 20 as principal courses, Mathematics 24 and Chemistry 20 or 22.

Students planning to enter a graduate school are advised to start a language (German, Russian or French) in their First Year.

Second Year

(Satisfies requirements of second year Honours Geology)

Principal Courses	Subsidiary Courses
Geology 200, 251, 261, 263	Chemistry 204
Physics 256, 259	Mathematics 277
	One option

Third Year

Principal Courses	Subsidiary Courses
Geology 300, 352, 354, 355, 365	Mathematics 377
Geophysics 365	One option

Fourth Year

Principal Courses	Subsidiary Courses
Geology 452, 462	Geophysics 458
Geophysics 470	Mathematics 477
One of: Geology 363, 367, 454, 463 Physics 366	One option

GERMAN LANGUAGE AND LITERATURE

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with German 20 and English 20 as principal courses, a Natural Science 21 or Latin 20, Sociology 20 or Economics 20. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, English and German, provided that three of the five options are honours courses in English.

Second Year

Principal Courses	Subsidiary Courses
German 290, 291	History 236 or 336
English 254 or 270	Two options

Third Year

Principal Courses	Subsidiary Courses
German 333, 390, 391	Two options
English 256 or 360	

Fourth Year

Principal Courses	Subsidiary Course
German 420, 444, 480, 481	One option
One of: English 256, 373, 459, 480	

HISTORY

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with History 20 as a principal course and one foreign language. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, History, if certain options are taken as specified by the Department of Education. Students are asked to consult with the Althouse College of Education for these requirements.

Second Year

Principal Courses	Subsidiary Courses
History 231, 234, 236	One (or two) options selected with the approval of the History Department, one of which should be an honours course
	One of: French 30, 34, German 30, Greek 30, Latin 30, Spanish 30, 40 Russian 1, 10

Third Year

Principal Courses	Subsidiary Courses
Three courses chosen as follows:	Two (or three) options selected with the approval of the History Department, one of which must be an honours course
One or two of History 335, 336	
One or two of History 330, 331, 333, 337, 338, 339	

Fourth Year

Principal Courses	Subsidiary Courses
Three of History 400, 431, 432, 433, 434, 441, 444, 451, 452, 456, 457, 460	Two (or three) options selected with the approval of the History Department, one of which must be an honours course

HISTORY AND GERMAN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with History 20 and German 20 as principal courses. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
History 231, 236 German 290, 291	Two options

Third Year

Principal Courses	Subsidiary Courses
Two of: History 330, 335, 336 German 333, 390, 391	Two options

Fourth Year

Principal Courses	Subsidiary Course
Two of: History 330, 456, 460 German 420, 480, 481	One option

HISTORY AND PHILOSOPHY

Requirements for Admission: First Year General Programme (Humanities or Social Services) with History 20 and Philosophy 20 as principal courses. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
History 231, 236 Philosophy 254, 257	One course in English One option (History 20 if not taken previously)

Third Year

Principal Courses	Subsidiary Courses
Two of: History 330, 335, 336 Philosophy 256 One of: Philosophy 357, 362	Two options

Fourth Year

Principal Courses

Two or three of History 330, 337, 431, 432, 441, 452, 456, 460
One of: Philosophy 456, 458, 466, 467, 477
One of: Philosophy 450, 454, 464, 474
If an additional Philosophy course is required: One of: 456, 458, 466, 467, 477

HISTORY AND RUSSIAN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with 66% in freshman history and 66% in Russian 20. (Students who begin Russian in the University will take Russian 20 in the second year.)

Second Year

Principal Courses	Subsidiary Courses
History 236	History 37
Russian 280, 281	Two options, or
	One option and Russian 20

Third Year

For admission to the third year, an average of 66% is required in History and Russian and 60% in all others.

Principal Courses	Subsidiary Courses
History 335, 337	Two of: Politics 348, 434; Economics 32; Geography 464
Russian 390, 391	

Fourth Year

For admission to the fourth year, an average of 66% is required in History and Russian and 60% in all others.

2 History courses at the discretion of the Head of the Department	One of: Politics 348, 434; Economics 32; Geography 464
Russian 420, 491	

JOURNALISM

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Journalism 20 as a principal course and English 20. Transfer students from other colleges or programmes must include Journalism 20 in Second Year if it has not been completed and delay Journalism 250 until Third Year. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
Journalism 250, 260, 270	A senior course in English or French or foreign language
Politics 20	
One of: Economics 20, Psychology 21, Sociology 20	One option

Third Year

Principal Courses	Subsidiary Courses
Journalism 351, 355, 365, 375	Politics 362
History 31	One option
A senior course in English or French or foreign language	

Fourth Year

Principal Courses	Subsidiary Courses
Journalism 451, 455	History 34 or Politics 44
	An Honours Social Science Course
	A senior course in English or French or foreign language
	One option

JOURNALISM - PUBLIC RELATIONS OPTIONS

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Economics 20 and Journalism 20 as principal courses and English 20. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
Journalism 250	A senior course in English or French or foreign language
Economics 36	One option (non Journalism)
Politics 20	
Psychology 21 or Sociology 20	

Third Year

Principal Courses	Subsidiary Courses
Journalism 352	History 31
Journalism 365	One option (non Journalism)
Journalism 375	
An Honours course in one of: Economics, Politics, Psychology, Sociology	
Business 20	

Fourth Year

Principal Courses	Subsidiary Courses
Journalism 452	History 34 or Politics 44
Journalism 455	A Business course
An Honours course in one of: Economics, Politics, Psychology, Sociology, (must be in the same subject as the Honours course in third year)	One option

DIPLOMA PROGRAMME IN JOURNALISM

Requirements for Admission: Graduation from a recognized college with a degree in some field other than Journalism.

Candidates for the Diploma in Journalism will take the prescribed courses and complete special assignments in reporting, writing and editing.

An average of 60% in this one-year programme is required for the Diploma.

Principal Courses

Journalism 260, 351, 355, 365, 375, 400, 455.

LATIN AND GREEK

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Latin 20 and Greek 1 or 10 as principal courses, English and another modern language as recommended options. This programme is designed for those without Grade 13 standing in Greek on admission; the requirements of Greek 10 must be completed by the beginning of the second year. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Latin and Greek.

Second Year

Principal Courses	Subsidiary Courses
Greek 20, 257 Latin 230, 250, 251	Two options from Divisions A, B, C

Third Year

Principal Courses	Subsidiary Course
Greek 230, 250, 251 Latin 340, 350, 351, 352	One senior option from Division A, B, or C

Fourth Year

Principal Courses

Greek 340, 350, 351, 352
Latin 450, 451, 452, 453
Greek and Latin 457

LATIN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Latin 20 (and Greek 1, if taken) as principal course(s), English and another modern language as recommended options. This programme is designed for those without Grade 12 standing in Greek on admission; if Greek 1 is not taken until the Second Year, the requirements of Greek 10 must also be completed by the beginning of the Third Year. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Latin.

Second Year

Principal Courses	Subsidiary Courses
Greek 1 or 10, 257 Latin 230, 250, 251	Two options from Divisions A, B, C

Third Year

Principal Courses	Subsidiary Courses
Greek 20 Latin 340, 350, 351, 352	Two senior options from Divisions A, B, C

Fourth Year

Principal Courses	Subsidiary Course
Greek 230, 250, 251 Latin 450, 451, 452, 453 Greek and Latin 457	One senior option from Division A, B, or C

MATHEMATICS

Requirements for Admission: First Year General Programme (Social Sciences or Natural Sciences) with Mathematics 24 as a principal course and Physics 20 as an additional principal course for admission to Applied Mathematics (except the Economics Option). *For grades required* for admission and progression see page 48. For requirements concerning joint Honours Programme in Philosophy and Mathematics see page 85.

Second Year

Principal Courses	Subsidiary Courses
Mathematics 250, 256	Three options, at least one of which must be from Division A or B. If Honours Physics courses are elected they will be considered principal courses.

Third and Fourth Years

In the third and fourth years, a student may elect one of four programmes. Each programme fulfills the academic requirements for the Ontario High School Assistant's Certificate, Type A, Mathematics. Programmes 1 and 4 are accepted as academic *qualifications for the* Type A Certificate, Mathematics and Physics, if the following courses have been completed: (i) Grade 13 Algebra, Geometry, Trigonometry and Statics; (ii) Physics 250, 257; 350 or 356; 357.

A student who has completed the Second Year of the Computer Science Programme may be *permitted to enter one* of Programmes 1, 2, or 3 provided Mathematics 250 has been taken in the second year. If Mathematics 250, Physics 250, Physics 257 have been taken in the second year of Computer Science, a student may enter Applied Mathematics.

Students who plan to continue *into graduate studies* are advised to commence French or a foreign language in their Second Year.

MATHEMATICS (PROGRAMME 1)

Third Year

Principal Courses

Mathematics 350, 356

One of: Mathematics 351, Physics 350, 356

One Mathematics course at the 300 or 400 level

Subsidiary Course

One senior course from Division A or B

Fourth Year

Principal Courses

Mathematics 456

One of: Mathematics 450, 452, 470, Physics 357

Three Mathematics courses at the 300 or 400 level

ACTUARIAL MATHEMATICS (PROGRAMME 2)

Programme 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 will be held in May and November. They may be written in London. 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

One Mathematics course at the 300 or 400 level

Subsidiary Course

One senior course from Division A or B

Fourth Year

Principal Courses

Mathematics 463

Two of: Mathematics 450, 452, 455, 456, 460

Two Mathematics courses at the 300 or 400 level, one of which must be Mathematics 363 if not previously taken.

MATHEMATICAL STATISTICS (PROGRAMME 3)

Third Year

Principal Courses

Mathematics 355, 356

Two Mathematics courses at the 300 or 400 level

Subsidiary Course

One senior course from Division A or B

Fourth Year

Principal Courses

Mathematics 445, 455

One of: Mathematics 450, 456, 460

Two Mathematics courses at the 300 or 400 level

APPLIED MATHEMATICS (PROGRAMME 4)

Requirements for Admission: First Year General Programme (Natural Sciences) with Mathematics 24 and Physics 20 as principal courses.

Second Year

Principal Courses

Mathematics 230 or 250, 256
Physics 250, 257

Subsidiary Course

One course from Division A or B

Third Year

Principal Courses

Mathematics 356, 358, 378
Physics 355
One of: Mathematics 350, 355, 363, Physics 357

Subsidiary Course

One senior course from Division A or B

Fourth Year

Principal Courses

Mathematics 458, 478, 488, 498
One of: Mathematics 350, 363, 456, Physics 453

In Programme 4 a Department other than the Department of Mathematics may prescribe options in each year subject to the approval of the Department of Mathematics. In this case, Programme 4 will be called "Applied Mathematics . . . Option" where the blank space is to contain the name of the field in which the non-mathematics options are selected. For 1966-67 the only such option offered is "Applied Mathematics, Economics Option".

APPLIED MATHEMATICS, ECONOMICS OPTION

Requirements for Admission: First Year General Programme (Social Sciences or Natural Sciences) with Mathematics 24 and Economics 20 as principal courses.

Second Year

Principal Courses

Economics 230, 255
Mathematics 250, 256

Subsidiary Course

One senior course from Division A or B

Third Year

Principal Courses

Economics 333
Mathematics 355, 356, 378
One of: Economics 237, 351

Subsidiary Course

One senior course from Division A or B

Fourth Year

Principal Courses

Economics 440
Mathematics 350, 445, 453, 455

For Honours *Programme in* Economics, Mathematics option, see page 63.

MODERN LANGUAGES AND LITERATURES

Requirements for Admission: First Year General Programme (Humanities) with English 20 and two of French, German, Russian, Spanish as principal courses.

The following combinations of Honours subjects are permitted: French and German, German and Russian, French and Spanish, German and Spanish, French and Russian, Russian and Spanish.

A student must continue in the third and fourth years of the Honours Programme the combination of Honours subjects selected at the beginning of the second year.

The French and German, the French and Russian, and the French and Spanish Honours Programmes are accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type "A", French and German, French and Russian, or French and Spanish.

Students who begin Russian at the University and who wish to major in Russian, should note that Russian 1 and Russian 10 are both offered at Summer School — if sufficient students request them. If necessary, students are permitted to carry Russian 20 during their Second Year.

Students who begin Spanish in the University and who wish to major in Spanish will take Spanish 20 in the Second Year and will defer Spanish 231 until the Third Year.

For grades required for admission and progression see page 48.

Second Year

Principal Courses

French 270, 271
German 290, 291
Spanish 230, 231, 260
Russian 280, 281

Subsidiary Courses

One of: English 32, 34, 44
One course in a modern foreign language not chosen as a major.

Third Year

Principal Courses

French 380, 381
One of: French 338, 350 (students intending to undertake graduate studies in French should elect French 350)
German 333, 390, 391
Spanish 340, 341
One of: Spanish 348, 365
Russian 390, 391

Subsidiary Courses

One of: English 49, History 35, 36, 37, Philosophy 31, 35, Psychology 21, 49
One course in the minor foreign language of the Second Year.

Fourth Year

Principal Courses

French 490, 491, 499
German 420, 480, 481
Spanish 455, 460, 461, 465
Russian 420, 490, 491, 493

Subsidiary Course

One course in the minor foreign language continued from the Third Year

BACHELOR OF MUSIC

This four year programme is offered at the College of Music. All students will be enrolled in a common first year. At the beginning of second year each student will choose an area of concentration and will enrol in one of the four honours programmes outlined below.

Requirements for Admission:

Academic requirements: Grade 13 standing (or the equivalent) with an average of 60% in English, another language and three other credits (exclusive of music). Students who plan to enrol in the Music Education programme should include one mathematics credit.

Musical requirements: Satisfactory results in an audition to be held at the College of Music before July 15th or between August 20th and September 1st, by appointment; and either (a) Grade VIII piano; Grade II Theory; Grade III Harmony, or (b) Grade VIII voice, organ or orchestral instrument; Grade II Theory; Grade III Harmony; Grade VI piano. (Students may be admitted conditioned in piano but must clear this requirement before the end of second year.) Grade 13 Music of the Ontario Department of Education may be substituted for Grade II Theory and Grade III Harmony in any of the above categories.

For admission to the Honours in Performance programme, a Grade X in piano, voice, organ or orchestral instrument, as well as evidence of exceptional performing ability, will be required.

Students planning to teach music in the schools should enrol in the Honours Music Education programme in second year. This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's certificate, Type "A" in Instrumental and Vocal music. The other Bachelor of Music programmes will be accepted as qualification for Type "A" certificates in Vocal Music only.

All students must reach the minimum of the Associate level in performance in their major practical music subject before graduation.

BACHELOR OF MUSIC

First Year

Music 21, 21A (except for piano majors) 24, 25, 26, 27, 28, 117 (for prospective Music Education students only)	English 20 French 20 or German 1, 10 or 20

HONOURS MUSIC EDUCATION

Second Year

Music 217, 231, 231A (except for piano majors), 232, 235, 236, 237, 238, 247	English 32 One course in Arts or Science (German 10 must be taken if German 1 was chosen in first year)

Third Year

Music 317, 332, 337, 341, 345, 347, 348, 350 One music elective approved by the College of Music	Physics 33 One course in Arts or Science

Fourth Year

Music 417, 432, 437, 442, 447, 447A, 450, 451, 455, 458, 467	One course in Arts or Science

HONOURS IN PERFORMANCE (With major in Piano)

Second Year

Music 231, 235, 236, 237, 238	English 32
	One course in Arts or Science

Third Year

Music 337, 341, 345, 348, 351, 354	Two courses in Arts or Science
One music elective approved by the College of Music	

Fourth Year

Music 437, 451P, 453, 458, 461	One course in Arts or Science
One music elective approved by the College of Music	

HONOURS IN PERFORMANCE (With major in Voice)

Second Year

Music 231, 231A, 235, 236, 237, 238	English 32
	One course in Arts or Science

Third Year

Music 337, 341, 345, 348, 352	Two courses in Arts or Science
One music elective approved by the College of Music	

Fourth Year

Music 437, 451P, 452, 453, 458	One course in Arts or Science
One music elective approved by the College of Music	

HONOURS IN PERFORMANCE (With major in Organ and Church Music)

Second Year

Music 231, 231A, 235, 236, 237, 238	English 32
	One course in Arts or Science

Third Year

Music 337, 341, 345, 348, 353, 354	Two courses in Arts or Science
One music elective approved by the College of Music	

Fourth Year

Music 437, 451P, 453, 458, 463	One course in Arts or Science
One music elective approved by the College of Music	

HONOURS IN PERFORMANCE (With major in Orchestral Instrument)

Second Year

Music 231, 231A, 235, 236, 237, 238	English 32
	One course in Arts or Science

Third Year

Music 337, 341, 345, 348, 351	Two courses in Arts or Science
One music elective approved by the College of Music	

Fourth Year

Music 437, 451P, 453, 458, 461	One course in Arts or Science
One music elective approved by the College of Music	

HONOURS IN THEORY AND COMPOSITION

Second Year

Music 231, 231A (except for piano majors), 235, 236, 237, 238, 239	English 32 One course in Arts or Science

Third Year

Music 337, 341, 342, 345, 348, 349	Two courses in Arts or Science

Fourth Year

Music 437, 451, 455, 458, 459	One course in Arts or Science
One music elective from the Music History area	

HONOURS IN MUSIC HISTORY

Second Year

Music 231, 231A (except for piano majors), 235, 236, 237, 238, 252	English 32 French 30 or 31, or German 10, 20 or 30

Third Year

Music 337, 341, 345, 348	Two courses in Arts or Science (One of which should be general political and economic history)
Two music history electives	

Fourth Year

Music 437, 451, 452
Two music history electives
One other music elective

Two courses in Arts or Science

BACHELOR OF ARTS WITH HONOURS MUSIC

Requirements for Admission: *First Year General Programme* with Music Options with an average of at least 60%. All students must reach the minimum of the Associate level in performance in their practical music subject before graduation.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type "A", in Vocal Music.

Second Year

Music 231, 231A (except for piano majors), 235, 236, 237, 238

English 32
One of: French 30 or 31, German 10, 20 or 30
One of: History 36, a second course in French or German or another language, Mathematics 24, Philosophy 30, Psychology 36

Third Year

Music 337, 341, 345, 348
Two music electives from Theory or Music History areas

Two courses in Arts or Science

Fourth Year

Music 437, 451, 458
Two music electives

Two courses in Arts or Science

Students entering the fourth year of the B.A. with Honours Music Education Programme will continue with the following:

Fourth Year
(1966-67 only)

Music 407, 417, 417R, 427, 437, 447, 447R, 451, 454, 455, 456, 457, 467
Two courses in Arts or Science

MUSIC GRADUATE IN PAEDAGOGY

This two year course leading to the Diploma (Mus. G. Paed.) is offered at the College of Music.

Requirements for Admission: *Grade 13 standing (or the equivalent) in* English, another language, and three other credits exclusive of music with an average of at least 60%; Grade IX in piano, voice, organ or orchestral instrument; Grade II Theory; Grade III Harmony. (Grade 13 Music of the Ontario Department of Education may be substituted for Grade II Theory and Grade III Harmony.)

First Year

Music 21, 21A (except for piano majors), 22 (for piano and organ majors), 23, 24, 25, 26, 27, 28

English 20

One of: French 20; German 1; Italian 1; History 20; Mathematics 20; *Philosophy 20; Psychology 20*

Second Year

Music 31, 31A (except for piano majors), 33, 34, 35, 36, 37, 38

English 32

One of: French 30, 31; German 10; Italian 10; History 36; Mathematics 24; Philosophy 36; Psychology 36

PHILOSOPHY

(This programme is offered in the Colleges of the University only.)

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) or two other courses approved by the Department as principal courses. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
Philosophy 254, 256, 257	A senior course from Division A or Division B
	One option

Third Year

Principal Courses	Subsidiary Courses
Philosophy 357, 362	A senior course from Division B (if not taken in second year)
Two of: Philosophy 338, 350, 351, 353, 355 (*351 must be taken if not* elected in second year)	*One senior option*

Fourth Year

Principal Courses	Subsidiary Course
Two of: Philosophy 456, 458, 466, 467, 477	One senior option
Two of: Philosophy 450, 454, 464, 474	

PHILOSOPHY AND GERMAN

Requirements for Admission: First Year General Programme (Humanities or Social Sciences), English 20 and German 20 as principal courses and History 20. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
German 290, 291	Two options
Philosophy 254, 257	

Third Year

Principal Courses	Subsidiary Courses
German 333, 390, 391	Two options
Philosophy 256, 357	

Fourth Year

Principal Courses

German 420, 480, 481

Two of: Philosophy 456, 458, 466, 467, 477

One of: Philosophy 450, 454, 464, 474

PHILOSOPHY AND MATHEMATICS

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) with Mathematics 24 as principal course.

This programme is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, Mathematics, if the student completes a course in Physics, a course in Chemistry, Philosophy 351, 454 and 464 and selects the additional course in fourth year from the Mathematics options.

Second Year

Principal Courses	Subsidiary Course
Philosophy 254, 257	One course from Division A, B, or C
Mathematics 250, 256	

Third Year

Principal Courses	Subsidiary Course
Philosophy 256, 351	One senior course from Division A or B
Mathematics 350, 356	
One of: Mathematics 340, 351	

Fourth Year

Principal Courses

Two of: Philosophy 450, 454, 464, 474

Mathematics 470

One of: Mathematics 450, 456, 460

One additional Mathematics or Philosophy course at 300 or 400 level, subject to approval of the Departments

PHILOSOPHY AND PSYCHOLOGY

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Psychology 20 and Philosophy 20 as principal courses. If Psychology 20 was not taken in the First Year, Psychology 21 must be selected as an option in the Second Year. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Course
Philosophy 254, 257	One option
Psychology 235, 236, 255	

Third Year

Principal Courses	Subsidiary Courses
Philosophy 256	One option
One of: Philosophy 351, 357, 362	
Psychology 338, 349	
One of: Psychology 337, 343	

Fourth Year

Principal Courses

One of: Philosophy 456, 458, 466, 467, 477

Two of: Philosophy 450, 454, 464, 474

Psychology 445, 459

One of: Psychology 446, 450

PHYSICAL AND HEALTH EDUCATION

Requirements for Admission: First Year General Programme (Humanities or Social Sciences) with Physical Education 20 as the principal course, and Biology 21. For grades required for admission and progression see page 48.

This programme is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Physical Education.

Second Year

Principal Courses	Subsidiary Courses
P.H.E. 251, 253, 254, 258	Zoology 30
	One course from the Humanities
	One option beginning a field of concentration in the Humanities, Social Sciences or Natural Sciences.

Third Year

Principal Courses	Subsidiary Courses
P.H.E. 342, 351, 352, 353	One senior course from the Social Sciences 2 options.

Fourth Year
(1966-67 only)

Principal Courses	Subsidiary Courses
P.H.E. 442, 451, 453, 456, 457	2 options

Fourth Year
(Commencing 1967-68)

Principal Courses	Subsidiary Courses
P.H.E. 442, 451, 456, 457	2 options

PHYSICS

Requirements for Admission: First Year General Programme (Natural Sciences) with Physics 20 or 22 and Mathematics 24 or 27 as principal courses. For grades required for admission and progression see page 48.

Concerning the selection of options in the Second, Third and Fourth Years, only one may be chosen from division C. 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.

This programme is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, Mathematics and Physics.

Students who are primarily interested in the application of Mathematics to the Physical Sciences are referred to the Honours Applied Mathematics (Programme 4) with Physics options. Admission to the Third Year of this programme is open to students who have completed the Second Year of Physics.

Second Year

Principal Courses	Subsidiary Course
Mathematics 230, 256 Physics 250, 251, 254, 255, 259	One option

Third Year

Principal Courses	Subsidiary Course
Mathematics 378 P Physics 350, 355, 356, 357, 359	One option

Fourth Year

Principal Courses	Subsidiary Course
Physics 450, 451, 453, 457, 458, 459 One of: Physics 464, 466, a senior option	One option

PHYSICS: MAJOR - MINOR

Requirements for Admission: First Year General Programme (Natural Sciences) with Physics 20 or 22 and Mathematics 24 or 27 as principal courses.

The department will accept students for Major - Minor Honours Programmes who elect their Minors in Biology, Chemistry, Geography, Mathematics and some other subjects. All such programmes require the approval of the Head of the Department.

The number of honours courses in the Minor will normally be five. Students electing a Minor other than Mathematics will be required to include Mathematics 277 or equivalent in the second year.

Normally the Programme will be as follows:

Second Year

Principal Courses	Subsidiary Courses
Physics 250, 256	Two options
Two courses from the Minor	

Third Year

Principal Courses	Subsidiary Courses
Physics 251, 356	Two options
Two courses from the Minor	

Fourth Year

Principal Courses	Subsidiary Course
Physics 350, 367, 453	One option
One course from the Minor	

PHYSIOLOGY

The admission requirements are determined by the prerequisites of the programme selected for the Second Year. (See below.)

Second Year

One of: (a) **Second Year of Programme in Honours Biology.** For prerequisites and courses see page 53. (b) **Second Year of Programme in Honours Chemistry.** For prerequisites and courses see page 57. (c) **Second Year of Programme in Honours Physics.** For prerequisites and courses see page 87. (d) **Second Year of other Honours Programmes.** With permission of the Department of Physiology, a student who has completed the First Year of General Programme (Natural Sciences) may petition the Vice-President (Arts and Science) for recognition of the Second Year of such other Honours Programmes as permit inclusion of a course in Organic Chemistry.

Third Year

Either

(a) **Third Year Physiology**

Principal Courses	Subsidiary Courses
Physiology 300	One of: French 20; German 5; Russian 1; Spanish 1; Chemistry 203
Physiology and Pharmacology 301	
Two of: Anatomy 300; Bacteriology 300; Biochemistry 300; Biophysics 300; Botany 255; Zoology 352.	One of: Economics 20; English 32; Mathematics 20, 24, 277, 377; Philosophy 20, 31, 34; Politics 20; Psychology 21; Sociology 20.

Chemistry 203 is permitted only for students from Second Year of Physics Programme.

Mathematics 20 or 24 is required for students who have not previously taken a university course in Mathematics. Students who have completed a Social Sciences or Humanities option, or a foreign language course in Second Year may, with permission of the Department of Physiology, substitute other courses in Honours Science.

Or

(b) **First Year, Faculty of Medicine**

Students planning to proceed to the degree of M.D. after completing the degree of B.Sc. may wish to take the First Year of the Faculty of Medicine as the Third Year of this Programme.

These students must obtain acceptance from the Admissions Committee, Faculty of Medicine, and written approval of the Vice-President (Arts and Science) and the Vice-President (Health Sciences).

Fourth Year

(to be offered in 1967-68 and subsequent years)

Students may choose either the Physiology or Physiology and Pharmacology option in the last year of this programme.

Principal Courses	Subsidiary Courses
Physiology 440a, 440b, 460	One of: French 31; German 35; Russian 35; Spanish 45

and

Physiology Option

Physiology 480, 481

Two of: Physiology 461 - 469 (as available)

One of: Anatomy 461-468; Bacteriology 460-471; Biochemistry 460-468; Biophysics 460-463b; Botany 255, 342, 353; Pharmacology 460- 463; Psychology 343; Zoology 255, 352, 453, 473; any Third Year Principal Course not previously taken.

Or

Physiology and Pharmacology Option

Pharmacology 480, 481

Two of: Pharmacology 460-467 (as available)

One of: Anatomy 461-468; Bacteriology 460-471; Biochemistry 460-468; Biophysics 460-463b; Botany 255, 352, 354; Physiology 462-469; Psychology 343; Zoology 255, 352, 453, 473; any Third Year Principal Course not previously taken.

POLITICAL SCIENCE

Requirements for Admission: First Year General Programme (Natural Sciences, Humanities or Social Sciences) *with Politics 20 as a principal course.* For grades required for admission and progression see page 48.

Students will normally be expected to take a diversified selection of options from the Social Sciences and Humanities, such as History, Philosophy, Economics, Mathematics and Geography. Students who wish to specialize in another subject in conjunction with Politics should take 5 senior options in that subject. Students wishing to stress International Politics are advised to carry a foreign language, preferably French, German, Spanish or Russian, and the following courses: Politics 231, 348, 451, History 36, 456.

With the addition of one further course in Politics, this programme is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A.

Second Year

Principal Courses	Subsidiary Courses
Two of: Politics 231, 242, 244	Four options

Third Year

Principal Courses	Subsidiary Courses
Politics 337 One of: Politics 346, 348, 350, 362; a second year course not previously taken; a fourth year course	Four options

Fourth Year

Principal Courses	Subsidiary Courses
Politics 480 Two of: Politics 434, 451; a senior course not previously taken	Two options

PSYCHOLOGY

(This programme is offered in the Colleges of the University only.)

Requirements for Admission: First Year General Programme (Humanities, Social Sciences or Natural Sciences) with Psychology 20 and any three others as principal courses. Mathematics 20 or 24 and French 20 or a foreign language 20 are recommended. If Psychology 20 is not taken in the First Year, Psychology 21 must be selected as an option in the Second Year. For grades required for admission and progression see page 48.

Second Year

Principal Courses	Subsidiary Courses
Psychology 234, 235, 236, 255	One of: Mathematics 20, 24, or 35, Philosophy 30, 34, Physics 21, Physiology 24, Sociology 20, Zoology 21 or 30 One option

Third Year

Principal Courses	Subsidiary Courses
Psychology 337, 338, 343, 349	Two options

Fourth Year

Principal Courses	Subsidiary Courses
Psychology 445, 446, 450, 459	Two options

Faculties and Courses

University, Middlesex and Talbot Colleges and The College of Science

ANATOMY

College of Science

Professors:

Murray Llewellyn Barr, B.A., M.Sc., M.D.; LL.D. *Queen's and Toronto*; F.R.S.C., F.R.C.P.(C), F.A.C.P., Head of the Department
Robert Crawford Buck, M.Sc., M.D.; Ph.D. London

Associate Professors:

David Harvey Carr, M.B., Ch.B. Liverpool; Ph.D.
James Harry Cutts, B.A. Saskatchewan; M.Sc. Dalhousie; Ph.D.
Arthur David Dickson, M.B., B.C.H., B.A.D. Belfast; M.A. Cantab; M.D. Belfast
Kazumasa Hoshino, M.D., D.Med.Sc. Tokyo

Associate Professor of Human Genetics:

Hubert Constantine Soltan, B.A., Ph.D. Toronto

Assistant Professors:

Eric Werner Karl Fritz Donisch, M.D. Bonn, M.Sc.
Martin James Hollenberg, B.Sc. (Med.), M.D. Manitoba; M.Sc., Ph.D. Wayne

Lecturers:

Maureen Burke Sass, M.D.; M.Sc. Australian National University
Evelyn Louise Shaver, B.Sc., M.Sc.

Honorary Lecturers:

Carl Franz Robinow, M.D. Hamburg; F.R.S.C. (Professor of Bacteriology and Immunology)
David Burton Walden, B.A. Wesleyan; M.Sc., Ph.D. Cornell (Associate Professor of Botany)

Postdoctoral Fellows:

Walter Laurence Burt, M.D.
Rajan Paul Nayyar, B.Sc., M.Sc. Panjab; Ph.D. Delhi

Courses

254. Functional Human Anatomy: For students in the Physical, Health and Recreation Education Programme.

1 lecture, 1 laboratory hour—29

Honours Courses

300. Cytology and Histology: Survey for Honours students.

2 lectures, 3 laboratory hours— 3

440a. Statistical Methods in Biology: An interdepartmental course.

1 lecture (one term, half-course)

440b. History of Science: An interdepartmental course.

1 lecture (one term, half-course)

461. Gross Anatomy: A study of human anatomy, including practical dissection.

2 lectures

462. Neuroanatomy: A course in the anatomy of the mammalian central nervous system, especially the brain of man.

1 lecture

463a. Embryology: The principles of development as seen in the mammalian embryo.

1 lecture (one term, half-course)

463b. Experimental Embryology and Teratology: An examination of natural and experimentally produced abnormalities of development.

1 lecture (one term, half-course)

464. Cytogenetics: An examination of chromosome morphology and behaviour, including chromosome abnormalities in man as causes of diseases.

1 lecture

465. Tissue Culture and Cytology: The methodology and uses of cell culture.

1 lecture

466. Advanced Histology: Cytology and Histology, with emphasis on electron microscopy and ultrastructure.

Prerequisite: Anatomy 300 or equivalent. 1 lecture

467. Hematology: The natural history of blood cells and their precursors, especially in man, and an introduction to blood dyscrasias.

Prerequisite: Anatomy 300 or equivalent. 1 lecture

468. Histochemistry and Cytochemistry: The location of various compounds in tissues and cells, including autoradiography.

Prerequisite: Anatomy 300 or equivalent. 1 lecture

480. Laboratory: The major laboratory course in various aspects of Anatomy for students in the Fourth Year of the Programme. Maximum time available.

481. Research and Seminar. 2 hours.

ASTRONOMY

College of Science

Professor:

William Henry Wehlau, A.B., Ph.D. California; Head of the Department, Director of the Observatories

Associate Professor:

Harry van der Laan, B.A.; Ph.D. Cambridge

Lecturers:

Amelia W. Wehlau, A.B., Ph.D. California (Part time)
David Gray, B.Sc. Wisconsin; M.Sc. Michigan
James M. Moorhead, B.Sc. California Institute of Technology

Honorary Lecturers:

Peter W. Manuel, B.Sc., M.Sc., Ph.D. (Assistant Professor of Mathematics)
Romas Mitalas, B.A., M.A., Toronto; Ph.D. Cornell; (Assistant Professor of Physics)

Courses

20. Astronomy I: An introduction to astronomy for students who are taking Mathematics 24 and Physics 20 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. Descriptive Astronomy: The solar system; normal, variable and binary stars; structure of our galaxy; other galaxies, the identification of stars and constellations; observations with the 6-inch and 10-inch refractors. Astronomy as a science, including its development. This course satisfies the requirements for a laboratory science for the B.A. 3 hours—13

Honours Courses

220. Astronomy II: Fundamental astronomy; binary stars; observational aspects of stellar atmospheres. 3 hours—13

320. Astrophysics I: a) Radio Astronomy — principles of radio astronomical instruments, emission and absorption of continuum radiation, astrophysical sources of continuum radiation; b) Interstellar Matter — gas and dust in interstellar space detected by optical and radio methods, diffuse nebulae, interstellar clouds and magnetic fields. 3 hours— 7

420. Astrophysics II: The structure, dynamics and evolution of stellar systems, including a unified discussion of the distance scale; introduction to the internal structure of stars and to stellar atmospheres. 3 hours—16

BACTERIOLOGY AND IMMUNOLOGY

College of Science

Professors:

Robert George Everitt Murray, B.A., M.A. Cantab.; M.D., C.M. McGill; F.R.S.C., Head of the Department
Carl Franz Robinow, M.D. Hamburg; F.R.S.C.

Clinical Professors:

Eric John Keith Penikett, M.B., B.S. London, M.R.C.S. England, L.R.C.P., Ph.D. London, M.C. Path.

Associate Professors:

Philip Chester Fitz-James, B.S.A. British Columbia, M.S.A. Toronto; M.D., Ph.D.
John Robinson, B.S.A. British Columbia, M.Sc., Ph.D. McGill

Clinical Associate Professor:

Ian Bonthrone Rae Duncan, M.B., Ch.B., M.D. Glasgow; F.R.C.P.(C), M.C. Path.

Assistant Professor:

Edward Lionel Medzon, B.Sc., M.Sc. Manitoba; Ph.D. McGill.

Clinical Assistant Professors:

Alexander Bakerspigel, B.A., M.A. McMaster; Ph.D.
Earl Wilson Robert Campsall, B.A. Queen's; M.D., C.M. McGill

Honorary Lecturer:

Christopher Lynton Hannay, B.S.A. Toronto; D.I.C., Ph.D. London

Instructor:

Ruth Bernstein-Ziv, B.Sc., M.Sc., Ph.D. Hebrew University, Israel

Honours Courses

300. Microbiology: A comparative study of the morphology, biology and relationships of algae, bacteria, fungi and viruses. Given in collaboration with the Department of Botany.

2 lectures, 3 laboratory hours—16

440a. Statistical Methods in Biology: An interdepartmental course.

1 lecture (one term, half-course)

440b. History of Science: An interdepartmental course.

1 lecture (one term, half-course)

460. Advanced Bacteriology: Selected topics to accompany the laboratory course.

Prerequisites: Bacteriology 300 or equivalent, Biochemistry 300, 406 or 456.

2 lectures

461. Microbial Anatomy and Methods of Morphology: A survey of cytological methods and knowledge.

Prerequisites: Bacteriology 300 or equivalent; or Anatomy 300 and Biochemistry 300, 406 or 456.

1 lecture

462. Advanced Virology: General Virology illustrated by detailed consideration of specific examples.

Prerequisites: Bacteriology 300 or equivalent course.

1 lecture

463. Immunology: An advanced course concerned with immunological theory and the interpretation of immune phenomena.

Prerequisites: Bacteriology 300 or equivalent, Biochemistry 300, 406 or 456.

1 lecture

464. Immunochemistry: The application of immunological techniques to chemical problems. (Given in collaboration with the Department of Biochemistry).

Prerequisites: Bacteriology 300 or equivalent, Biochemistry 300, 406 or 456.

1 lecture

465. Microbial Biochemistry: A course to be given in collaboration with the Department of Biochemistry.

Prerequisites: Bacteriology 300 and Biochemistry 300, 406 or 456.

1 lecture

466. Bacterial Ecology: A course concerned with biological associations in nature and with laboratory model systems.

Prerequisites: Bacteriology 300 or equivalent.

1 lecture

467. Microbial Genetics: Aspects of genetics applying to micro-organisms. (Given in collaboration with the Department of Botany).

Prerequisites: Bacteriology 300 or equivalent.

1 lecture

468. Medical Bacteriology: A course concerned with pathogenesis and exemplary problems in diagnostic and determinative medical bacteriology.

Prerequisites: Bacteriology 300 or equivalent.

1 lecture

469. Medical Mycology: A consideration of fungi pathogenic for man and animals.

Prerequisites: Bacteriology 300, Botany 361 or equivalents.

1 lecture

470. Bacterial Taxonomy and Classification: An *examination* of old and new approaches to systematic arrangements of procaryotic organisms, and the code of nomenclature.

Prerequisite: Bacteriology 300 or equivalent.

1 lecture

471. Current Topics:

Prerequisites: Bacteriology 300 or equivalent.

1 lecture

480. Laboratory: A laboratory course in Experimental Bacteriology, Virology and Immunology to accompany the lecture courses taken in Fourth Year Honours Bacteriology. Maximum time available.

481. Research and Seminar: 1 hour.

BIOCHEMISTRY

College of Science

Professors:

Harold Brown Stewart, M.D., Ph.D. Toronto; Ph.D. Cantab.; Head of the Department
Roger James Rossiter, B.Sc. West Australia; B.A., M.A., D. Phil., B.M., B.Ch., D.M. Oxon.; F.R.S.C.
David Burrard Smith, B.A., M.A. British Columbia; Ph.D. Toronto
Kenneth Percy Strickland, B.Sc., M.Sc., Ph.D.

Associate Professors:

Charles Cross Bigelow, B.A.Sc. Toronto; M.Sc., Ph.D. McMaster
William Colin Cameron McMurray, B.Sc., Ph.D.
Ian Gardner Walker, B.A. Saskatchewan; M.A., Ph.D. Toronto

Assistant Professor:

William Lovell Magee, B.Sc., M.Sc., Ph.D.

Lecturer:

Philip Chester Fitz-James, B.S.A. British Columbia; M.S.A. Toronto; M.D., Ph.D.

Honorary Lecturers:

Kenneth Kitchener Carroll, B.Sc., M.Sc. New Brunswick; M.A. Toronto; Ph.D.

Courses

46. General Biochemistry: A survey for General Programme students
Prerequisites: Chemistry 33 or 203.
2 lectures, 3 laboratory hours— 3

Honours Courses

300. General Biochemistry: A survey for Honours students.
Prerequisites: Chemistry 203 or 253; Chemistry 204 or 254.
3 lectures, 4 laboratory hours—28 (every second week)

440a. Statistical Methods in Biology: An interdepartmental course.
1 lecture (one term, half-course)

440b. History of Science: An interdepartmental course.
1 lecture (one term, half-course)

406. General Biochemistry: A survey for students in Honours Biology.
2 lectures, 3 laboratory hours— 3

456. General Biochemistry: A survey for students in Honours Chemistry (given in conjunction with the Department of Chemistry).
1 lecture— 1

460. Enzymology:
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

461. Macromolecules and Biochemical Genetics:
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

462. Intermediary Metabolism:
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

463. Current Topics:
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

464. Immunochemistry: Given in collaboration with the Department of Bacteriology.
Prerequisites: Bacteriology 300; Biochemistry 300, 406 or 456.
1 lecture

465. Microbial Biochemistry: Given in collaboration with the Department of Bacteriology.
Prerequisites: Bacteriology 300; Biochemistry 300, 406 or 456.
1 lecture

466. Comparative Biochemistry: Given in collaboration with the Department of Zoology.
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

467. Plant Biochemistry: Given in collaboration with the Department of Botany.
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

468. Physical Biochemistry:
Prerequisites: Biochemistry 300, 406 or 456.
1 lecture

480. Laboratory: A laboratory course in Experimental Biochemistry designed to accompany the lecture work of Fourth Year Honours Biochemistry.
Maximum time available.

481. Research and Seminar: 1 hour.

BIOPHYSICS

College of Science

Professor:
Alan Chadburn Burton, M.B.E., B.Sc. London; M.A., Ph.D. Toronto; LL.D. Alberta; F.R.C.S., F.R.S.A.; Head of the Department

Associate Professor:
Robert Andrew Snyder, B.Sc., Ph.D.

Assistant Professors:
William Rodger Inch, B.Sc., Queens; Ph.D.
Margot Ruth Roach, B.Sc., New Brunswick; M.D., C.M., McGill; Ph.D.

Lecturer:
Ronald I. Duncan, B.S., M.S., Ph.D. Oklahoma

Honours Courses

300. General Biophysics: A survey of the Physics of living things.
3 lectures, 4 laboratory hours— 7 (every second week)

440a. Statistical Methods in Biology: An interdepartmental course.
1 lecture (one term, half-course)

440b. History of Science: An interdepartment course.
1 lecture (one term, half-course)

460. Advanced General Biophysics: Selected topics illustrating the application of physical and mathematical analysis to the behavior of living systems.
1 lecture

461a. Principals of Radiobiology: The effects of radiation of different wavelengths on living cells and organisms.
1 lecture (one term, half-course)

461b. Cellular Biophysics. The Physics of cell size, shape, physical properties of cellular membranes, mobility, diffusion and transport.
1 lecture (one term, half-course)

462a. Biological Transducers and Cybernetics: Study of physiological receptors and homeostatic mechanics. Psycho-Physics.
1 lecture (one term, half-course)

462b. Medical Electronics and Instrumentation: The principles and possibilities of precise measurements in biological research.
1 lecture (one term, half-course)

463a. Bioenergetics: Historical and modern aspects of living systems as illustrating the laws of thermodynamics; the steady state.
1 lecture (one term, half-course)

463b. Bioelectricity: Physical aspects of excitation, conduction and electrical activity of living cells.
1 lecture (one term, half-course)

480. Laboratory: This is the major laboratory course in experimental Biophysics for students in the Fourth Year Programme of Honours Biophysics.
Maximum time available.

481. Research and Seminars: 1 hour.

BOTANY

College of Science

Professors:

Clarence James Hickman, B.Sc., M.Sc., Ph.D. Birmingham, Head of the Department
Bruce Gordon Cumming, B.Sc. Reading; Ph.D. McGill
Wilbert Ezekiel McKeen, B.Sc., M.Sc., Ph.D. Toronto
Duncan Archibald McLarty, B.A.; Ph.D. Columbia
David George Wilson, B.A. Toronto and Queen's; M.A. Queen's; Ph.D. Wisconsin

Associate Professors:

Frankland Shaw Cook, B.A., Ph.D. Toronto
David Burton Walden, B.A. Wesleyan; M.Sc., Ph.D. Cornell

Assistant Professors:

Paul Brethen Cavers, B.S.A., Toronto; Ph.D. Wales
Richard I. Greyson, B.A. British Columbia; M.Sc., Ph.D. Oregon
Christopher Ernest Caten, B.Sc. Reading; Ph.D. Birmingham
Laszlo Orloci, B.S.F. Sopron; M.Sc., Ph.D. British Columbia
James Bird Phipps, B.Sc. Birmingham
Angela Myra Wellman, B.Sc., Ph.D. Bristol

Honorary Lecturers (Part-time):

Wolfgang Albert Andreae, M.Sc., Ph.D. McGill
K. Lakshminarayanan, B.Sc., M.Sc., Ph.D. Madras
William Harold Minshall, B.S.A. Toronto; M.Sc., Ph.D. McGill
Lloyd Thomas Richardson, B.A. McMaster; M.A., Ph.D. Toronto
Edward William Beswick Ward, B.Sc. Wales, M.Sc., Ph.D. Alberta

Instructor (Curator):

John K. Johannesen, Diploma, Royal Agricultural College, Copenhagen

Postdoctoral Fellows:

Sylvia B. Hirst, B.Sc., Ph.D. Liverpool (John Labatt Fellow)
P. S. Ramakrishnan, B.Sc. Madras; M.Sc., Ph.D. Banaras
K. Zachariah, B.Sc. Madras; B.A. Oxford; M.A., Ph.D. Princeton

Courses

20. Introductory Botany: For students of First Year General Programme (Natural Sciences); the general principles of Botany.
2 lectures, 3 laboratory hours—16

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 both in the Department of Botany and in the Department of Zoology. 2 lectures, 2 laboratory hours— 7

22. Biology: For students of First Year General Programme (Natural Sciences) the fundamental principles of biology stressing the features common to all living organisms. This course is given both in the Department of Botany and in the Department of Zoology. 2 lectures, 3 laboratory hours— 7

33. Plant Ecology: Methods of studying vegetation; environmental factors (physical and biological) that influence plant growth and distribution; development and distribution of plant communities. 1 lecture, 3 laboratory hours— 6

Prerequisite: Botany 20, Biology 21, or Biology 22.

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: Botany 20, Biology 21, or Biology 22. 2 lectures—13

36. Microbiology: Morphology, biology, classification and economic importance of micro-organisms.

Prerequisites: Botany 20, Biology 21, or Biology 22.

1 lecture, 3 laboratory hours— 3

37. Taxonomy and Phylogeny: Taxonomy and evolution with special references to flowering plants.

Prerequisite: Botany 20, Biology 21, or Biology 22.

1 lecture, 3 laboratory hours—28

42. Plant Physiology: Aspects of the physiology of growth and development including growth regulation, reproduction and dormancy.

1 lecture, 3 laboratory hours—19

Prerequisite: Botany 20, Biology 21, or Biology 22.

Honours Courses

Prerequisites for Second (250, 255), Third (300-353) and Fourth (442-499) Year courses: successful completion of previous year's programme or permission of the Head of the Department.

250. Vascular Plants: Comparative morphology and anatomy of vascular plants with emphasis on the experimental approach to the study of growth and morphogenesis.

2 *lectures*, 3 *laboratory hours*—10

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—13

300. Biometrics: Study of statistical methods and their application to biological data.

1 lecture, 1 laboratory hour—31

342. Cell Biology: Structure and function of cells, with emphasis on cell types, organelles, and the biochemical and physiological processes occurring within them.

2 lectures, 3 laboratory hours—11

351. Microbiology: A comparative study of the morphology, biology and relationships of algae, bacteria, fungi and viruses. Given in collaboration with the Department of Bacteriology and Immunology.

2 lectures, 3 laboratory hours—15

353. Ecology and Developmental Physiology: Ecological and physiological considerations of plant survival, growth and development.

2 lectures, 3 laboratory hours—20

357. Plant Taxonomy: Theory of taxonomy. Numerical taxonomy with emphasis on Q-techniques. Study of selected genus. History of taxonomic practice and theory.

1 lecture, 3 laboratory hours—35

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 for travel and subsistence.

442. Plant Biochemistry: Selected topics in plant biochemistry, including photosynthesis and nitrogen metabolism. Given in collaboration with the Department of Biochemistry.

1 lecture, 1 laboratory hour—27

443. Quantitative Plant Ecology: Sampling and description of natural communities. Analysis of distribution patterns. Ordination and classification procedure. *1 lecture, 1 laboratory hour—16*

452. Plant Physiology: Selected topics in plant physiology, with emphasis on translocation, water relations and mineral nutrition.

1 lecture, 1 laboratory hour—30

453. Experimental Plant Ecology: Plant responses to environment under experimental conditions, plant competition, evolution and plant ecology.

1 lecture, 1 laboratory hour— 6

454. Cytogenetics: The study of chromosomes and the genetic consequences of meiosis.

1 lecture, 1 laboratory hour— 1

455. Microbial Genetics: Aspects of genetics applying to micro-organisms. Given in collaboration with the Department of Bacteriology and Immunology.

1 lecture, 1 laboratory hour—25

457. Evolution of Plants: Micro-evolution - gene flow; differentiation of populations; isolation of populations - with particular reference to cultivated

plants. Micro-evolution - problems of hoho logy; reliability of the fossil record; semilogical techniques of deriving phylogenies. Geographical-chronological evidences. Biochemical and physiological evolution.

1 lecture, 1 laboratory hour—36

459. Radiobiology: Nature and effects of nuclear radiations on living cells and organisms. Radioecology. Methodology.

1 lecture, 1 laboratory hour—34

460. Algae and Limnology: Morphology and biology of fresh water algae with particular reference to their significance in natural waters.

1 lecture, 1 laboratory hour—21

461. Principles of Plant Pathology: Nature of plant diseases and of plant pathogens; relationships between host and pathogen; epidemiology of plant diseases; plant disease control.

1 lecture, 1 laboratory hour—10

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.

466. Bacteriology and Virology: Selected topics in bacteriology and virology with emphasis on current developments.

1 lecture, 1 laboratory hour—19

471. Mycology: Selected topics in mycology with emphasis on current developments.

1 lecture, 1 laboratory hour—14

499. Laboratory: A laboratory investigation in a selected field with presentation of a seminar and thesis. 9 laboratory hours

BUSINESS ADMINISTRATION

University College

(Members of the Faculty of the School of Business Administration)

Assistant Professor:

Robert E. Sproule, B.Comm., M.B.A., Ph.D.

Lecturers:

Norman B. MacIntosh, B.Comm., M.B.A., C.A.
James R. Nininger, B.Comm., M.B.A.
Rein Peterson, B.Eng., M.B.A.

Instructor:

George Forsyth, B.I.E., M.B.A.

Courses

20. Introduction to Business Organization: 3 hours— 5.

250. Fundamental of Accounting: 3 hours—21.

CHEMISTRY

College of Science

Professors:

Andrew E. Scott, B.Sc., Ph.D. St. Andrews, Head of the Department
Howard C. Clark, B.Sc., M.Sc., Ph.D. Auckland; Ph.D. Cantab., Senior Professor
Patrick W. M. Jacobs, B.Sc., M.Sc. Natal; Ph.D., D.Sc. London, Senior Professor
Paul de Mayo, B.Sc., M.Sc., Ph.D. London, Senior Professor

Associate Professors:

Donald M. Graham, B.Sc., M.Sc.; Ph.D. Brooklyn Poly. Inst.
Walter C. Howell, B.Sc., M.Sc., Ph.D. (Administrative Assistant)
James F. King, B.Sc., Ph.D. New Brunswick
John W. Lorimer, B.A., M.A., Ph.D. Toronto
John B. Stothers, B.Sc. M.Sc.; Ph.D. McMaster
A. John Sukava, B.Sc., M.Sc. Manitoba; Ph.D. McGill
Edgar W. Warnhoff, A.B. Washington U.; Ph.D. Wisconsin

Assistant Professors:

Howard W. Baldwin, B.A., M.A. Saskatchewan; Ph.D. Chicago
Dino R. Bidinosti, B.Sc., M.Sc. Manitoba; Ph.D. McMaster
Raymond K-C. Chan, B.A., Ph.D. Toronto
Roland A. Haines, B.Sc., M.Sc. Dalhousie; Ph.D. Pittsburgh
Duncan H. Hunter, B.Sc. Alberta; Ph.D. U.C.L.A.
R. Garth Kidd, B.Sc., M.Sc. Manitoba; Ph.D. London
Thomas C. W. Mak, B.Sc., Ph.D. British Columbia
William J. Meath, B.Sc. Carleton; Ph.D. Wisconsin
Patricia Reynolds-Warnhoff, A.B. Trinity College, Washington, D.C.; M.Sc. M.I.T.; Ph.D. Southern California
Christopher J. Willis, M.A., Ph.D. Cantab

Sessional Lecturer:

Calliope Prevedorou-Demas, B.Sc. Alexandria; Ph.D. London

Honorary Appointments

Professors:

James W. Burns, B.A.Sc. New Brunswick, M.Sc. Queen's; LL.D.
Elvins Y. Spencer, M.Sc. Alberta; Ph.D. Toronto
J. Keith Watson, B.A., M.A. McMaster; M.A., Ph.D. Toronto

Lecturers:

Charles C. Bigelow, B.A.Sc. Toronto; M.Sc., Ph.D. McMaster
Kenneth K. Carroll, B.Sc. New Brunswick; M.Sc. Toronto; Ph.D.
William L. Magee, B.Sc., M.Sc., Ph.D.
David M. Miller, B.Sc., M.Sc. Alberta; Ph.D. McGill
J. Russell Robinson, B.S.A., M.S.A. Toronto; Ph.D.
Albert Stoessl, B.Sc., Ph.D. London
Kenneth P. Strickland, B.Sc., M.Sc., Ph.D.
G. Denis Thorn, B.Sc. Alberta; M.A. Queen's; Ph.D. McGill

Laboratory Supervisor:
Duncan A. MacRae, B.A.

Postdoctoral Fellows:
Alexander D. Beveridge, B.Sc., Ph.D. Glasgow; James V. Davies, B.Sc., M.Sc., Ph.D. Manchester; Katsuya Endo, B.Sc., M.Sc., Ph.D., D.Sc. Tohoku Univ., Japan; Owen E. Facey, B.Sc., Ph.D. London; Daniel P. Helmlinger, docteur du 3e cycle, Strasbourg; Maurice Hirst, B.Sc., Ph.D. Liverpool; Gordon L. Lange, B.Sc. Alberta; Ph.D. U. of Cal.; Alastair E. Pope, B.Sc., M.Sc., Ph.D. Manchester; Ronald B. Yeats, B.Sc., Ph.D. Durham

Courses

20. General Chemistry: For students in General Programme (Natural Sciences) who have taken, or are taking concurrently, Mathematics 24.
2 lectures, 3 laboratory hours—25

21. General Chemistry: For students not intending to specialize in Science.
2 lectures, 1 ½ laboratory hours—25

22. General Chemistry: For students in General Programme (Natural Sciences).
2 lectures, 3 laboratory hours—25

24. General Chemistry: For students in Engineering Science.
2 lectures, 3 laboratory hours—25

32. Inorganic and Analytical Chemistry: For General Programme students.
Prerequisite: One of — Chemistry 20, 21, 22, 24.
2 lectures, 3 laboratory hours—32

33. Organic Chemistry: For Home Economics and General Programme students.
Prerequisite: One of — Chemistry 20, 21, 22, 24.
2 lectures, 3 laboratory hours—25

44. Physical Chemistry: For General Programme students.
Prerequisite: Mathematics 20 or 24 and one of Chemistry 20, 22 or 24.
2 lectures, 1 ½ laboratory hours— 2

46. Biochemistry: For Home Economics and General Programme students.
Prerequisite: Chemistry 33 or 203.
2 lectures, 3 laboratory hours— 3

Honours Courses

203. Organic Chemistry: For prospective Medical students and students in Honours Biology.
Prerequisite: One of — Chemistry 20, 22, 24.
2 lectures, 1 ½ laboratory hours—23

204. Physical Chemistry: For students in Honours Biology and Geology. (Familiarity with calculus is desirable for this course.)
Prerequisite: One of — Chemistry 20, 22, 24.
2 lectures, 1 ½ laboratory hours— 2

211. Principles of Inorganic Chemistry: For students in Engineering Science.
2 lectures, 3 laboratory hours— 6

214. Elementary Physical Chemistry: For students in Engineering Science.
3 lecture hours—12

253. Elementary Organic Chemistry: For students in Honours Chemistry.
2 lectures, 3 laboratory hours— 2

254. Elementary Physical Chemistry: For students in Honours Chemistry.
3 lecture hours— 8

261. Principles of Inorganic and Analytical Chemistry: For students in Honours Chemistry.
2 lectures, 6 laboratory hours—13

313. Elementary Organic Chemistry: For Chemical Engineering students. Content similar to Chemistry 253.
2 lectures, 1½ laboratory hours— 2

314. Intermediate Physical Chemistry: For Chemical Engineering students. Content similar to Chemistry 354.
3 lectures, 1½ laboratory hours— 7

351. Intermediate Inorganic Chemistry: For students in Honours Chemistry.
2 lectures, 3 laboratory hours— 4

353. Intermediate Organic Chemistry: For students in Honours Chemistry.
3 lectures, 4 laboratory hours—34

354. Intermediate Physical Chemistry: Chemical thermodynamics, phase equilibria, electrochemistry, and chemical kinetics. For students in Honours Chemistry.
3 lectures, 3 laboratory hours—11

374. Quantum Chemistry I: An introduction to the theory of atomic and molecular structure.
2 lecture hours—34

402. Inorganic and Analytical Chemistry: For students in Honours Biology. Prerequisite: One of — Chemistry 20, 22, 24.
2 lectures, 3 laboratory hours—32

409. Laboratory: Designed to accompany the lecture work of the 4th Year Honours Chemistry.
6 laboratory hours

413. Intermediate Organic Chemistry: For Chemical Engineering students. Content similar to Chemistry 353 but without laboratory work.
3 lecture hours—20

451. Advanced Inorganic Chemistry: Selected Topics.
2 lecture hours— 3

452. Instrumental Analysis: 1 lecture hour, half course—26

453. Advanced Organic Chemistry: Selected topics. 2 lecture hours— 7

454. Advanced Physical Chemistry: Statistical thermodynamics. 2 lecture hours—19

459. Research and Seminar: 6 hours

474. Quantum Chemistry II: A continuation of Chemistry 374. 2 lecture hours—31

CLASSICS

Talbot College

Professors:

Alfred Ernest Raymond, B.A.; M.A. Toronto; Ph.D. Chicago, Head of the Department; W. Sherwood Fox Professor of Classics
John Danby Ralph, B.A. Queen's; Ph.D. Chicago (part-time)

Associate Professor:

Douglas Earl Gerber, B.A., M.A.; Ph.D. Toronto

Assistant Professors:

Ivars Avotins, B.A. Toronto; M.A. Harvard (on leave)
Hamilton Baird Timothy, M.A., B.D. Glasgow; B.A. London; Ph.D. Edinburgh

Lecturers:

Donald Edward Hill, M.A. Cantab.; M.A. Washington (St. Louis)
G. R. Lambert, B.A. Toronto; M.A. Toronto (part-time)
Antony Robert Littlewood, B.A. Leeds; B.Litt. Oxon.
Charles Leslie Murison, M.A. Edinburgh; M.A. Cantab.

GREEK COURSES

1. Elementary Greek: A preparatory course for those who wish to begin the study of Greek at the University. 3 hours—28

10. Freeman and Lowe, Greek Reader; Plato, "Crito"; composition, sight translation. 3 hours—28

Prerequisite: Grade 12 Greek or Greek 1

20. Plato, "Apology"; a play of Euripides; composition, sight translation. 3 hours— 5

Prerequisite: Grade 13 Greek or Greek 10

30. Selections from the speeches of Lysias and Demosthenes; composition, sight translation. 3 hours—12

Prerequisite: Greek 20

40. Greek Tragedy: One play each of Aeschylus, Sophocles, Euripides; lectures on the theatre and the development of the drama; composition, sight translation. 3 hours—12

Prerequisite: Greek 30

Honours Courses

230. The Attic Orators: Selections from Lysias and Demosthenes.
2 hours—12

Prerequisite: First Year, General Programme (Humanities or Social Sciences) including Greek 20.

250. The Greek Epic: Selections from the "Iliad" and the "Odyssey".
1 hour: half course—17

Prerequisite: First Year, General Programme (Humanities or Social Sciences) including Greek 20.

251. Composition and Sight Translation.
Prerequisite: First Year, General Programme (Humanities or Social Sciences) including Greek 20.
2 hours—21

257. Ancient Civilizations: the Near East, Greece, and Rome. Identical with Latin 257 and History 357
3 hours—24

340. Greek Tragedy: One play each of Aeschylus, Sophocles, Euripides; lectures on the theatre and the drama.
Prerequisite: Greek 230
2 hours—12

350. (i) Introduction to the Greek Historians: Herodotus
(ii) Greek Comedy: a play of Aristophanes.
Prerequisite: Greek 230
2 hours—23

351. Composition and Sight Translation
Prerequisite: Greek 251
1 hour: half course—18

352. Introduction to Greek Philosophy: Plato, "Republic".
Prerequisite: Greek 230
2 hours—34

450. The Greek Historians: Thucydides.
Prerequisites: Greek 340, 350
2 hours—24

451. Composition and Sight Translation.
Prerequisite: Greek 351
1 hour: half course—25

452. Greek Philosophy: Plato, Aristotle.
Prerequisite: Greek 352
3 hours—35

453. Greek Lyric Poetry: selections from the early elegiac, iambic, and lyric poets.
Prerequisites: Greek 340, 350
3 hours, one term: half course—12

457. Greek and Roman History: lectures, readings, and reports. Prescribed for students in Honours Classics or Latin with Greek, optional with the consent of the instructor for other qualified students. Identical with Latin 457.
2 hours— 1

LATIN COURSES

20. Pliny, "Letters"; Virgil, "Aeneid" IV; composition and sight translation.
Prerequisite: Grade 13 Latin or Latin 10 — 3 hours—26

30. *Selections from Catullus and Horace, "Odes".*
Prerequisite: Latin 20 — 2 hours—25

34. Cicero; composition and sight translation.
Prerequisite: Latin 20 — 2 hours— 4

40. Selections from Virgil, "Aeneid" I-VI; Horace, "Satires"; Juvenal, "Satires".
Prerequisite: Latin 30 — 2 hours—14

44. Livy; composition and sight translation.
Prerequisite: Latin 34 — 2 hours—34

Honours Courses

230. Selections from Catullus and Horace, "Odes".
Prerequisites: First Year, General Programme 2, including Latin 20.
2 hours—25

250. Cicero. "Pro Caelio".
1 hour: half course— 1
Prerequisites: First Year, General Programme 2, including Latin 20.

251. Composition and Sight Translation.
Prerequisites: First Year, General Programme 2, including Latin 20.
2 hours—34

257. Ancient Civilizations: the Near East, Greece and Rome. Identical with Greek 257 and History 357. — 3 hours—24

340. Virgil; His life and work; "Eclogues", "Georgics", "Aeneid" (partly in translation).
Prerequisite: Latin 230 — 2 hours—14

350. Cicero: the history of his life and times; Selected Letters, "De Senectute", "Philippic I".
Prerequisites: Latin 230, 250 — 2 hours—31

351. Composition and Sight Translation.
Prerequisite: Latin 251 — 1 hour: half course—25

352. Roman Comedy, with an introduction to historical Latin Grammar.
Prerequisites: Latin 230, 250 — 1 hour: half course— 1

450. Roman Historians: with special reference to Livy and Tacitus.
Prerequisites: Latin 340, 350, 352 2 hours—19

451. Composition and Sight Translation.
Prerequisite: Latin 351 1 hour: half course—29

452. Lucretius, "De Rerum Natura" (selections); Roman Satire (selections from Horace, "Satires", and Juvenal).
Prerequisites: Latin 340, 350, 352 2 hours— 7

453. Minor Latin Poets: a study primarily of Silver Age Poets with special emphasis on Latin metre; Horace, "Satires" I. 4, 10; "Ars Poetica".
Prerequisites: Latin 340, 350, 352 3 hours, one term: half course—13

457. Greek and Roman History: lectures, readings, and reports. Prescribed for students in Honours Classics or Latin with Greek, optional with the consent of the instructor for other qualified students. Identical with Greek 457.
2 hours— 1

COMPUTER SCIENCE

College of Science

Professor:
John Francis Hart, B.A., M.A., Ph.D. Toronto (Head of Department)

Associate Professors:
M. Sibuya, M.Eng. Tokyo
S. Takasu, D.Sc. Tokyo

Assistant Professors:
G. Beckhoff, M.Sc. Southern Methodist, Dallas
N. D. Jones, B.A. Southern Illinois, M.A. U.W.O.
Z. W. Pylyshyn, Ph.D. Saskatchewan (Joint appointment with Psychology)

Lecturers:
J. M. Bennett, B.Sc. Queen's, M.A. U.W.O.
C. Dunham, M.A. U.B.C.
F. Zabransky, B.A.Sc. Toronto, M.A. U.W.O., P.Eng.

Instructors:
A. G. Wilford, B.A. Queen's, M.A. Toronto
A. Szilard, B.A. U.W.O.

Courses

Students in the General Programme who wish to major in Computer Science courses should consult with the Head of the Department.

30. Introduction to Computer Science: An introduction to the nature and significance of the computer considered as an automaton, as a means of processing information, as an ingredient in large social and scientific systems; laboratory exercises to give experience in the use of a computer to solve practical problems.
2 lectures, 2 laboratory hours—22

31. Elements of Information Processing: An introductory course on the use of a digital computer in E.D.P. applications; emphasis on computer hardware, programming fundamentals, information processing, and general systems theory.

2 lectures, 2 laboratory hours— 6

33. Computer Logic and Programming: Theory of Boolean Algebra and switching circuits, basic logical elements of a digital computer, logical design of computer components; software systems — compilers, interpreters, monitor systems, design of languages.

Prerequisite: A course in programming.

2 lectures, 2 laboratory hours—33

34. Digital Computer Programming: An intensive first course in computer programming for students in the General Programme or for Honours Students in the Social Sciences or Humanities. Emphasis on a compiler language and its applications to computer-oriented statistics, simulation and non-mathematical problems.

2 lectures, 2 laboratory hours—26

41. Advanced Information Processing: Primarily a laboratory course in which the student is 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.

Prerequisite: C. S. 31 or a course in programming.

1 lecture, 3 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. (Not offered 1966-67.)

Prerequisite: Algol or Fortran programming, Math. 24 3 hours—10

Honours Courses

200. Digital Computer Programming: A thorough introduction to computer programming techniques, with emphasis on ALGOL, machine language, numerical methods, and statistics.

Prerequisite: Mathematics 20 or 24. 2 lectures, 2 laboratory hours—26

206. Seminar: A study of General Systems concepts and their relationship to Information Science. 1 hour

306. Seminar — General Systems: Applications from the technical standpoint. Introduction to the analysis of linear systems with emphasis on feedback systems, applications to biological systems. 1 hour

313. Computer Logic and Programming: Theory of Boolean algebra and switching circuits, basic logical elements of a digital computer, logical design

of computer components, theory of Automata; software systems — compilers, interpreters, monitor systems, design of languages.

Prerequisite: A course in computer programming.

2 lectures, 2 laboratory hours—33

403. Introduction to Computing Algorithms: Algorithmic aspects of traditional problems in numerical analysis (approximation, linear algebra, differntial equations). Discussions of error analysis and functional analysis. Some topics in mathematical programming.

Prerequisite: Short course in ALGOL or FORTRAN.

2 lectures, 2 laboratory hours— 5

404. Theory of General Systems: A study of the mathematical theories related to General Systems and their applications in Computer Science.

3 hours—23

405. Simulation Laboratory: Construction of mathematical models of various natural and social systems and their computer solutions. Monte Carlo methods, simulation languages.

2 lectures, 2 laboratory hours— 2

413. Non-Numeric Computing: One semester of programming techniques for non-numeric computation, including translation of algebraic languages, and artificial intelligence programs; one semester on Theory of Computability, i.e., Turing machine and recursive function theory, mathematical machine theory, and formal language theory.

Prerequisite: Mathematics 350 (taken previously or concurrently), and Computer Science 200. 2 lectures, 2 laboratory hours—17

ECONOMICS

University College

Professors:

Grant Louis Reuber, B.A., A.M., Ph.D. Harvard; Head of the Department
Kevin Hubert Burley, B.Sc., B.A., Ph.D. London; Visiting Professor
Mark Keith Inman, B.A. Acadia; M.A., Ph.D. Harvard; D.Litt. Acadia; Vice-President, Arts and Science
William Hendrik Somermeyer, LL.D. Leyden; Ph.D., (Econ.), Rotterdam
Ronald Johnston Wonnacott, B.A., A.M., Ph.D. Harvard

Associate Professors:

Ronald George Bodkin, B.A. Swarthmore; M.A., Ph.D. Pennsylvania
Steve Gabriel Peitchinis, B.A., M.A., Ph.D. London

Assistant Professors

David Edward Bond, B.A. Dartmouth; M.A., Ph.D. Yale
Malcolm Galatin, B.Sc., (Econ.), London; Ph.D. M.I.T.
Suraj Bhan Gupta, B.A., M.A. Punjab; Ph.D. Chicago
Bruce William Wilkinson, B.A. Saskatchewan; M.A. Alberta; Ph.D. M.I.T.

Lecturers:

Anastasios Anastasopoulos, A.B. Athens; M.A. Rochester
Thomas Joseph Courchene, B.A. Saskatchewan
Carl E. Beigie, A.B. Muskingum
James Rae Melvin, B.Sc. Manitoba; M.A. Alberta
Louis Parai, B.A. Alberta; M.A. Toronto
Thomas Russell Robinson, B.Com. British Columbia; M.A. Yale
Frank Roseman, B.A. Sir George Williams; M.A. McGill
William David Walsh, B.Com. British Columbia; M.A. Yale
William Edward Vickery, B.E. Vanderbilt; M.B.A. Harvard
George Marcous Youssef, B.A. Cairo; M.A. California

General Courses: A student who has taken a General Degree with a major in Economics can fulfill the requirements for a Master of Arts degree in Economics in two years.

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

30. Price and Income Analysis: A study of the allocation of resources under various market conditions; the measurement and determination of national income, employment and prices; economic growth.
Prerequisite: Economics 20. 3 hours—34

31. Resource Allocation and Growth Policies in Canada: The principles of resource allocation and economic growth applied to the problem of devising public policies to stimulate the growth of the Canadian economy.
Prerequisite: Economics 20. 3 hours—24

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 U.S.S.R.
Prerequisite: Economics 20. 3 hours—20

33. Money, Banking, and Income: National income analysis, employment and prices, taxation and fiscal policy. Canadian banking and monetary policy, debt management, international monetary problems.
Prerequisite: Economics 20. 3 hours—15

35. Descriptive Statistics: Classification of statistical units; collection, processing, derivation, presentation, evaluation and analysis of statistical data; national accounting and forecasting.
Prerequisite: Economics 20 2 hours—10

36. Labour Economics: A study of the labour market, wage determination and the relationship between wages, employment and prices.
Prerequisite: Economics 20. 3 hours— 4

37. Economic History of North America: An examination of the sources of North American economic development.
Prerequisite: Economics 20. 3 hours— 9

38. International Trade and Economic Development: A review of the principles of international economics and economic development and their application to contemporary problems in the international economy.
Prerequisite: Economics 20. 3 hours—28

39. Economic History of Europe: An examination of the structure and growth of the European economy since the Middle Ages.
Prerequisite: Economics 20. 3 hours— 5

Honours Courses: Honours Courses are restricted to students who have the prescribed prerequisites and are enrolled in Honours Economics, Mathematics, History, or any other Honours Course and to students enrolled in Pre-business and Engineering Science.

230. Economic Theory. 3 hours—17
Prerequisite: Economics 20 with at least 66% or permission of the instructor.

237. Economic History of North America.
Prerequisite: Economics 20. 3 hours— 9

255. Statistics: Probability; sampling; interval estimation of economic parameters; testing of hypotheses; index numbers; multiple regression; correlation; identification, serial correlation and other statistical problems.
3 hours—25

333. Money, Banking and Income.
Prerequisite: Economics 230. 3 hours and a seminar—15

351. International Economics.
Prerequisite: Economics 230 3 hours—36

434. Industrial Organization.
Prerequisite: Economics 230 2 hours—24

440. Income, Employment, Prices.
Prerequisites: Economics 333, 351. 3 hours—11

447. Economic History of Europe.
Prerequisite: Permission of the instructor. 2 hours—27

450. History of Economic Thought.
Prerequisite: Economics 230 or permission of the instructor. 2 hours—20

451. Problems of the International Economy.
Prerequisite: Economics 351 2 hours—36

455. Mathematical Economics. 3 hours— 2
Prerequisites: Economics 230 and Mathematics 20 or 24, or permission of the instructor.

460. Resource Allocation, Economic Welfare and Growth.
Prerequisite: Economics 230 3 hours—31

463. Public Finance.
Prerequisite: Economics 230 2 hours— 8

480. Seminar.
Prerequisite: Economics 333, 351. 2 hours.

495. Econometrics.
Prerequisite: Economics 455 and permission of the instructor.
2 hours— 5

497. Advanced Economic History.
Prerequisite: Economics 447 and permission of the instructor.
2 hours—16

ENGLISH

University College

Professors:

John Whichello Graham, B.A. Manitoba; M.A.; Ph.D. Toronto, Head of the Department
William Eric Duncan Atkinson, B.A. Cantab.; Ph.D. Chicago
Alfred Brandon Conron, D.S.O., B.A., M.A., A.M., Ph.D. Harvard
Balachandra Rajan, B.A., M.A., Ph.D. Cantab., Senior Professor of English Literature

Associate Professors:

Ronald Gordon Nudell Bates, B.A., M.A., Ph.D. Toronto
Herbert Berry, B.A. Furman; M.A., Ph.D. Nebraska
George E. Buckley, B.A. Mt. Allison; M.A. Columbia
David Kaula, B.A. Cornell; Ph.D. Indiana
Clifford Earle Sanborn, B.A., M.A., Ph.D. Toronto

Assistant Professors:

Thomas J. Collins, B.A., M.A., Ph.D. Indiana
Donald S. Hair, B.A.; M.A., Ph.D. Toronto
James M. Kuist, A.B. Davidson College; M.A., Ph.D. Duke
Ian Arnold MacDonald, B.A. Saskatchewan; M.A. Northwestern; Ph.D. Ohio State

Leroy J. Morrissey, B.A. Nebraska; A.M. Chicago; Ph.D. Pennsylvania
John A. B. Somerset, B.A. Toronto; M.A. Birmingham
Ann Therese Straulman, B.A. Wellesley; M.A. Kansas City
Richard MacMillan Stingle, B.A., M.A. Toronto

Honorary Lecturer:

Albert William Trueman, M.A. Oxon. (Dean of University College)

Lecturers:

Mary M. Brown (Mrs. C.) B.A., M.A.
E. J. Devereux, B.A., M.A. Newfoundland
Gerald Douglas Parker, B.A. Acadia; M.A. Dalhousie
Elizabeth Bieman (Mrs. G.), B.A., M.A.

Instructors:

John Anonby, B.A., M.A. British Columbia
Michael Bell, B.A. London
Linda Dawson (Mrs. P.), B.A., M.A.
Richard John Gray, B.A. Cantab.
Ann Orendorff, B.A.
D. H. Parker, B.A.
Chandra Rajan (Mrs. B.), B.A., M.A. Delhi. Part-time

Middlesex College

Professors:

Carl Frederick Klinck, B.A., M.A.; Ph.D. Columbia; F.R.S.C.; Senior Professor of Canadian Literature
Hugo McPherson, B.A. Manitoba; M.A.; Ph.D. Toronto
James Reaney, B.A., M.A., Ph.D. Toronto
Ross Greig Woodman, B.A. British Columbia; M.A. Manitoba; Ph.D. Toronto

Associate Professors:

Paul Duncan Fleck, B.A., M.A.; Ph.D. Belfast, Head of the Department
Betty Bandeen, B.A.; A.M., Ph.D. Radcliffe
Anne C. Bolgan, B.A. D'Youville, M.A., Ph.D. Toronto
Geoffrey Rans, M.A. Cantab.; Ph.D. Leeds

Assistant Professors

Donald H. Hensley, B.A., M.A. Oregon; Ph.D. Wisconsin
Victor M. Hoar, B.A. Illinois; M.A. Connecticut; Ph.D. Illinois
Neil C. Hultin, B.A. Concordia; M.A. Chicago; Ph.D. Johns Hopkins

Lecturer:

Mitchell E. Smith, B.A. Texas; M.A. Columbia; M.A. Yale

Instructors:

Brian Crick, B.A.
George Hess, B.A.
Diane King (Mrs. J.) B.A. Queens
Peter M. Palmer, B.A. Sir George Williams
Peter Magee, B.A., M.A.

Courses

Detailed descriptions of the following courses may be obtained from the offices of the Department of English.

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

20. General Literature and Composition: Short stories, novels, plays, and a selection of poems from Chaucer to T. S. Eliot. There will be some study of English composition and six assignments (at least one of them a test) will be required. 3 hours—11

No student will be admitted to any of the following courses until he has successfully completed English 20.

32. Literature of the Nineteenth Century: Selected works by Wordsworth, Coleridge, Shelley, Keats, Byron, Arnold, Tennyson, Browning, Newman, Huxley, Pater, and other writers. 3 hours—11

34. Shakespeare: A study of the major plays. 3 hours— 2

36. Drama: A study of English and American dramatists against a background of Classical, Renaissance, and Modern European drama. 3 hours—27

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. Literature of the United States and Canada (English): Selected works by American authors from Franklin to Faulkner and by Canadian authors from Haliburton to Page. 3 hours—17

41. Creative Writing: Not offered 1966-67.

44. The English Novel: A study of representative English, continental, and American novels from the eighteenth century to the present. 3 hours—33

45. 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

49. Literature of the Twentieth Century: Selected works by poets and novelists, chiefly British. 3 hours— 8

Speech 39. The major forms of oral discourse. 2 hours—30

Dramatics 46. Play Direction: An introductory course, with instruction in directing and acting, and participation in acting exercises and a final production. 2 hours— 9

Honours Courses

237. History of the English Language. 2 hours—16

253. Comparative Philology: Offered by the Departments of English, Russian, German, and Romance Languages to students in the Honours Comparative Literature programme. 1 hour— 1

256. Shakespeare. 2 hours—11

263. Old English Language and Literature: with special emphasis on Beowulf. 2 hours— 2

270. Literature of the Romantic Revival (1798-1832). 2 hours— 8

280. Literature of the Sixteenth Century, excluding drama. 2 hours—24

354. Criticism: A survey of the major critics, and problems in terminology and practical criticism. 2 hours—22

360. Literature of the Victorian Period (1832-1900). 2 hours— 7

366. Elizabethan and Jacobean Drama, exclusive of Shakespeare. Not offered 1966-67—5

373. Chaucer and his age. 2 hours—36

380. Literature of the Seventeenth Century, exclusive of drama. 2 hours—12

400. 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 the Head, the Department of English, Middlesex College **before the day of registration.**

401. Problems course. Two one-term tutorials in special problems selected by the instructors: first term — poetry and drama; second term — point of view in the novel. 2 hours

427. General English Linguistics. Not offered until 1967-68. 2 hours—28

436. Modern English and American Drama. 2 hours—23

438. American and English-Canadian Literature. 2 hours—27

444. The English Novel. 2 hours—33

459. Literature of the Twentieth Century: selected works by poets and novelists, chiefly British. 2 hours— 9

480. Restoration and Eighteenth Century Literature (1660-1780). 2 hours—31

GEOGRAPHY

Middlesex College

Professors:
Edward G. Pleva, B.A., M.A., Ph.D. Minnesota, Head of Department
Norman L. Nicholson, B.A., M.Sc., Ph.D. Ottawa; F.R.G.S.; Senior Professor
Allan K. Philbrick, B.A., M.S., Ph.D. Chicago
Robert W. Packer, B.A., M.A. Cantab.; F.R.G.S.

Associate Professors:
Osmund P. Langtvet, C.Mag., C.Phil. Oslo
Charles F. J. Whebell, B.A., M.Sc., Ph.D. London
Harry N. Taylor, B.A. Westchester State; M.A. Indiana; Ph.D. Maryland

Assistant Professors:
Robert McDaniel, B.A., M.A.
Victor W. Sim, B.A. McMaster; M.A. Clark; Ph.D. McGill
James W. Simmons, B.Sc.; Ph.D. Chicago
Robert W. Wightman, B.A., M.A., Ph.D. University of Durham

Lecturers:
Michael J. Troughton, B.A.; B.Litt. Oxon.
Paul M. Bruer, B.A.Sc., M.A. Illinois (Part-time)
Donald E. Guard, B.A.Sc., M.Sc., Manitoba (Part-time)
Hilborn, W. H., B.Sc., Toronto (Part-time)
Leonard N. Johnson, B.S.A. Toronto; M.A. (Part-time)
Donald M. Scott, B.Sc., M.Sc., Toronto (Part-time)

Lab. Technician
S. Sauer, B.A.

Assistant
Stephen Byles, B.A. Toronto

Preceptor:
Gunars Subins, B.A. Waterloo Lutheran; M.Sc.

Commonwealth Fellows:
Nazrul Islam, B.A., M.A. Dacca
Yue-man Yeung, B.A. Hong Kong

Graduate Assistants:
J. G. Adams, B.A.; D. J. Alexander, B.A. Toronto; P. J. Bradley, B.A.; R. L. Brown, B.A. George Williams; T. E. Bunting, B.A. Toronto; C. P. Clute, B.A. Toronto; D. J. Davis, B.A.; M. J. Dillon, B.A. Carleton; W. W. Fieguth, B.A.; R. N. Grainger, B.A.; F. M. Helleiner, B.A.; C. Herniman, B.A. Windsor;

P. S. Kiely, B.A. Toronto; G. Kokich, B.A. Windsor; J. Konarek, B.A. McMaster, M.Sc. Wisconsin; V. C. Last, B.A. Toronto; W. A. Lawrence, B.A.; I. A. McKay, B.A.; D. C. Mennill, B.A.; H. G. Mills, B.A.; T. Richards, B.A. Wales; E. A. Scott; J. Sood, B.A., M.A. Punjab; E. S. Spence, B.A.; W. C. Thomas, B.A.; J. W. Thorsell, B.A. Alberta

Courses

20. Elements of Physical Geography: The earth as the home of man; the elements of the physical landscape with special reference to man's adjustment to them.
2 lectures and 2 hours practical work— 3

32. Cultural Geography: Concepts, systematic distribution, regional constructs, world perspective, and problems of cultural geography.
2 lectures and 2 hours practical work—35

39. Elements of Economic Geography: The relationships between resources and economic activities with consideration of the resource base, location theory and trade patterns.
2 lectures and 2 hours practical work—12

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: 2 courses in Geography or permission.
2 lectures and 2 hours practical work—31

46. 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— 3

Honours Courses

200. Quantitative Methods in Geography: Methods of analyzing geographical data, including some discussion of the scientific method and an introduction to statistical methods.
Prerequisite: Mathematics 20 or 24 or permission (may be taken concurrently).
2 lectures and 2 hours practical work—25

230. Advanced 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 non-physical geography with emphasis on concepts and research techniques in biogeography, demography, settlement and urban geography, anthropogeography, historical geography, political geography.
Prerequisite: Geography 20 or equivalent.
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.

2 lectures and 2 hours practical work—12

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.

Prerequisites: 2 courses in Geography 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 analysed in detail emphasizing culture and cultural progression. Practical work includes map analysis and seminars on selected problems.

Prerequisites: 2 courses in Geography or permission.

2 lectures and 2 hours practical work— 3

430. Climatology: A study of the climates found on earth and their conditions.

Prerequisites: Geography 230 or permission.

2 lectures and 2 hours practical work— 4

431. Geomorphology: Examination of recent periodical literature with particular emphasis on geomorphic processes, current research techniques, and the physiographic development of selected Canadian regions.

Prerequisites: Geography 230 or permission.

2 lectures and 2 hours practical work— 5

432. Advanced Cultural Geography: A critical examination of theories and practical studies in modern and contemporary cultural geography.

Prerequisites: 3 courses in Geography, including Geography 232.

2 lectures and 2 hours practical work— 7

433. Urban Geography: Systems of cities; land use, social, cultural, and political patterns within the city; urban problems.

Prerequisites: 2 courses in Geography or permission.

2 lectures and 2 hours practical work—11

434. Agricultural Geography: A general study of the factors involved in agricultural production and the classification of agricultural systems. Topical and regional studies with particular attention to tropical and underdeveloped areas.

Prerequisites: 2 courses in Geography or permission.

2 lectures and 2 hours practical work— 9

435. Geographical Aspects of Resources Analysis: A geographical approach to interpretive programs of resources analysis. Special problems in river basin or watershed development.

Prerequisites: 2 courses in Geography or permission.

2 lectures and 2 hours practical work—13

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: Political Geography: A general study of geographical factors in governmental organization; a survey of the political-territorial units of the world in their geographical settings; an introduction to Geopolitics.

Prerequisites: 3 courses in Geography or permission.

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.

Prerequisite: Mandatory for third and fourth year honours.

Sessions and hours by arrangement. (Half course)

447. Historical Geography: Systematic and cross-sectional approaches to certain aspects of the historical geography of North America with special reference to Canada.

Prerequisite: 2 courses in Geography or permission.

2 lectures and 2 hours practical work—10

448. Senior Seminar in Geography: Presentation and discussion of papers on various geographical subjects: informal discussion of topics of current geographical interest: occasional lectures and symposia by staff and visiting professors.

Prerequisites: Mandatory for Fourth Year Honours.

Hours by arrangement. (Half course)

450. Senior Research and Report in Geography: A report on a geographical problem including the results of field work, cartographic representation, and a study of the relevant literature.

Prerequisites: Mandatory for fourth year honours.

Hours by arrangement. (One and one-half courses)

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.

Prerequisites: 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.

Prerequisites: 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.
Prerequisites: 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.
Prerequisites: 3 courses in Geography or permission.
2 lectures and 2 hours practical work—34

464. U.S.S.R. and Eastern Europe. Not given 1966-67—36

465. Middle East (Southwest Asia and North Africa). Not given 1966-67—22

466. Africa. Not given 1966-67—30

467. Malaysia, Australasia, and the Pacific. Not given 1966-67—34

468. South, East, and Southeast Asia (particularly India, China, Japan). Not given 1966-67—17

GEOLOGY

College of Science

Professors:
Charles Gordon Winder, B.Sc.; Ph.D. Cornell; Head of the Department
George Harold Reavely, B.A., M.A.; D.I.C. London; Assistant Dean
George Gordon Suffel, B.Sc., M.Sc. Queen's; Ph.D. Stanford
Aleksis Dreimanis, Mag.rer.nat., Riga (on leave 1966-67)

Associate Professor:
Richard William Hutchinson, B.Sc.; M.Sc., Ph.D. Wisconsin

Assistant Professors:
William R. Church, B.Sc., Ph.D. Wales
Alan D. Edgar, B.A., M.Sc. McMaster; Ph.D. Manchester
Alfred C. Lenz, B.Sc., M.Sc. Alberta; Ph.D. Princeton
Michael E. L. Fleet, B.Sc., Ph.D. Manchester
John Starkey, B.Sc., Ph.D. Liverpool

Lecturer:
Grant M. Young, B.Sc. Glasgow

Visiting Lecturer:
Franz Mayr, Ph.D., Innsbruck

Preceptor:
Uldis J. Vagners, B.A.Sc. Toronto

Courses

20. Introductory Course in Geology: Minerals and rocks; geological processes and their results; structure of the earth; fossils; and outline of the earth's history; economic relationships. 2 lectures, 3 laboratory hours—34

21. Geological Science: A survey of the Earth Sciences; the relation of Geology to the other sciences. 2 lectures, 2 laboratory hours—34

Honours Courses

200. Mapping Procedures: Involving Alidade and plane table, aerial photo interpretation, pace and compass techniques. Emphasis on lithological examinations. Offered at field camp: (half course)

251. Optical Mineralogy: Concepts of light transmission in minerals; principles of mineral identification in their section by the polarizing microscope. 2 lectures, 3 laboratory hours— 8

261. Crystallography, Mineralogy and Petrography: Morphological crystallography, mineral structures, and the identification of some important mineral groups; lithology and spacial distribution of rock bodies; map interpretation. 2 lectures, 3 laboratory hours—36

263. Historical Geology: Principles of stratigraphy, correlation, and time concepts. Geologic history of North America with emphasis on Canada, type sections, paleogeography. 2 lectures, 2 laboratory hours—15

300. Field Investigations: The chief emphasis will be on structural geology and igneous, metamorphic and sedimentary geology. Geophysical, economic and Pleistoceno field studies are included. Offered at field camp (half course)

352. Petrography: Megascopic and microscopic description and classification of igneous, sedimentary and metamorphic rocks. 2 lectures, 3 laboratory hours—11

354. Origin and Formation of Ore Deposits: A study of the principal processes of ore formation. Laboratory time will be spent in studies of ore minerals and ores, emphasizing the use of ore microscope. 2 lectures, 2 laboratory hours— 4

355. Structural Geology: Primary and induced structures in igneous, sedimentary and metamorphic rocks; the physical properties of rocks and the effects of stress application; the interpretative value of various minor structures; relations between structure and topography; earth's structure and mountain building. Laboratory work will include the interpretation of geologic structures from maps. 2 lectures, 2 laboratory hours—31

363. Invertebrate Paleontology: Classification, morphology and ecology; evolution; index fossils and their geologic and geographic ranges, some plants and vertebrates. 2 lectures, 3 laboratory hours—27

365. Precambrian Geology of the Canadian Shield: General geology of the Shield, with studies of type areas. Particular attention is paid to current problems and controversies. 1 lecture, 1 hour class-study: (half course)—35

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 and field trips. 5 hours—20

368. Geology for Engineers: Involves selected topics from courses 20 and 367 offered only to Engineers majoring in Civil. 5 hours, one term: (half course)

452. Petrology: The principles and theories of igneous and metamorphic rock genesis; silicate phase equilibria are stressed. The laboratory study consists of petrographic methods and problems. 2 lectures, 3 laboratory hours— 3

454. Economic Mineral Deposits: The occurrence and production of ores of the principal metals, with a study of outstanding examples. Laboratory work consists of (a) a series of reports based on original sources and (b) studies of specific ore deposits, with emphasis on microscopic examination.
1 lecture, 5 laboratory hours— 7

458. Senior Research and Field Report: A report on geological field work carried on by the student, including the results of laboratory investigation and a study of available literature. (One and one-half courses)

460. Seminar: Presentation and discussion of papers on various geological subjects; informal discussion of topics of current geological interest.
2 hours: (half course)

462. Geochemistry: Introductory chemistry; cosmochemistry, element abundances, *meteorites, origin of the elements*; igneous and sedimentary geochemistry; geochronology; isotope geochemistry; geothermometry and geobarometry; polymorphism. 2 lectures, 2 laboratory hours—24

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. 2 lectures, 3 laboratory hours—35

475. Invertebrate Macropaleontology: Advanced study of corals (rugose and tabulate), graptolites and Paleozoic brachiopods, 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

GEOPHYSICS

College of Science

Professors:

Alan Edward Beck, B.Sc. London; Ph.D. Australian National University; A. Inst. P.; Head of Department
Charles Murray Carmichael, B.Sc., M.Sc., Ph.D.

Visiting Associate Professor

Hachiro Takahashi, B.Sc., Ph.D. Tohoku (Professor of Physics, Iwate University)

Assistant Professors:

Lalu Mansinha, B.Sc. M. Tech.; I.I.T. Khargpur; Ph.D. British Columbia
Robert Frank Mereu, B.Sc.; M.A. Toronto; Ph.D.
Henry Currie Palmer, B.Sc., St. Francis Xavier; Ph.D. Princeton

Lecturers:

Douglas Edwin Smylie, B.Sc. Queen's; M.A., Ph.D. Toronto (Assistant Prof. Mathematics)

Post Doctoral Fellow:
John Henry Sass, B.Sc., M.Sc.; Ph.D. Australian National University

Courses

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. 2 lectures, 2 laboratory hours—18

(Open only to students who do not intend to enter an honours Science Programme.)

Honours Courses

365. General Geophysics: An introductory course in the various geophysical problems associated with gravity, magnetism, seismology, radio- activity, and the internal constitution of the earth, with applications to geophysical exploration. 2 lectures, 2 laboratory hours—19

458. Geophysics Seminars: This is a course in which the students are required to prepare and present orally a paper on a specified topic; the paper is also written up in a style normally used for published papers.

470. Thesis: A report on a field or laboratory study conducted by the student. One full course

GERMAN

Talbot College

Professors:
Herbert Karl Kalbfleisch, B.A.; M.A. New York; M.A., Ph.D. Michigan; Head of the Department
Gordon Lloyd Tracy, B.A. Queen's; M.A., Ph.D. Wisconsin
Ronald Alexander Allen, B.A., M.A. Toronto; Ph.D. Chicago (part-time)

Associate Professor:
Alexander Robinson Anderson, B.A. Toronto; Ph.D. Brown

Assistant Professor:
Roy H. Engfield, B.A. Queen's; M.A., Ph.D. Yale

Lecturers:
Gerald H. Seufert, Staatsexamen, Tübingen
Hanna Spencer (Mrs. E. Y.), Ph.D. Prague

Courses

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

5. Elementary Scientific German. The elements of German grammar with the reading of easy scientific German. 3 hours—23

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

20. Advanced German. Survey of German literature, composition, grammar, conversation.

Prerequisite: Grade 13 German or German 10 or permission of the Department. 3 hours—36

22. Conversation and Composition: Systematic oral practice and translation of texts.

Prerequisite: German 10 or German 20 or permission of the Department. 2 hours: half course.

30. The German Novelle from Goethe to the Present.

Prerequisite: German 20. 3 hours— 5

35. Intermediate Scientific German: The reading of scientific works in German and a review of basic grammatical constructions as an aid to reading.

Prerequisite: German 1 or German 5 or permission of the Department. 2 hours—23

40. German Drama from the Classical Period to the Present. 3 hours—24

42. Masterworks of German Lyric Poetry. 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 the special field of study of each student. This course may be elected by students without a previous knowledge of German. 2 hours—23

Honours Courses

All students in Honours Courses will take a comprehensive examination at the end of the final year.

290. Prose and Poetry of the Nineteenth Century.
Prerequisite: German 20 3 hours—35

291. Conversation, Composition, Translation, Phonetics.
Prerequisite: German 20 2 hours—24

333. History of the German Language. Readings in Middle High German Literature. 2 hours— 4

390. Drama of the Nineteenth Century. 2 hours—26

391. Conversation, Composition, Translation.
Prerequisite: German 291. 2 hours—34

420. German Literature of the Twentieth Century. 2 hours—16

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

480. German Classicism. Lessing, Goethe, Schiller. 2 hours— 6

481. Conversation, Composition, Translation. 2 hours—19

HEBREW

Associate Professor:

The Rev. Geoffrey Howard Parke-Taylor, B.A., M.A. Toronto; L.Th., B.D. Wycliffe

Courses

These courses are given in Huron College on behalf of University College and Huron College.

1-10. Grammar: *Text of Genesis 1-3; 22; Jonah.* 5 hours—27

20. Introduction to Hebrew Narrative and Poetry: Text of II Samuel 9-20; I Kings 1-2. Selected Psalms. 3 hours—17

Prerequisite: Hebrew 1-10.

30. Hebrew Prophetic Literature: Selections from Isaiah of Jerusalem, Jeremiah, and Deutero-Isaiah. Introduction to Gunkel's **Formgeschichte** and **Gattungskritik.** (not offered 1966-67) 2 hours—21

Prerequisite: Hebrew 20.

40. Hebrew Text of the Psalms. Principles and forms of Hebrew poetry. Studies of representative Psalms. Gunkel's **Gattungen** and Mowinckel's cultic **Psalmenstudien.**

Prerequisite: Hebrew 20. 2 hours— 4

HISTORY

University College

Senior Professor:

Wallace Klippert Ferguson, B.A.; M.A., Ph.D. Cornell; Litt.D., F.R.S.C.; J. B. Smallman Professor of History

Professors:

Walter Balderston, B.A., Ph.D. Cornell, Acting Head of the Department
John R Lander, B.A., M.A., M.Litt. Cantab.
John Gordon Rowe, A.B. Harvard; B. D. Episcopal Theological School, Cambridge, Mass.; M.A., Ph.D. Toronto; Dean of Talbot College
James John Talman, B.A., M.A.; Ph.D. Toronto; F.R.S.C.; University Librarian

Associate Professors:

John Rowland Gwynne-Timothy, B.A., M.A. Toronto; D.Phil. Oxon.
John Purves McLaughlin, B.A. Queen's; Ph.D. London
William Herbert Stockdale, B.A., M.A. Alabama; Ph.D. New York

Assistant Professors:

Frederick August Dreyer, B.A. Toronto; B.A. Oxon.; Ph.D. St. Andrews
Roger Lee Emerson, B.A. Dartmouth, M.A. Brown; Ph.D. Brandeis
Kenneth Harry Warren Hilborn, B.A., M.A. Queen's; D.Phil. Oxon.
Ian Kenneth Steele, B.A. Alberta; Ph.D. London
Peter G. Cornwall, B.A. Toronto; M.A. Michigan
John C. M. Ogelsby, A.B. Stanford; M.A., Ph.D. Washington

Lecturers:
Donald S. Hoffman, B.A. Syracuse
Arthur A. Levin, B.A. Columbia College, N.Y.C.; M.A. Harvard

Middlesex College

Senior Professors:
Donald Gordon Grady Kerr, B.A. McGill; Ph.D. London
Richard C. Overton, A.B., A.M. Williams; A.M., Ph.D. Harvard
Hugh Mason Wade, M.A. McGill; LL.D. New Brunswick; D. ès L. Ottawa

Professors:
Fred Harvey Hitchins, B.A.; M.A.; Ph.D. Pennsylvania
Sydney F. Wise, B.A. Toronto; M.A. Queens
Morris Zaslow, B.A., B.Ed. Alberta; M.A., Ph.D. Toronto

Assistant Professors:
Frederick Henry Armstrong, B.A., M.A., Ph.D. Toronto
Robert A. Hohner, A.B., A.M., Ph.D. Duke
Albert Mark John Hyatt, B.A. Toronto; M.A. Carleton; Ph.D. Duke
Peter F. Neary, B.Sc., M.A. Memorial; Ph.D. London
Charles Arthur Ruud, B.A. Willamette; A.M. Harvard; Ph.D. Berkeley

Courses

20. Europe and North America from the Eighteenth Century to World War II. 3 hours—14

30. Medieval Europe: From the fourth to the fifteenth centuries (may not be taken by anyone who has taken History 20 before 1965). Open to freshmen with approval of the instructor. 3 hours—34

31. History of Canada. 3 hours—29

32. History of England to 1688. 3 hours—10

33. The British Empire and Commonwealth. 3 hours—32

34. History of the United States, Colonial Period to the Present. Particular emphasis will be placed upon the American Revolution, Jacksonian Democracy, Westward Expansion, Civil War and Reconstruction, Industrialization, Progressivism, America's Rise to World Power, and the New Deal. 3 hours—36

35. *History of England since 1688.* *3 hours—18*

36. Modern European History: From the middle of the sixteenth century to the Second World War. 3 hours—13

37. History of Russia-U.S.S.R.: The political, economic, and cultural development, social conditions, territorial expansion and foreign relations. 3 hours— 6

38. History of Latin America. 3 hours—30

39. Modern China and Japan: A survey of the cultural and political condition of China and Japan at the time of the arrival of the Europeans; the impact of the west on the government, society and thought of these nations, particularly since 1800. 3 hours— 1

40. Selected Topics in the History of Medieval Europe.
Prerequisite: Course in Medieval History or permission of the Department of History. Not offered 1966-67—12

41. Selected Topics in the History of Canada.
Prerequisite: Course in Canadian History or permission of the Department of History. 3 hours—15

44. Selected Topics in the History of the United States.
Prerequisite: Course in American History or permission of the Department of History. 3 hours—26

46. Selected Topics in the History of Modern Western Europe.
Prerequisite: Course in European or English History, or permission of the Department of History. 3 hours—24

Honours Courses

231. History of Canada: From the beginning of the French Regime. 3 hours—29

234. History of the United States from the Colonial Period. 3 hours—36

236. Europe and England in the 16th and 17th centuries: Lectures and discussion groups. 4 hours—13

330. The High Middle Ages: Charlemagne to the end of the 13th century. 3 hours—21

331. Selected Topics in the History of Canada prior to Confederation. 3 hours—25

333. Expansion of the First British Empire from the 15th to the 18th centuries. 3 hours—32

335. England, 1715-1914: Seminar. 3 hours—18

336. Modern Western European History, 1715-1914: Seminar. 3 hours—12

337. History of Russia - U.S.S.R.: The 19th and 20th centuries with special emphasis on intellectual and social developments. 3 hours— 6

338. Latin American History. 3 hours—30

339. Introduction to East Asian History. 3 hours— 1

400. Senior Thesis: With permission of the Department of History. 3 hours—

420. The High Middle Ages: Charlemagne to the end of the 13th century. 3 hours— 4

431. Canada in the 19th and 20th Centuries: Emphasis on selected topics and seminar discussion. 3 hours— 7

432. England, 1399-1642: A political, social, and constitutional study of England from the fifteenth to the seventeenth centuries. 3 hours—10

433. History of the Second British Empire and Commonwealth. 3 hours—19

434. A History of the Great-Lakes-St. Lawrence Region as an international entity from colonial times to the present. Not offered 1966-67—17

441. French Canada in the Twentieth Century. 3 hours— 2

444. The United States: Selected topics and seminar discussion. 3 hours—14

451. Problems in Ontario History. 3 hours—23

452. English Constitutional History: A study of the development of the English constitution from the Anglo-Saxon monarchy. 3 hours—35

456. Modern Europe since 1914: Lectures and seminar. 3 hours—11

457. History of warfare: With emphasis on the relations between warfare and modern political, economic, and social conditions. 3 hours—32

460. The transition from Medieval to Modern Civilization: The economic social, political, religious, and cultural developments of the period from 1300 to 1600. 3 hours—26

HOME ECONOMICS

For Faculty and Courses see the Brescia College section.

JOURNALISM

University College

Professor:

John Leslie Wild, B.A.; M.A. Michigan, Head of the Department

Associate Professor:

Earle Beattie, B.A. Manitoba; B. Ed. Toronto

Assistant Professor:

C. Edward Wilson, B.A.

Lecturers (Part-time):

Thomas Hugh Bremner
John K. Elliott, B.A.
Arthur Rutherford Ford, B.A., LL.D. Toronto
James M. O'Neail, B.A.
C. Robert Turnbull

Courses

Students should be proficient in typewriting by the beginning of the second year.

20. Introduction to Journalism: A survey of news media with emphasis on the daily newspaper; newswriting, reporting; lectures, workshops, field trips, seminars on current events. Students who hold credit for Journalism 21 may not elect Journalism 20 unless they are registered in an Honours Journalism Programme. 3 hours—33

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 analyses of the media with reference to the main issues in the news. Students who hold credit for Journalism 20 may not elect Journalism 21. 3 hours—33

Honours Courses

250. Interpretive News Writing and Reporting: Reporting specialized fields; public affairs, social, economic and political news. 6 hours—24

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—25

270. Pictorial Journalism: Principles of news photography; picture editing; the photo-story; magazine illustration; layout; engraving processes. Not a course in photography. 2 hours: half course— 6

351. Newspaper Production: Newsroom organization; copy editing; page makeup; survey of the mechanical phases of newspaper production.
3 hours: half course— 5

352. Public Relations I: History and function of public relations; public relations processes with emphasis on communications; relations with the general public, employees, shareholders, customers, the community, the governments; lectures, seminars, case studies, workshops.
4 hours—11

355. History of Journalism: A survey of the development of journalism in the British Isles, the United States and Canada. 2 hours: half course— 1

365. Editorial Writing: Editorial policy; the editorial and the background article; research methods; editorial page feature; the signed column; ethical standards of the press. 1 hour: half course—21

375. Feature and Magazine Article Writing: Feature writing for newspapers; article writing for industrial, trade and general circulation magazines, including assignments and a study of free lancing, readership, research, interviewing, organization, rewriting, style. 2 hours: half course—36

400. Newswriting and Reporting: For students registered in the Diploma Programme in Journalism. Writing for mass communication; the forms and style of journalistic prose; reporting methods; news evaluation; interpretive reporting; *world news editing and reporting.* 10 hours—12

451. Communication Problems: Development of communication, process of communication, aspects of the mass media, propaganda, public opinion, general semantics. Papers and projects on news coverage and comment, foreign reporting. 4 hours— 5

452. Public Relations II: Public relations in special situations; industry, banking, insurance, utilities, transportation, hospitals, churches, educational institutions, health and welfare agencies, government, armed forces; research, planning, evaluation, executive decision-making; seminars; case studies.
4 hours— 1

455. Radio and Television News and Documentary Writing: Comparative study of newspaper, radio and television writing and news treatment; preparation of newscasts; radio interviewing and documentaries; television news and documentary writing. 3 hours—13

DEPARTMENT OF MATHEMATICS

College of Science

Professor and Head of the Department:
Gordon Richey Magee, B.A.; M.S., Ph.D. Chicago (Chairman, Division I)

DIVISION I: Pure Mathematics, Actuarial Mathematics, Mathematical Statistics

Senior Professor:
Randal Hudie Cole, B.A., M.A., Ph.D. Wisconsin

Professors:
David Borwein, B.Sc. Witwatersand; Ph.D., D.Sc. London, F.R.S.E.
John T. Moore, B.A.; M.A. Wisconsin; Ph.D. Chicago
Derek Naylor, B.Sc., Ph.D. London
Leland F. S. Ritcey, B.A. Mount Allison; M.A. Harvard; Ph.D. Chicago; F.S.A. (Richter Chair of Actuarial Mathematics)

Associate Professors:
Mir Maswood Ali, B.Sc., M.Sc. Dacca, M.S. Michigan; Ph.D. Toronto
Edward J. Barbeau, B.A., M.A. Toronto; Ph.D. Newcastle (on leave 1966-1967)
Donald O. McKay, B.A., M.A., Ph.D. Buffalo
Thomas Wonnacott, B.A., Ph.D. Princeton

Assistant Professors:
Anne E. M. Bode, B.A., M.A. Saskatchewan
N. P. Cac, Licence es Sciences Mathematiques (Saigon) M.Sc. London; Ph.D. (Cantab)
Jay L. Delkin, B.A. Reid; M.A. British Columbia
Irvine J. W. Robinson, B.A., M.A. Queen's
Bruce L. R. Shawyer, B.Sc., Ph.D. St. Andrews (Visiting)
K. Subrahmaniam, B.Sc., M.Sc. Benares, D.Sc. Johns Hopkins

Lecturers:
Gordon D. J. Edwards, B.Sc. Toronto; S.M., A.M. Chicago
John A. Mereu, B.A.; F.S.A. (part-time)

Senior Departmental Tutor:
Walter H. Gillespie, B.A. Princeton

DIVISION II: Applied Mathematics

Senior Professor:
John Henry Blackwell, B.Sc. Melbourne; M.Sc., Ph.D.
(Chairman, Division II — Honourary Lecturer, Physics)

Professors:
S. C. R. Dennis, B.Sc., A.R.C.S., Ph.D. London
James Davis Talman, B.A., M.Sc.; Ph.D. Princeton

Associate Professors:
Donald Richard Miller, B.A., M.A.; Ph.D. Toronto
Morton A. H. Nerenberg, B.Sc.; Ph.D. McGill

Assistant Professors:

A. Stanton Deakin, B.Sc. Carleton; M.A., Ph.D. Toronto
Trevor M. Luke, B.A. Queen's; M.Sc., Ph.D. McGill
Peter W. Manuel, B.Sc., M.Sc., Ph.D.
Douglas Edwin Smylie, B.Sc. Queen's; M.A., Ph.D. Toronto (part-time)
Ki Soo Sung, Ph.D. Harvard

Honorary Lecturers:

John Francis Hart, B.A., M.A., Ph.D. Toronto
(Head of the Department of Computer Science)
William Henry Wehlau, A.B., Ph.D. California
(Head of the Department of Astronomy)

Mathematics Courses

20. Introductory College Mathematics: An introduction to calculus; a study of logic, set theory, probability theory, and the algebra of vectors and matrices.
2 lectures and 1 tutorial hour—30

Prerequisite: Grade XIII Mathematics (any two papers), or equivalent mathematics.

24. Introductory Calculus: Introduction to differential and integral calculus with applications. 2 lectures and 2 tutorial hours—30

Prerequisite: Grade XIII Mathematics (three papers), or equivalent.

27. Engineering Mathematics 1: For First Year Engineering Science. 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 and 2 tutorial hours— 5

Prerequisite: Grade XIII mathematics (three papers), or equivalent.

30. Algebra: Introduction to modern algebra: rings, domains, fields, groups, polynomials, matrices, determinants.

Prerequisite: Mathematics 20 or 24. 3 hours—19

31. Synthetic Geometry: Groups of transformations of the Euclidean plane, inversion, and coaxal systems; the projective plane.

Prerequisite: Mathematics 20 or 24. 3 hours—35

32. Analytic Geometry: The general conic and pencils of conics; geometry of three dimensional space.

Prerequisite: Mathematics 20 or 24. 3 hours— 5

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 20 or 24 or 27. 3 hours— 9

35. Statistics: Standard probability distributions; sampling distributions; estimation; test of hypothesis; analysis of variance; regressions and correlation.

Prerequisite: Mathematics 20 or 24. 3 hours—30

40. Elementary Theory of Numbers: Euclidean algorithm, congruences, indices, continued fractions, Gaussian integers, partitions and Diophantine equations. 3 hours—22

Prerequisite: Mathematics 20 or 24.

(Not offered 1966-67)

Honours Courses

230. Algebra: Finite dimensional vector spaces, linear transformations and matrices, linear equations, quadratic forms, eigenvalues and eigenvectors, vector spaces over the complex numbers.

Prerequisite: Mathematics 20 or 24. 2 hours—19

250. Algebra and Geometry: Vector and matrix algebra, determinants, linear transformations, linear equations, canonical forms. Applications to bilinear forms, quadratic forms, geometry, systems of linear differential equations.

Prerequisite: Mathematics 24. 4 hours—14

256. Calculus and Differential Equations: Uniform continuity, Riemann integral, indeterminate forms, improper integrals, Taylor's formula; functions of several variables, partial differentiation, multiple integration; cylindrical and spherical coordinates; line and surface integrals, Green's Theorem, Stokes' Theorem; infinite sequences and series; uniform convergence; ordinary differential equations.

Prerequisite: Mathematics 24. 4 hours— 2

277. Engineering Mathematics II: For Second Year Engineering Science and for the Natural Sciences. Partial differentiation; multiple integrals; functions of a complex variable; ordinary differential equations.

Prerequisite: Mathematics 24 or 27. 3 hours—20

For each 300 course, the prerequisites are Mathematics 230 or 250 and 256, or the consent of the Instructor; in addition, Mathematics 358 requires Physics 250. For each 400 course consent of the instructor 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

350. Algebra I: Introduction to abstract algebraic systems; elementary theory of groups, rings, fields and vector spaces; establishment of real and complex fields. 3 hours—25

351. Geometry I: Synthetic Euclidean geometry; synthetic and analytic methods in projective geometry. 3 hours— 1

353. Finite Differences: Advancing differences, interpolation, divided differences, central differences, inverse interpolation, summation, approximate integration. Investment: Compound interest, nominal and effective rates of interest and discount, annuities-certain, bonds. 3 hours— 5

(Not offered 1966-67)

355. Statistics I: Standard distributions; sampling distributions; sampling from finite population; estimation; test of hypothesis; design of experiments; analysis of variance and regression analysis; non-parametric methods; sequential analysis. 3 hours—23

356. Analysis I: Real variables: sequences, improper integrals, series, Fourier series, Fourier integral, Fourier transform, Riemann-Stieltjes integral. Complex variables: integration and differentiation of a function of a complex variable, Taylor and Laurent series, conformal mapping, residues. 3 hours—31

358. Advanced Classical Dynamics: A logically connected development of classical mechanics including a thorough treatment of Lagrangian and Hamiltonian methods.

3 hours—17

363. Numerical Analysis: Accuracy of approximate calculations, interpolation, summation of series, numerical differentiation and integration, solution of numerical algebraic and transcendental equations, numerical solution of ordinary differential equations, least squares and harmonic analysis, numerical solution of simultaneous linear equations. Students are encouraged to use the IBM 7040 digital computer. 3 hours—14

377b. Engineering Mathematics III: This is a general course in Applied Mathematics for third year engineering students. Topics covered include: linear algebra; ordinary linear differential equations with variable coefficients, special functions; elementary probability theory.

Second term: 3 lectures—26

378. Applied Mathematics I: Theory of ordinary differential equations and special functions; properties and solution of some partial differential equations of mathematical physics; Sturm-Liouville problem; calculus of variations; orthogonal function expansions. 3 hours— 1

378P. Applied Mathematics 1P: Special course for students of Physics. The material of Mathematics 378, augmented by complex variable theory. 4 hours— 1

378C. Applied Mathematics 1C: Special course for students of Chemistry. 3 hours— 1

445. Theory of Probability: Probability measure, Lebesgue-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
(Not offered 1966-67)

453. Methods of Operations Research: Optimization, linear and quadratic programming, theory of games, queuing theory.
Prerequisite: Mathematics 230 or 250, 256. 3 hours—17

455. Statistics II: Distributions in Rn; sampling theory and distributions; theory of estimation; fiducial inference; testing of hypothesis; analysis of vari-

ance; design of experiments and balanced designs; multiple correlation and regression; multivariate analysis; time series. 3 hours—21

456. Analysis II: Basic point set topology, advanced real variable theory, introduction to measure and integration theory. 3 hours— 3

458. Quantum Mechanics: Axioms of Quantum Mechanics; commutation relations and correspondence principle, Heisenberg and Schroedinger representations; solutions of Schroedinger equation; angular momentum; perturbation theory. 3 hours—11

460. Introductory Topology: Metric spaces, topological spaces, connectedness, compactness, separation axioms, Tietze extension theorem; simplical complexes, classifications of compact 2-manifolds, homotopy classifications of maps of n-spheres, theorem of Borsuk-Ulam; homology groups. 3 hours—18

463. Life Contingencies: The mortality table, commutation functions, annuities, insurances, net premiums, reserves, gross premiums, 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

468. Tensor Calculus: Theory of curves, Serret-Frenet formulae; curvilinear coordinates, first and second fundamental forms, geodesics, Codazzi equations, Gauss-Bonnet theorem. Introduction to differential geometry in the large. Introduction to n-dimensional Riemannian geometry and tensor analysis. 3 hours—27

470. Foundations of Mathematics. 3 hours—24

477a. Engineering Mathematics IV: A sequel to Mathematics 377, consisting of the following topics: vector calculus; orthogonal functions of Fourier series; introduction to partial differential equations. First term: 3 lectures—29

478. Applied Mathematics II: This course is concerned basically with techniques of problem solution in Applied Mathematics. Topics discussed vary from year to year and in depth but usually include the following:— Integral transforms; integral equations; difference equations, generalised functions; special application of complex variable theory; approximation methods.

Prerequisites: Mathematics 356, 378, Physics 350. 3 hours—19

488. Relativity and Electromagnet Theory: Approximately one-half of the course will be devoted to Special Relativity, and one-half to advanced classical Electromagnet Theory. 3 hours—24

Prerequisites: Mathematics 356, 378, Physics 355.

498. Mechanics of Continua: An introduction to the theories of hydrodynamics and/or the theory of elasticity. 3 hours—36

MILITARY STUDIES

Credit for military studies as a half-course may be obtained by serving for three years, including summers, with 80 per cent attendance at lectures and parades.

MUSIC

See The College of Music Section. Music courses ending in "O" are available to Arts and Science students.

PHARMACOLOGY

College of Science

Professor:

Charles Willis Gowdey, B.A., M.Sc.; D. Phil. Oxon.; Head of the Department

Associate Professors:

Ernest Howard Colhoun, B.S.A. Toronto; Ph.D. Cantab.
John Thomas Hamilton, B.Sc., Ph.D. Edinburgh

Assistant Professor:

Richard Blain Philp, D.V.M. Guelph; Ph.D.

Honours Courses (as available)

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—3 l

460. Advanced General Physiology and Pharmacology: (Given in collaboration with the Department of Physiology). Selected topics including the general principles of measurement in these fields. 1 lecture

461b. Autonomic Pharmacology: The chemical transmission of nervous impulses in, and the effects of drugs on, the autonomic nervous system. 1 lecture

462. Chemical Pharmacology and Toxicology: A survey of the relation between chemical structures and pharmacological activity, and a discussion of the general problem of toxic substances in our environment. 1 lecture

463a. Botanical Pharmacology: A study of some naturally-occurring drugs and allied substances. 1 lecture

467. Behavioral Physiology and Pharmacology. (Given in collaboration with the Department of Physiology). A discussion of the physiological mechanisms involved in behavior and the effects of drugs upon them. 1 lecture

480. Laboratory: A laboratory course in Experimental Pharmacology designed to accompany the lecture courses. Maximum time available

481. Research and Seminar. 1 hour

PHILOSOPHY

University College

Senior Professor:
Allison Hartz Johnson, B.A. Mt. Allison; M.A., Ph.D. Toronto; F.R.S.C.

Professor:
Joseph Margolis, B.A. Drew; M.A., Ph.D. Columbia; Head of the Department

Associate Professors:
Stanley George French, B.A. Carleton; M.A. Rochester; Ph.D. Virginia
Harold Joseph Johnson, B.A. Alfred; Ph.D. Chicago
Robert William Binkley, B.A. Colorado; Ph.D. Minnesota

Assistant Professors:
Richard Norton Bronaugh, B.A. Oregon; M.S., Ph.D. Wisconsin
Donald James Hockney, B.A. McMaster; Ph.D. Cornell
Ernest Sosa, B.A. Miami; M.A., Ph.D. Pittsburgh
Martha Elaine Williams, B.S. William and Mary; M.A., Ph.D. Bryn Mawr

Lecturer:
Edward Beaman, B.A. Cincinnati

Talbot College

Professors:
Robert Earl Butts, A.B., A.M. Syracuse; Ph.D. Pennsylvania; Head of the Department
John Whitney Davis, B.A., M.A., Ph.D. Boston

Associate Professors:
Peter Adam Angeles, B.A., M.A., Ph.D. Columbia
Irving Block, B.A., Vanderbilt; M.A., Ph.D. Harvard
Wilbert Cameron Henry, B.A., M.A.; Ph.D. Toronto

Assistant Professor:
Anne Martin Schrecker, B.A. Kalamazoo; M.A. Wellesley; Ph.D. Radcliffe

Lecturers:
Patrick Maynard, B.A. Chicago
W. Kent Wilson, B.S. Marietta, M.A. Pittsburgh

Visiting Professor:
Gerd Buchdahl, Ph.D. Melbourne (1966-1967)

Courses

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

30. Basic Philosophical Literature: A critical survey of selected philosophical classics, ancient and modern. Specimen texts include: Plato's **Theaetetus,** Aristotle's **De Anima,** Descartes' **Meditations,** Hume's **Enquiry Concerning Human Understanding.** 3 hours— I

31 Logic and Problems of Knowledge: First term—logic: meaning and definition, formal logic, verification of knowledge and scientific method; second term— problems of knowledge, with particular reference to religion. 2 hours—20

32. Philosophical Theory. Not offered, 1966-67— 2

34. Logic and Philosophy of Science: An introduction to problems in logic and the philosophy of science. 2 hours— 9

35. Aesthetics: 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.

Prerequisite: One course in Philosophy. 2 hours— 3

36. Ancient Philosophy: A survey of the principal developments, from the Presocratics (600 B.C.) to Plotinus (250 A.D.) and of their contribution to our cultural heritage. Primary emphasis will be placed on the critical reading of selected original sources.

Prerequisite: One course in Philosophy. 2 hours—28

42. Introductory Ethics: Conceptual problems relating to personal and social morality. Specimen topics include: the nature and justification of ethical rules and standards, the analysis of "good" and "right" and "ought", the meaning of ethical knowledge.

Prerequisite: One course in Philosophy. 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.

Prerequisite: One course in Philosophy. 2 hours—12

44. Principles and Problems of Philosophy: Selected philosophical problems, accommodating the special interests of enrolled students.

Prerequisite: Two courses in Philosophy and the consent of the Head of the Department. 2 hours—22

47. Early Modern Philosophy: A critical examination of basic philosophical literature of the 16th, 17th and 18th centuries.

Prerequisite: One course in Philosophy. 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.

Prerequisite: Philosophy 20 or 30. 2 hours—14

Honours Courses

254. Introduction to Problems in Theory of Knowledge: Intensive seminar and tutorial study of major problems in epistemology. For Honours students in any department. 2 hours— 3

256. Ancient Philosophy: A critical examination of the major philosophers and philosophical schools from the Presocratics to Plotinus, with emphasis on the writings of Plato and Aristotle. 2 hours—15

257. Early Modern Philosophy: A critical examination of the philosophical literature of the 16th, 17th and 18th centuries, with particular emphasis on such figures as Descartes, Leibniz, Locke, Berkeley, Hume. 2 hours—31

338. Phenomenology and Existential Philosophy: A critical examination of representative literature in the fields of phenomenological research and existential philosophy from Hurrsel to the present day. (Not offered 1966-67) 2 hours—22

350. Philosophical Texts: An examination of specified source materials in Greek and Modern Philosophy; critical works will also be studied. (Offered on demand) 2 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. 2 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. 2 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. 2 hours—34

357. Modern Philosophy: Later modern philosophy with particular emphasis on the philosophy of the 19th century.
Prerequisite: Philosophy 257. 2 hours— 5

362. Ethics: A critical study of moral problems and theories. The course will be based on reading selected from the classics of ethical literature from Aristotle to the present. 2 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

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 programmes with consent of Instructor. 2 hours—10

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. 2 hours—36

458. Dewey, Bergson and Whitehead: A critical study of these 20th century philosophers. 2 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. 2 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. 2 hours—18
(Not offered 1966-67.)

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. 2 hours—21
(Not offered 1966-67.)

474. Problems of Philosophy. (Offered on demand). 2 hours— 1
(Not offered 1966-67.)

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. 2 hours—24

PHYSICAL AND HEALTH EDUCATION

University College

Professor:
Willard Joseph L'Heureux, B.A.; M.A. Michigan; Head of the Department
Michael Yuhasz, B.A., M.S., Ph.D. Illinois

Associate Professors:
Elfrida Berzins (Mrs.), M.M. Riga
John Russell Fairs, B.Sc., M.A. Columbia
Frank J. Hayden, B.A., M.Sc., Ph.D. Illinois
George Arthur Wearring, B.A.; M.S. Southern California

Assistant Professors:
Robert Barrie Eynon, B.A., M.S. Illinois
Glynn Arthur Leyshon, B.A., M.S. Illinois
John R. Richardson, B.P.H.E., M.Sc., Alberta
Mary Lou Dresser, B.A.; M.A. Stanford
Gerald I. Gonser, B.A., M.A. Michigan
Garth Paton, B.A., M.A. Michigan

Lecturers:
Helen Vieno Kunkel (Mrs.), B.A.
Margaret Joy Taylor, B.A., B.P.H.E. Toronto
Ronald C. Watson, B.A., B.P.E., M.Sc. Alberta

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: Physical Education 20. 1 lecture and 3 laboratory hours— 4

Honours Courses

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. School Health Education: An approach to intelligent planning for healthful living; the study of personal health from the standpoint of Biology, Psychology and Nutrition; community and institutional public health; methods and materials of school health teaching. 3 lectures—21

254. Functional Human Anatomy: To be given by the Department of Anatomy, Faculty of Medicine.
1 lecture and 1 laboratory hour, (half course)—29

258. History of Physical, Health and Recreation Education: The historical development of these three sections of education; meanings of play, work, and leisure in historical perspective and their interrelationships in modern society.
3 lectures—34

342. Human Physiology: Trends in investigations of the physiology of physical activity, with implications for physical and health education. To be given by the Department of Physiology, Medical School.
2 lectures and 3 laboratory hours— 4

351. Team Games and Individual Activities: The theory and mechanics of activities in addition to those studied in P.H.E. 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 inter-school programmes; scheduling and management of athletic contests.
3 lectures— 8

353. Kinesiology and Motor Learning: Essential facts of human anatomy and physiology applied to corrective exercise and analysis of motor skills; principles of motor learning. 2 lectures, 2 laboratory hours—31

442(a). Physiology of Exercise: To be given by the Department of Physiology, Medical School.
One term - 2 lectures, 2 laboratory hours— 1

442(b). Scientific Training Techniques: The investigation of modern athletic training methods with emphasis on interval training, weight training, isometric exercises and nutrition.
One term - 2 lectures, 2 laboratory hours— 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.
Prerequisite: P.H.E. 251, 351. 5 hours (lecture or laboratory as required)

453. (Same as 353, offered in 1966-67 only)—31

456. Seminar: The interpretation of physical education in its relationship to education; principles underlying programmes; 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 skills tests; descriptive statistics in the handling of data for evaluation, grading, and classification. 2 lectures, 2 laboratory hours—21

PHYSICS

College of Science

Professors:
- Peter Allan Forsyth, B.A., M.A. Saskatchewan; Ph.D. McGill; F.R.S.C., Head of the Department
- Eric Brannen, B.A., M.A. Toronto; Ph.D. McGill
- Peter Arthur Fraser, B.Sc.; M.S. Wisconsin; Ph.D.
- Donald Ross Hay, B.Sc., M.Sc.; Ph.D. McGill

Associate Professors:
- A. M. I. A. W. Durnford, B.A., M.A.; Ph.D. Toronto
- Harry Ian Symons Ferguson, B.Sc., M.Sc., Ph.D.
- James Arthur Fulford, B.Sc., Ph.D.
- Gordon Frederick Lyon, B.A., M.A., Ph.D. Saskatchewan
- Graham Stewart Rose, B.Sc., Ph.D. Birmingham
- Eric Harold Tull, B.A. Sc. British Columbia; M.Sc., P.Eng.
- Eric Lloyd Vogan, B.Sc., M.Sc.; Ph.D. McGill

Assistant Professors:
- Heinrich Roman Froelich, B.Sc. Berlin; M.Sc., Ph.D.
- William Ross Jarmain, B.A.; M.A. Wisconsin
- Romas Mitalas, B.A., M.A. Toronto; Ph.D. Cornell
- Rama Murty, B.Sc. Andhra; M.Sc., Dip. Lib. Bombay; Ph.D.; A. Inst. P.
- Mordechay Schlesinger, M.Sc., Ph.D. Hebrew University of Jerusalem
- Thomas William Wallace Stewart, B.Sc., M.Sc.; Ph.D. London

Lecturers:
- Jean Winifred Lewis, B.Sc., Ph.D. Wales
- Mary Elaine Snyder, B.Sc.; M.A.Sc. Waterloo

Honorary Lectures:
- Alan Edward Beck, B.Sc., London; Ph.D. Australian National University (Assoc. Prof. and head of Geophysics Dept.)
- John Henry Blackwell, B.Sc. Melbourne; M.Sc., Ph.D. (Senior Professor of Applied Mathematics)
- Charles Murray Carmichael, B.Sc., M.Sc., Ph.D. (Assoc. Prof. of Geophysics)
- John Campbell Forrester MacDonald, B.A., M.A. British Columbia; Ph.D. Toronto
- Robert Frank Mereu, B.Sc.; M.A. Toronto; Ph.D. (Assist. Prof. of Geophysics)
- William Henry Wehlau, A.B., Ph.D. California (Prof. of Mathematics and Astronomy)

Courses

20, 21, 22. 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.

20, 22 — for students who are intending to specialize in the natural sciences. All students must have standing in Grade 13 Physics.
2 lectures, 3 laboratory hours—22

21 —for students not intending to specialize in natural science.
2 lectures, 3 laboratory hours—31

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 College of Music and those students with some formal musical training who are not pursuing a major in physics. 3 lecture - laboratory hours— 7

34. General Physics: A study of the laws and principles of light, sound, electricity, magnetism, and thermionics.
Prerequisite: Physics 20, 21 or 22. 2 lectures a week—27

35. Vibrations and Waves: A course dealing with the formulation and elaboration of the concept of waves including energy transport. The following topics are discussed: sound waves and other mechanical waves, electromagnetic waves, introduction to wave-particle duality.
Prerequisite: Physics 20, 21 or 22. 2 lectures—11

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. Enrolment may be limited.
Prerequisite: Physics 20, 21 or 22. 2 discussion hours per week

39. Practical Physics: A course in laboratory physics designed to stress the physical concepts of wave and particle properties of light and matter, energy quantization and the interaction of electric and magnetic fields with matter.
Prerequisite: Physics 20, 21 or 22. 3 laboratory hours

43. 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, 21 or 22 and Mathematics 20 or 24.
2 lectures—18

46. Atomic Physics: (1) A review of the laws and theories of classical physics; (2) The development of physical science from the late 19th century to the present.
Prerequisites: Physics 34 and Mathematics 20 or 24 (this may be taken concurrently). 3 lectures—34

Honours Courses

204. Introductory material in electricity and magnetism, atomic and nuclear physics, directed where possible towards an understanding of current usefulness to man. This leads into a detailed study of radiation physics, with emphasis on biological applications.
Prerequisite: Physics 20 or 22. 2 lectures, 3 laboratory hours—27

250. Classical Mechanics: Vector algebra including triple products, a kinematic description of motion and the logical development of classical mechanics of single particles and systems starting with a critical analysis of Newton's Laws and ending with the Special Theory of Relativity (to the level of the Lorentz transformations and relativistic equations of motion).

Prerequisite: Physics 20. 2 lectures—12

251. Introductory Numerical Analysis: Emphasizes a standard statistical treatment of the theory of error. Methods of computation; graphical techniques; approximate interpolation, differentiation and integration; series approximations; solution of equations; curve fitting. Practice in the use of these methods is provided in Physics 259.

Prerequisite: Mathematics 24 or equivalent. 2 lectures—28

254. Optics: A discussion of geometrical optics, physical optics and quantum optics. Laboratory experience with the phenomena discussed is provided by Physics 259, which, if not taken previously, must be taken concurrently.

Prerequisite: Physics 20. 2 lectures—31

255. Electricity and Magnetism: An introduction to the laws and principles of electricity and magnetism. Laboratory experience with the phenomena discussed is provided by Physics 259, which, if not taken previously, must be taken concurrently.

Prerequisite: Physics 20. 2 lectures— 8

256. Light, Acoustics, Electricity and Magnetism: An introductory course in geometrical and physical optics; acoustics; electrostatics; magnetism; and electromagnetism.

Prerequisites: Physics 20 or 22 and Math 20 or 24.
3 lectures, 3 laboratory hours—36

257. Special course for students of Mathematics.
The material of Physics 254, 255, 259.

Prerequisite: Physics 20. 4 lectures, 3 laboratory hours—31-8

259. Laboratory: The experiments in this course stress the physical concepts of wave and particle properties of light and matter, energy quantization and the interaction of electric and magnetic fields with matter.

Prerequisite: Physics 20. 3 laboratory hours.

350. Classical Mechanics: The Lagrangian formulation of classical mechanics is developed and applied to various problems including relativistic motion and normal mode analysis. Hamilton's equations are derived and applied to phase space analysis. The course lays the classical groundwork for quantum mechanics and statistical mechanics.

Prerequisite: Physics 250. 2 lectures—12

355. Electromagnetic Theory: A vector treatment of the theory of static and dynamic electromagnetic fields leading to Maxwell's equations and the solutions describing propagation of plane electromagnetic waves.

Prerequisites: Physics 250 and 255. 2 lectures—36

356. Applied Electronics: A study of the operation and properties of circuits in which vacuum tube, gaseous tube, and semi-conductor devices are employed. The laboratory work of this course is part of Physics 359. If Physics 359 is not taken, a separate laboratory (3 hours) is required.

Prerequisite: Physics 255 or equivalent. 2 lectures—13

357. Atomic Physics: Charged particle motion in electric and magnetic fields and applications; the physics of atoms, molecules, electrons and light quanta, with emphasis on the experimental facts that led to the quantum theories.

Prerequisites: Physics 250, 254 and 255 or equivalent. 2 lectures—19

359. Laboratory and Tutorial: Designed to familiarise the student with some of the more detailed phenomena and effects of classical physics together with the fundamentals of electronic circuits and some of the basic concepts of modern physics.

Prerequisite: Physics 259. 6 laboratory hours.

366. Applied Electronics: Similar to 356.
2 lectures a week, 3 laboratory hours a week for 1 term—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: Mathematics 277, Physics 250 and 256 (or equivalent), or permission of Head of Department. 3 lectures—33

417. Communication Circuits: A study of high-frequency transmission line theory; Maxwell's equations and their application to antenna and wave-guide systems; radio system modulation and detection and introduction to radio noise theory. For Engineering Students. 3 lectures—25

450. Theoretical Physics: The discussion of a selection of topics in physics at a senior level, with emphasis on the application of the techniques for the solution of the differential equations of mathematical physics, including boundary value problems.

Prerequisites: Physics 350, 355 and Mathematics 378P or equivalent.
2 lectures— 7

451. Matter in Bulk: A study of the properties of matter including states of matter; followed by an elementary treatment of solid state physics covering the thermal, electric, and magnetic properties of crystalline matter.

Prerequisites: Physics 350, 355 and 357 or equivalent. 2 lectures—35

453. Thermodynamics and Statistical Mechanics: Introductory course beginning with the basic concepts of probability, then applying these ideas to systems of particles in equilibrium, the general statements of microscopic thermodynamics, followed by a treatment of microscopic thermodynamics.

Prerequisites: Physics 350 and 357 or equivalent. 2 lectures—29

457. Quantum Mechanics and Nuclear Physics: The first half of the course is an introduction to quantum mechanics, drawing on the experimental evidence of Physics 357. The second half is an introduction to nuclear and particle physics.

Prerequisites: Physics 350, 357 and Mathematics 378P or equivalent.

2 lectures—25

458. Seminar: The presentation of a scientific paper before students and members of the faculty, and the writing of an essay upon an assigned topic.

1 hour: (half course)

459. Laboratory and Tutorial: Designed to give training in the techniques and methods of measurement in modern physics; emphasis is laid upon individuality of work and resourcefulness. The tutorial supplements the fourth year lecture work.

Prerequisite: Physics 359. 9 laboratory hours.

464. Advanced Spectroscopy: A discussion of selected topics of contemporary interest in spectroscopy.

Prerequisite: Physics 254. 2 lectures— 3

466. Advanced Radio Physics: A discussion of selected topics in circuit analysis, transmission line theory and the propagation of radio waves.

2 lectures—24

479. Laboratory: Designed to accompany the lecture work of Physics 417.

6 hours per week.

PHYSIOLOGY

College of Science

Professors:

James Alexander Franklin Stevenson, B.A., M.A., M.D., C.M. McGill, Head of the Department
John Rogerson Beaton, B.A., M.A., Ph.D. Toronto
George Waldemar Stavraky, M.D. Odessa; M.Sc., M.D., C.M. McGill

Associate Professors:

Gordon James Mogenson, B.A., M.A. Saskatchewan; Ph.D. McGill
Donald Gilbert Montemurro, B.A., M.Sc., Ph.D.
Jerome Joseph Séguin, B.Sc., M.Sc., Ph.D.

Assistant Professors:

Paul George Richard Harding, M.D., M.Sc., F.R.C.S.(C)
Bruce Paul Squires, B.A., M.D., Ph.D.

Honorary Lecturer:

Jackson Sandford Hart, B.A., M.A., Ph.D. Toronto; F.R.S.C.

Courses

22. Human Physiology: The fundamental principles of human physiology for students in Nursing. 2 lectures, 2 laboratory hours—13

24. Human Physiology: An introductory course (as available). 2 lectures, 2 laboratory hours— 4

Honours Courses

Prerequisites for Fourth Year courses: successful completion of previous year's programme or permission of the Head of the Department.

300. Mammalian Physiology: A survey for Honours Students. 3 lectures, 4 laboratory hours (every second week)—36

301. General Physiology and Pharmacology: (Given in collaboration with the Department of Pharmacology). A survey of the principles of general physiology and pharmacology. 2 lectures—31

342. Human Physiology: A survey for students in Honours in Physical, Health and Recreation Education. 2 lectures, 3 laboratory hours— 4

440a. Statistical Methods in Biology: An interdepartmental course given in co-operation with the Departments of Psychiatry and Preventive Medicine, and Biophysics. (1 lecture (one term, half-course)

440b. History of Science: An interdepartmental course. 1 lecture (one term, half-course)

442. Physiology of Exercise: For students in Honours Physical, Health and Recreation Education.
Prerequisite: Physiology 342. 1 lecture, 3 laboratory hours (one term)

460. Advanced General Physiology and Pharmacology: (Given in collaboration with the Department of Pharmacology). Selected topics including the general principles of measurement in these fields.
Prerequisite: Physiology and Pharmacology 301. 1 lecture

461. Regulatory Physiology: An analysis of the control and regulatory systems of the mammalian organism. 1 lecture (one term, half-course)

462. Physiology of Exercise: For students in Honours Physiology. 1 lecture (one term, half-course)

463. Nutrition: The principles of nutrition, particularly as applied to man. 1 lecture

464. Cardio-Respiratory Physiology: An advanced description of the cardiovascular and respiratory systems of the mammal. 1 lecture

465. Physiology of the Gastro-Intestinal and Hemopoietic Systems: An advanced description of these systems in the mammal. 1 lecture

466. Neurophysiology: The physiology of the mammalian nervous system. 1 lecture

467. Behavioral Physiology and Pharmacology: (Given in collaboration with the Department of Pharmacology). A discussion of the physiological mechanisms involved in behavior and the effects of drugs upon them.
1 lecture

468. Endocrinology: The function of the endocrine system in the mammal.
1 lecture

469. Physiology of the Special Senses: (Given in collaboration with the Departments of Physics and Psychology). The function of the visual, auditory, olfactory and gustatory senses. 1 lecture

480. Laboratory: A laboratory course in Experimental Physiology designed to accompany the lecture courses of Fourth Year Honours Physiology.
Maximum time available.

481. Research and seminar. 1 hour

POLITICAL SCIENCE

Talbot College

Senior Professor:
Henry Bertram Mayo, M.A., D.Phil. Oxon., F.R.S.C.; Head of the Department

Professor:
Eric Beecroft, B.A., M.A. Toronto; Ph.D. Yale

Associate Professor:
T. Robert Sansom, B.A. New Brunswick; Ph.D. London

Assistant Professors:
William M. Dobell, B.A. McGill; M.A., B.Litt. Oxon.
Charles C. Dunlop, B.A., M.A. Queen's
Bohuslav Bohumil Kymlicka, B.A. British Columbia; M.A., Ph.D. Columbia
Sidney J. R. Noel, B.A. Memorial; M.A., D.Phil. Oxon.

Lecturer:
John D. Shingler, M.A. Yale

Instructor (Part-time):
Elizabeth J. Chambers, B.A. British Columbia; M.A. Saskatchewan

Visiting Professor:
W. F. Dawson, B.A. Toronto; M.A. Queen's; D.Phil. Oxford

Courses

Politics 20 is a prerequisite for all courses in Politics unless permission of the Department is obtained.

20. Government of Canada: An introduction to democratic theory and practice primarily through the study of Canadian political institutions and processes. 3 hours—32

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, Canada. 3 hours— 7

37. History of Western Political Thought: A study of the major political thinkers from Plato to Mill and Marx. 3 hours—29

42. Britain and the Commonwealth: A study of the governmental institutions and political processes of the United Kingdom and selected Commonwealth countries. 3 hours—22

44. American Government and Politics: A study of the American Constitution, institutions of government and political processes. 3 hours—26

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—15

48. Comparative Foreign Governments: A study of the governmental institutions and political processes of leading West European and Communist countries, followed by an analysis of particular institutions on a comparative basis. 3 hours— 1

Honours Courses

Politics 231, 242, 244, 337, 346, 348 are similar to 31, 42, 44, 37, 46, 48 except that additional assignments and classes will be required in Honours Courses.

350. Advanced Canadian Government: An examination of selected problems in Canadian government such as the constitutional and financial aspects of federalism; political parties and pressure groups; and provincial government. 3 hours—11

362. Provincial and Local Government: The structure and processes of provincial and local government in Canada, including such topics as provincial-municipal relations, finances, metropolitan areas and regional planning. 3 hours—13

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 political behavior. 3 hours—33

451. International Law and Organization: A study of the United Nations, NATO, the West European Communities and similar organizations; an introduction to international law, emphasizing its relevance to the resolution of conflict between nations.
Prerequisite: Politics 31 or 231. 3 hours—21

480. Seminar: Problems in the methodology of political science; the implications for political science of developments in other fields such as law, economics, sociology and psychology. 2 hours.

PSYCHOLOGY

Middlesex College

Professors:

Mary Jean Wright, B.A.; M.A., Ph.D. Toronto, Head of the Department
Douglas Northrop Jackson, B.Sc. Cornell; M.S., Ph.D. Purdue
Leola Ellen Neal, B.A., M.A.; Ph.D. Toronto (Dipl. Clin.); (part-time)
Gordon Haslam Turner, B.A., M.A., Ph.D. Toronto

Associate Professors:
Jaroslav Havelka, M.A. Masaryk; Ph.D. Milan; M.Sc. McGill
William John McClelland, B.A., M.A., Toronto; Ph.D. London
Gordon James Morgenson, B.A., M.A. Saskatchewan; Ph.D. McGill
Allan Urho Paivio, B.Sc., M.Sc., Ph.D. McGill
Morton Rieber, B.A. U.C.L.A.; M.A., Ph.D. Iowa
Morris Modris Schnore, B.A., M.A.; Ph.D. McGill
Richard Gene Stennett, B.A., M.A.; Ph.D. McGill (part-time)
Frank William Ralph Taylor, B.A., M.A., Ph.D. Toronto
Frank Ray Wilkinson, B.A. Utah; M.A. Hawaii; Ph.D. Michigan State

Assistant Professors:
Larry Wayne Chamberlain, B.Sc.; Ph.D. Keele
David Arthur Trytherch Chambers, B.A. British Columbia; M.Sc., Ph.D. McGill
John Peter Denny, B.A. Toronto; Ph.D. Duke
Robert Charles Gardner, B.Sc., Alberta; M.Sc., Ph.D. McGill
Robert Melville Knight, B.A.; Ph.D. Minnesota
Harold Oliver Lobb, B.A., B.Ed., M.Ed. Saskatchewan; Ph.D. Toronto
Andrew A. Monjan, B.S. Rensselaer; Ph.D. Rochester
Frederick M. Van Fleet, B.A., M.A. McMaster; Ph.D. Colorado
David Reardon Pederson, B.A. Minnesota; M.A., Ph.D. Iowa
Zenon Walter Pylyshyn, B.Eng., McGill; M.Sc., Ph.D. Saskatchewan
Willard E. Reitz, B.S. Pennsylvania State; M.A. Illinois; Ph.D. Pennsylvania State
Thomas F. Siess, B.A. Valparaiso; Ph.D. Minnesota

Lecturers:
Marilynne Joy Alder, B.A., M.A. Toronto (part-time)
George H. Phills, B.A. U. of King's C.; M.A. Dalhousie; Ph.D. London (part-time)
Karoly Miklos Banreti-Fuchs, Dr. Utrecht (part-time)

Courses

Psychology 20 or 21 is prerequisite to all other courses in Psychology unless permission of the Department is obtained. Psychology 31 is prerequisite to Psychology 48.

20. Introduction to Psychology: Problems and Methods; individual differences and their assessment; learning; memory; thinking; sensation and perception; motivation; emotion; personality. Open only to Freshmen. 3 hours—19

21. Principles and Methods: A discussion of the motives, emotions and intellectual abilities of human beings, special emphasis on the effective use of these factors in private and social activities. Open only to senior students, including premedical students, who have neither had nor are taking Psychology 20. 3 hours—19

31. Theories of Personality: Representative theoretical interpretations of personality development and dynamics.
Prerequisite for Psychology 48. 2 hours— 6

32. Motivation and Learning: The causes of behavior and the modification of behavior through experience. A survey of current theory and research in motivation and learning. 2 hours—29

33. Perceptual Processes: Theories of perception and psychophysical methods. The sensory and perceptual processes, their stimulus correlates and physiological bases. 2 hours—25

36. Child Psychology: An introduction to theory and research in selected areas of child behavior, with particular emphasis on learning, motivation, and personality. 2 hours—16

39. Exceptional Children: Problems and methods in work with the gifted, mentally deficient, physically handicapped, brain damaged, and emotionally disturbed child. 2 hours—22

41. Individual Differences: The nature and origin of variability among individuals as related to heredity, sex, ethnic group membership and socioeconomic status. Psychological tests and their use in the study of human abilities. 2 hours— 5

42. Adolescent Psychology: A review of research findings and theory regarding adolescent behavior with special emphasis on motivation, interpersonal relations and behavior problems. 2 hours—16

46. Applied Psychology: The application of psychological principles to practical problems, with the major emphasis on problems in education and industry. 2 lecture hours—27

48. Abnormal Psychology: A consideration of abnormal activities in sensation, perception, memory, emotion, thought and behavior; mental deficiency; the causes and symptoms of psychoneuroses; some reference to major mental disorders; psycho-therapeutic techniques.

Prerequisite: Psychology 31. 2 hours— 6

49. Social Psychology: The activities of living beings in response to their social environment. The conditioning of personality by the family and other groups; types of prejudice; leadership and prestige in social life; the mob; mental epidemics; propaganada; public opinion. 2 hours—33

Honours Courses

234. Historical Systems: A study of persistent problems in the history of psychology and an introduction to the traditional systems of psychology: Structuralism, Functionalism, Behaviorism, Gestalt Psychology, and Psychoanalysis. 2 hours—12

235. Experimental Psychology I: Motivation and Learning: Critical examination of methods, findings, and theory. 2 lectures, 2 laboratory hours—24

236. Child Psychology: An introduction to theory and research in selected areas of child behavior, with particular emphasis on learning, motivation, and personality; some practical experience in field and laboratory settings. 2 hours—16

255. Statistical Methods: Statistical techniques applicable to the treatment of psychological data; elementary research design. 2 lectures, 1 laboratory hour—27

337. Tests and Measurement: Discussion of basic considerations in measurement; description and evaluation of typical measuring instruments and their uses; consideration of persistent problems in the field of measurement. 2 lectures, 1 laboratory hour—23

338. Experimental Psychology II: Sensation and Perception; Critical examination of methods, findings, and theory. 2 lectures, 2 laboratory hours—11

343. Physiological and Comparative Psychology: Neural and endocrine foundations of behavior; learned and unlearned behavior in selected invertebrate and vertebrate organisms. 2 hours—17

349. Social Psychology: Theory and measurement of human social behavior with emphasis on empirical studies of individuals in response to their environment. Topics include: culture and personality; ethnic prejudice; psycholinguistics; propaganda; group structure; mass behaviour. 2 hours—33

445. Cognitive Processes: Theory and empirical findings concerning thinking processes such as concept formation, problem solving, and creativity. 2 hours— 5

446. Applied Psychology: Consideration of practical problems for which psychological principles and techniques have relevance. Emphasis will be placed upon the interpersonal relations and the problems of small work groups. 2 seminar, 2 laboratory hours—27

450. Personality Theory: Representative theoretical interpretations of personality development and dynamics. 2 hours—16

459. Research Problems: A seminar course in which students will select topics for special investigation. 3 hours.

460. Experimental Psychology: Laboratory and seminars dealing with methods, findings, and theory in sensation, perception, and learning as well as the development of research problem for individual investigation. Qualifying students only. 2 lectures, 2 laboratory hours

461. Contemporary Theory: A critical examination of the theories of representative contemporary psychologists. Qualifying students only. 2 hours— 1

ROMANCE LANGUAGES

University College

Professors:

Robert Warren Torrens, B.S. Dartmouth; M.A. Harvard; Ph.D. Cornell, Head of the Department

Norman Adrian Bennetton, B.A., M.A. Southern California; Ph.D. Johns Hopkins

Associate Professors:

James Bernard Sanders, B.A., M.A. Manitoba; D. de l'U. de Paris

Robert Lowell Walters, B.A. Oberlin; M.A., Ph.D. Princeton

Assistant Professors:

Bruce Davies, B.A. McMaster; M.A. Harvard

Lane Murch Heller, B.A., M.A., Ph.D. Wisconsin

Dorothy Franklyn Jones, B.A. Smith; M.A. Columbia; Ph.D. Brown

Jack Warwick, B.A. Oxon.; M.A., Ph.D.

Lecturer:

Felix Roque Atance, B.A. Toronto; M.A. Nebraska

Instructors:
John Raymond Dugan, B.A., M.A. Toronto
Nora Catherine Keeling, B.A., M.A.
David Edward Westgate, B.A. Nottingham; M.A. McMaster

Instructor (part time):
Valentine Rodger Miller, B.A., M.A. Oxon.

Visiting Professor:
P. Mélèse, D. ès L. Sorbonne

Middlesex College

Professors:
Weston Flint, B.A. Harvard; M.A., Ph.D. North Carolina, Head of the Department
Robert Newton Shervill, B.A.; M.A., Ph.D. North Carolina

Associate Professors:
William S. Bush, B.A. John B. Stetson University; M.A. University of South Dakota, D. de l'U. de Paris
Théophile Joseph Casaubon, B.A. Laval
Adrien Favre, L. ès L. Toulouse
Antonio M. Marti, B.A., Ph.D. University of Barcelona
Lionel Jacques Seymour Metford, B.A., M.A. British Columbia; D. de l'U. de Paris

Assistant Professors:
Wolfram Burghardt, B.A., M.A. Toronto
Douglas George Creighton, B.A., M.A. Toronto; Ph.D. Columbia
Frank Falvo, B.A. Manitoba; M.A. Laval
Frederick Kilburn Harper, B.A., M.A. Manitoba
Jean Méral, L. ès L. Toulouse; Ph.D. Michigan
Jean Cross Newman, B.A. McGill; A.M. Radcliffe; Dra. en Fa. Madrid
Armand Joseph Roth, L. ès L. Strasbourg

Lecturers:
Maria Valeria Brizio, Dott. in Fa. Bologna
Louise Henrietta Forsyth, B.A. Sask.; M.A.
Luis Lozano, B.A. Ottawa; M.A.

Visiting Professor:
Colin Smith, B.A., M.A. Manchester; Ph.D. London

French Courses

Students in General Programme (Humanities and Social Sciences) who choose French as their subject of concentration must elect French 31.

It is recommended that students who major in this Department elect four senior courses in the major subject; two in the second year and two in the third year.

20. Advanced French: Introduction to French literature, grammar, translation, oral practice.

Prerequisite: French 10 or Grade 13 French. 3 hours—23

22. French Conversation: Systematic oral practice for those students who wish to develop fluency in speaking French.
Prerequisite: French 20. 2 hours: half course.

30. The French Novel: Study of typical examples of the novel taken from French literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20. 3 hours—21

31. Grammar, Composition, Phonetics, Oral Practice.
Prerequisite: French 20. 3 hours—23

34. French Drama: Study of typical examples of French dramatic literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20. 3 hours—31

36. French Poetry: Study of representative French poems of the 16th through the 20th centuries.
Prerequisite: French 20. 3 hours—36

38. French-Canadian Literature: Lectures and reading on the historical and cultural background and the philosophical and literary contributions of French Canada.
Prerequisite: French 20. 3 hours— 9

41. Advanced Grammar, Composition and Oral Practice:
Prerequisite: French 31 or by permission of Department Head. 3 hours—23

43. Commercial French: Advanced transactions, reading. For students in Secretarial Science.
Prerequisite: French 31. 3 hours—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 10 or Grade 13 French. 1 hour: half course—27

Honours Courses

All students in Honours Courses will take a comprehensive examination *at the end of their final year.*

270. The French Classical Period: Study of representative literature of the seventeenth century; reading, lectures, discussion and reports.
Prerequisite: French 20. 3 hours—21

271. Phonetics, Grammar, Composition and Oral Practice.
Prerequisite: French 20. 3 hours—17

338. French-Canadian Literature: Survey of the literature of French Canada covering characteristic material from 1845 to the present; intensive study of selected modern novels and poems; representative writings from the "ancien régime" may be included.
Prerequisite: French 270. 2 hours— 9

350. French Literature of the Mediaeval and Renaissance Periods: Reading, lectures, discussion, reports.
Prerequisite: French 270. 2 hours—27

380. French Literature of the Eighteenth Century: Lectures, reading, discussion, reports.
Prerequisite: French 270. 2 hours—24

381. Grammar, Composition, Oral Practice.
Prerequisite: French 271. 3 hours—15

490. The Literature of the Nineteenth Century: Lectures, reading and reports.
Prerequisite: French 380. 3 hours—24

491. Advanced Composition and Oral Practice.
Prerequisite: French 381. 3 hours—12

499. Contemporary French Literature: Study of some typical examples of the novel and drama of the twentieth century; reading, lectures, discussion, reports.
Prerequisite: French 380. 3 hours— 1

Italian Courses

1. Elementary Italian: Grammar, oral practice, reading of simple texts. Students who have an A standing at the end of the first semester may transfer to Italian 10. 3 hours— 9

10. Intermediate Italian: Review of grammar, readings from Italian literature, oral practice.
Prerequisite: Italian 1 or its equivalent. 3 hours— 9

20. The Literature of the 19th and 20th Centuries: Study of representative writers, reading, lectures, reports.
Prerequisite: Italian 10 or Grade 13 Italian. 3 hours— 9

30. The Literature of the 'Rinascimento'; Study of representative writers of the 15th and 16th centuries. Selected modern novels for outside reading.
Prerequisite: Italian 20. 3 hours—26

40. A Study of Dante, Petrarca, Boccaccio and Their Period: One modern novel; composition.
Prerequisite: Italian 20. 3 hours—16

Spanish Courses

1. Elementary Spanish: Grammar, translation, dictation, oral practice. Students who have an A standing at the end of the first semester may transfer to Spanish 10. 3 hours—29

10. Intermediate Spanish: Grammar, composition, translation, dictation, oral practice.
Prerequisite: Spanish 1 or its equivalent. 3 hours—29

20. Advanced Spanish: Introduction to Spanish literature, grammar, translation, oral practice.
Prerequisite: Spanish 10 or Grade 13 Spanish. 3 hours—28

22. Conversation: Systematic oral practice for developing fluency in speaking Spanish.
Prerequisite: Spanish 10. 2 hours: half course.

30. Spanish Drama: Study of typical examples of Spanish dramatic literature of the 16th through the 20th centuries.
Prerequisite: Spanish 20. 2 hours—14

31. Grammar, Composition, Oral Practice.
Prerequisite: Spanish 20. 2 hours—28

45. Scientific Spanish: Reading of Scientific Spanish from journals supplemented by individual reading in the special field of study of each student.
Prerequisite: Spanish 10 or Grade 13 Spanish. 1 hour: half course—19

Note: Spanish 35, 40, 41, 48 and 61 are Pass Courses identical with 260, 340, 341, 348 and 461 respectively.

Honours Courses

All students in Honours Courses will take a comprehensive examination at the end of the final year.

230. Spanish Drama of the Nineteenth and Twentieth Centuries: Lectures, reading, discussion, reports.
Prerequisite: Spanish 20. 2 hours—14

231. Phonetics, Prose Composition, Conversation.
Prerequisite: Spanish 20. 2 hours—28

260. Spanish Poetry of the Nineteenth and Twentieth Centuries: Lectures, reading, discussion, reports.
Prerequisite: Spanish 20. 2 hours— 4

340. Spanish Prose of the Nineteenth and Twentieth Centuries: Lectures, reading, discussion, reports.
Prerequisite: Spanish 230. 2 hours— 2

341. Grammar, Composition, Oral Practice.
Prerequisite: Spanish 231. 3 hours—35

348. Latin-American Literature: Study of typical examples of the modern prose and poetry of Latin America.
Prerequisite: Spanish 230. 2 hours—12

365. Spanish Poetry: Garcilaso de la Vega to the end of the Golden Age.
Prerequisite: Spanish 260. 2 hours—31

455. Spanish Literature of the Mediaeval Period: Phonological and morphological development of Spanish.
Prerequisite: Spanish 365. 2 hours—13

460. Spanish Drama before Lope de Vega, and Spanish Drama of the Golden Age.
Prerequisite: Spanish 365. 2 hours—30

461. Advanced Composition and Oral Practice.
Prerequisite: Spanish 341. 3 hours—21

465. The Spanish Novel and Non-fictional Prose of the Golden Age.
Prerequisite: Spanish 340. 3 hours— 8

RUSSIAN STUDIES

Talbot College

Acting Head of Department — Associate Professor:
Rudolf Neuhauser, M.A. *Toronto*; D.Phil. (Vienna)

Professor:
Leonid Ignatieff, B.A. McGill; M.A., Ph.D. Michigan; Cert. Russian Institute Columbia

Assistant Professor:
Charles Arthur Ruud, B.A. Willamette; A.M. Harvard; Ph.D. California

Lecturers:
Erna V. Froese (Mrs), B.A. Simferopol
Helen D. Isyumov (Mrs.), B.A. Univ. of Moscow
Roman Piontkovsky, B.A. George Williams; B.Ed. Toronto; M.A. Middlebury

Instructors:
Nina S. Bernotas (Mrs.), B.A.
Dallas McFadden, B.A., M.A. British Columbia

Courses

1. Elementary Russian: A beginning course, pronunciation, grammar, dictation, translation, oral practice. Students who have a high "A" standing at the end of the year may register for Russian 20 the following year. 4 hours—10

10. Intermediate Russian: Review and further study of basic grammar. Composition, oral practice and reading selected prose.
Prerequisite: Russian 1 or permission of Department. 4 hours—10

20. Advanced Russian: Elements of syntax and review of grammar and emphasis on special problems of morphology. Oral practice and composition.
Prerequisite: Russian 10 or permission of Department. 4 hours—10

22. Russian Conversation: Oral practice to develop fluency in speaking Russian.
Prerequisite: Russian 10 or Russian 20. 2 hours—(half course)

30. Outline of Russian Literature: (Eighteenth and Nineteenth Centuries). Readings in English, with excerpts in Russian. Lectures, reading, discussion, reports. 3 hours—22

35. Intermediate Scientific Russian: Review and further study of grammar; reading and translating selected technical material into English.
Prerequisite: Russian 1. 3 hours—17

37. History of Russia - U.S.S.R.: The political, economic, and cultural development, social conditions, territorial expansion and foreign relations.
3 hours— 6

40. Outline of Twentieth Century Literature: Selected readings in English with excerpts in Russian. Lectures, reading, discussion, reports.
Prerequisite: Russian 30 or permission of Department. 4 hours—23

45. Advanced Scientific Russian: Reading and translating scientific texts from the Russian, supplemented by individual translating in each student's special field of study. For Honours and Graduate Science students.
Prerequisite: Russian 35 — 1 hour (half-course)

Honours Courses

All students in Honours Courses will take a comprehensive examination at the end of the final year.

280. Introduction to Literature and Culture: From the beginning to the Eighteenth Century. Lectures, readings, reports and discussions.
Prerequisite: Russian 20 or permission of Department. — 3 hours—25

281. Composition and Oral Practice: Syntax of the simple sentence.
Prerequisite: Russian 20 or permission of Department. — 3 hours—31

337. History of Russia - U.S.S.R.: The Nineteenth and Twentieth Centuries with special emphasis on intellectual and social developments. — 3 hours— 6

390. Prose of the Nineteenth Century: Study of the great masters of the Nineteenth Century from Pushkin to Chekhov. Lectures, reading, reports and discussion.
Prerequisite: Russian 280. — 3 hours—14

391. Composition and Oral Practice: Elements of Phonetics, syntax of the simple and compound sentence.
Prerequisite: Russian 390. — 2 hours—29

420. Prose of the Twentieth Century: Russian Literature from Gorky to the present. Lectures, reading, reports, discussion.
Prerequisite: Russian 20. — —18

490. Poetry of the Nineteenth Century: From Pushkin to the symbolists. Lectures, reading, reports, discussions.
Prerequisite: Russian 390. — 2 hours— 4

491. Composition and Oral Practice: Problems of syntax and stylistics.
Prerequisite: Russian 391. — 2 hours—25

493. History of the Russian Language: Phonology, morphology and syntax.
Prerequisite: Russian 391. — 2 hours—36

Second and Third Year Honours Courses may be taken by students in the General Programme (Russian Major) with permission of the Head of the Department.

SECRETARIAL SCIENCE

University College

Professor:
Mary Hamilton Gillespie, B.A.; M.A. Columbia, Head of the Department

Associate Professors:
Elaine Woodrow Chapman, (Mrs. C. B.), B.A.
Roma Lucille Waller (Mrs.), B.A.; M.A. Columbia

Assistant Professor:
Eleanor Gertrude Ward (Mrs. Bruce), B.A.

Instructors:
Patricia F. Davis, B.A.
Betty Seldon (Mrs. T. B.), B.A.

Assistant:
Shelagh A. Morrison, B.A.

Courses

The difficulty of adjusting timetables makes it impossible for those who are unable to pass the final tests of each year to take General Arts subjects of a succeeding year in conjunction with their Shorthand and Typewriting. Therefore, students who fail to pass in one or more of their subjects are faced with the possibility of having to lose an entire year.

28-29. Shorthand and Typewriting: Pitman's Shorthand: theory, speed up to 60 words a minute, and typed transcription of notes. Touch system of typewriting; care of machine; letter styles; copying from manuscript and printed matter; centering; accuracy; and timed tests. 12 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.

36. Business Mathematics: Prescribed for Honours students in Business Administration and Secretarial Science. It provides practical and basic applications of methods relating to the Mathematics of Business. 2 hours.

37. Office Practice: The foundation of the work in Office Practice is laid in the second year. Lectures are given on office methods, and actual duties are undertaken in the Secretarial Science Office.

Prerequisites: Secretarial Science 28-29. 3 hours.

38-39. Shorthand and Typewriting: Shorthand speed up to 100 words a minute; typed transcription of notes; typewriting from manuscript; tabulation; carbon copies; telegrams; financial statements; methods of duplicating; accuracy and timed tests.

Prerequisites: Secretarial Science 28-29. 12 hours.

47. Office Practice: The responsible duties of the various members of an office staff and the operation of modern office equipment are undertaken by the third year students. Units of work are assigned in rotation. Lectures are given on secretarial duties, office organization, the administration of services, the problems of office personnel.

Prerequisites: Secretarial Science 37, 38, 39. 15 hours: double course.

48-49. Shorthand and Typewriting: Shorthand speed up to 130 words a minute; typed transcription of notes; typewriting speed up to 60 words a minute; typing from advanced copy (technical matter, foreign languages) and from dictation.

Prerequisites: Secretarial Science 38, 39. 10 hours.

SOCIOLOGY

University College

Professor:

John F. Kantner, A.B. Franklin and Marshall; M.A., Ph.D. Michigan, Head of the Department

Assistant Professors:

John Douglas Allingham, B.A., M.A., McMaster; Ph.D. Australian National University
T. R. Balakrishman, B.A., M.A. Madras; Ph.D. Michigan
B. D. Singer, B.A. Wayne State; M.A., Ph.D. University of Pennsylvania
D. I. Pool, B.A., M.A. Auckland; Ph.D. Australian National University

Lecturers:

George K. Jarvis, B.A. Brigham Young; M.A. Michigan
P. Morrison, A.B. Dartmouth; M.A. Brown University
Richard Warren Osborn, B.A. Michigan
E. B. Harvey, B.A., M.A. British Columbia
D. Harris, B.A., M.S.W. Toronto

General Courses

It is strongly recommended that Sociology 30 and Sociology 31 be elected by all students selecting Sociology as their major subject.

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. 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. 3 hours—12

32. Population Studies: An analysis of the determinants and consequences of major demographic trends. Attention is given separately to fertility, mortality and migration as fundamental aspects of population movements and to population composition as a basic constituent of social structure. Essential techniques used in population analysis are presented as are case studies of special population.

Prerequisite: Sociology 20. 3 hours— 1

34. Community Structure: A study of the forms of community life from the folk community to the modern metropolis. Both ecological and social organization will be considered as will the relationships between community structure and patterns of group and individual behavior.

Prerequisite: Sociology 20. 3 hours—23

35. Social Stratification: An examination of some of the basic features of social stratification including caste, class, status, power and social mobility. Empirical studies of stratification and power will be stressed.
Prerequisite: Sociology 20. 3 hours— 9

36. Social Organization: A comparative analysis of forms of association and group structure from primary groups to complex bureaucratic structures.
Prerequisite: Sociology 20. 3 hours—25

38. 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. 3 hours— 5

41. Communication and Public Opinion: Takes up sociological and social psychological theory dealing with the function of communications media 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. 3 hours—31

45. Applied Sociology: The findings of empirical sociology as they relate to problems in industry, education, public health and medicine, public administration, law and law enforcement, devient behavior and other areas of social life.
Prerequisite: Sociology 20. 3 hours—20

ZOOLOGY

College of Science

Professors:

Anthony William Aldridge Brown, B.Sc.F., M.A., Ph.D., Toronto; F.R.S.C., M.B.E., Head of the Department
Helen Irene Battle, B.A., M.A.; Ph.D. Toronto
William Wallace Judd, B.A. McMaster; M.A., Ph.D. Toronto
William Alexander Kennedy, B.A., Ph.D. Toronto; Honourary (part-time)
David Maxwell Scott, B.Sc., Ph.D. McGill
Robert Harvey Stinson, B.A. McMaster; Ph.D. Toronto

Associate Professors:

Thomas Kenneth Richard Bourns, B.A., M.A. British Columbia; Ph.D. Rutgers
Miles Hugh Alston Keenleyside, B.A., M.A. British Columbia; Ph.D. Groningen
Donald Burley McMillan, B.Sc., M.Sc., Ph.D. Toronto

Assistant Professors:

William Norton Holsworth, B.Sc., M.Sc., Ph.D. Western Australia
Charles Donald MacInnes, B.Sc. Bishop's; Ph.D. Cornell
John Earle Steele, B.Sc. Dalhousie; M.Sc.; Ph.D. Saskatchewan

Honorary Lecturers (part-time):

Edwin Joshua Bond, B.S.A., O.A.C.; M.Sc.; Ph.D. London
William Chefurka, B.Sc. Manitoba; M.A. Montana State; Ph.D. Harvard
Ernest Howard Colhoun, B.S.A. Toronto; Ph.D. Cantab.; F.R.E.S.
Andrew Hampden Lawrie, B.A., M.A. Toronto
Rajendra Kumar Misra, M.Sc., Ph.D. Nagpur; Ph.D. Edinburgh
René Romain Roth, M.Sc. Cluj; Ph.D. Alberta
Hector Alexander Urquhart Monro, B.Sc. (Agr.), M.Sc., Ph.D. McGill

Instructor:

Marjorie Eleanor Moulton, M.Sc.

Courses

20. Introductory Zoology: The principles of animal biology as illustrated by a study of the structure and physiology of particular forms. To qualify for the Honours Courses in Biology a student must obtain at least 60% in this course.
2 lectures, 3 laboratory hours— 7

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 both in the Department of Botany and in the Department of Zoology. 2 lectures, 2 laboratory hours— 7

22. Biology: For students of General Programme I: the fundamental principles of biology stressing the features common to all living organisms. This course is given both in the Department of Botany and in the Department of Zoology.
2 lectures, 2 laboratory hours— 7

30. Mammalian Zoology: The biology of mammals, with emphasis upon structure and function, and their adaptive significance. Students who have received credit in Zoology 24 will not be permitted to take Zoology 30.

Prerequisite: Zoology 20 or Biology 21 or Biology 22.
2 lectures and 3 laboratory hours— 7

34. Comparative Vertebrate Histology: An introduction to the microscopic structure and development of tissues and organs.

Prerequisite: Zoology 30 (60%). 1 lecture, 3 laboratory hours—21

37. History of Biology: The history of discoveries in biology and the development of biological thought. 2 lectures— 3

Prerequisite: Zoology 20 or Biology 21 and one other college course in Zoology.

41b. Entomology: The biology and economic importance of the insects, and in addition the spiders, mites, crustacea and other arthropods.

Prerequisite: Zoology 20 or Biology 21.
2 lectures, 3 laboratory hours (full course, second term)—33

43. Animal Ecology: Formation and distribution of animal populations; population dynamics, ecosystems. The laboratories will include field investigations and techniques of wildlife management.
2 lectures and 3 laboratory hours—29

44. Embryology: A study of fundamental embryological processes as illustrated by selected invertebrate and vertebrate types.
Prerequisite: Two zoology courses (60%).
2 lectures, 3 laboratory hours—15

45. Principles of Genetics: The principles of Mendelian genetics and the chromosome theory.
Prerequisite: Zoology 20. 2 lectures, 3 laboratory hours—17

47. Parasitology: A study of parasitism as a way of life, representative animal parasites, host-parasite relationships, and parasitological techniques.
Prerequisite: Two Zoology courses (60%).
2 lectures, 3 laboratory hours—36

Honours Courses

255. Principles of Genetics: The principles of Mendelian genetics and the chromosome theory, illustrated by lectures and the practical performance of simple breeding experiments.
Prerequisite: Zoology 20. 2 lectures, 3 laboratory hours—17

270. Comparative Vertebrate Zoology: The biology, origin, and evolution of the classes of vertebrates; an introduction to some principles of evolution.
Prerequisite: Zoology 20. 2 lectures, 3 laboratory hours—33

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.
Prerequisite: Zoology 270. 2 lectures, 3 laboratory hours—12

354. Vertebrate Histology: An introduction to the microscopic structure and development of vertebrate tissues and organs.
1 lecture and 3 laboratory hours—21

370. Invertebrate Zoology and Entomology: The anatomy and biology of representative invertebrate animals (first term) and of insects (second term).
Prerequisite: Zoology 270. 2 lectures, 3 laboratory hours—33

437. History of Biology: The history of discoveries in biology and the development of biological thought. 2 lectures— 3

453. Animal Ecology: Distribution of animal populations, population dynamics, predator-prey interactions, ecosystems. The laboratories will include analysis of wildlife and laboratory populations.
2 lectures and 4 laboratory hours—31

454. Embryology: Principles of development as illustrated by selected invertebrate and vertebrate types. 1 lecture and 3 laboratory hours—15

456. Laboratory Technique: A practical course in standard laboratory procedures, including microtechnique, photomicrography, and preparation of illustrations. 3 laboratory hours: (half course)

460. Insect Taxonomy: The principles and historical development of insect taxonomy, and the classification of specimens by means of keys and monographs. 3 laboratory hours: (half course)— 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.

465. Biometry: Methods of measurement and sampling, and the application of statistical methods to zoological data. 3 laboratory hours: (half course)—11

470. Vertebrate Taxonomy: Classification and distribution of vertebrates, and the study of Canadian vertebrates in the laboratory. Next offered in 1966-67 and thereafter in alternate years. 3 lecture hours—24

471. Parasitology: A study of parasitism as a way of life, representative animal parasites, host-parasite relationships, and parasitological techniques. 2 lectures and 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 66% in third year. Full course.

THE SUMMER SCHOOL AND EXTENSION DEPARTMENT

Director:

Angela M. Armitt, B.A.

Assistant Director:

D. L. Harris, M.S.W.

Assistants:

Olive M. Hodgins
Hazel J. Trott, B.A.
Helen Knox

The Faculty of Arts and Science through the Summer School and Extension Department offers general programme subjects leading to a General B.A. degree for students unable to attend the intramural winter sessions. These subjects are available in three ways: (1) at the Summer Session in London, (2) during the Winter Session in London and at 10 other centres in Western Ontario and (3) by correspondence.

In addition some honours subjects are offered in the Summer Session and in London during the Winter Session. These are available to teachers with University degrees who are working toward Type A teaching certificates. The dates for the 1966 Summer School are July 4 to August 18 (including examinations).

A student enrolled in the Summer School, Correspondence and Extension Department may take as many as five courses a year (two in a Summer Session and three during a Winter Session). Any student who wishes to take more courses than the maximum mentioned must petition the Academic Standing Committee for permission.

A candidate for a degree must attend this University for one academic year and two Summer Sessions or five Summer Sessions. This requirement is reduced to a minimum of one Winter Session or three Summer Sessions by attendance at Extension lecture classes held by this University, or by the transfer of credit from an approved college or university.

No intramural student may register in an extension or correspondence course without the written permission of his Dean. Any student who receives such permission is expected to pay the full extension or correspondence fee unless he presents to the Registrar and the Comptroller a credit slip to be obtained from the Summer School and Extension Department and countersigned by both the Dean and the Director of the Summer School and Extension Department.

Detailed regulations with respect to subjects offered to part-time students are available on application to the Director, Summer School and Extension Department.

TROIS-PISTOLES SUMMER SCHOOL FOR FRENCH, ENGLISH, PAINTING AND METHODOLOGY, TROIS-PISTOLES, PROVINCE OF QUEBEC

Middlesex College

Director: Theophile Joseph Casaubon, B.A. Laval

In 1966 the School will operate from July 7 to August 18. Although formal instruction is given in phonetics, composition, etc., the emphasis is on the spoken language. University credits may be obtained. Courses in painting are also offered.

For the bulletin concerning the courses apply to the Director of the Trois-Pistoles Summer School, Middlesex College, or to the University Registrar.

The College of Music

Dean: Clifford von Kuster, Mus.Bac., L.R.C.T.

Faculty:

Professors:

Alfred Rosé, B.A.; Head of Voice Department, Music History, Conductor of University Choir
Clifford von Kuster, Mus.Bac., L.R.C.T.; Piano and Piano Pedagogy

Associate Professor:

Donald McKellar, A.R.C.T., A.Mus., Mus.Bac., M.Mus.; Head of Music Education, Conductor of University Concert Band

Assistant Professors:

Paul Green, A.R.C.T., Mus.Bac., M.Mus.; Music Education and Theory, Coordinator of Ensembles
Gordon K. Greene, A.Mus., B.A., B.Ed., M.A.; Music History and Theory
John S. McIntosh, Mus.Bac., M.Mus.; Head of Theory and Organ Departments
Howard Munn, Piano and Piano Teaching Materials, Principal of Western Ontario Conservatory of Music
Peter S. Odegard, B.A., M.A., Ph.D.; Music History and Viola, Conductor of University Orchestra
Robert Skelton, Mus. Bac.; M.M., A.R.C.T.; Violin and Theory
Earle Terry, B.A., B.Paed., M.Mus.; F.R.S.A., Choral Music

Lecturers:

Peter J. Clements, Mus.Bac., M.M.; Theory and Composition
James Ford, Brass Instruments
Lillian Wilson, Voice

Special Lecturer:

Dawson Woodburn, B.A., M.A.; Choral Music, Director of Choral Ensemble

Instructors:

Henri Hoppe, Violin
Joan Hysen, Viola
Wesanne McKellar, A.Mus.A., A.R.C.T., L.R.S.M., Mus.Bac.; Piano
Marian MacLennan, B.A., R.C.A.D. (Artist's Diploma); Piano
Alma Madill, A.T.C.M.; Piano and Theory
Antonia Mazan, B.A., L.Mus., Graduate of Vienna Academy; Piano
G. J. Meyer, Graduate of Royal Conservatory, Amsterdam; Flute
Philip Murphy, B.A., Mus. G. Paed.; Clarinet
Betty Tracy, A.T.C.M.; Cello

Courses:

10. For Arts and Science Students: There are three parts of this course: history of music, theory and performance. To obtain credit, two of the three parts must be taken. If a student chooses performance, he must pay for the private lessons.

History of Music: Music in the ancient world. The Christian foundations of Western Music. The Middle Ages. The Renaissance. The birth of opera and oratorio. The Baroque. Bach and Handel. 1 hour— 4

Theory: Rudiments and elementary form and analysis. 1 hour—21

20. For Arts and Science students: There are three parts of this course: history of music, theory and performance. To obtain credit, two of the three parts must be taken. If a student chooses performance, he must pay for the private lessons.

History of Music: Instrumental music and opera in the 18th century. Haydn, Mozart, Beethoven and Schubert. Opera in the early 19th century. Romanticism: Chopin to Wagner. 1 hour—18

Theory: Elementary harmony, including keyboard harmony and improvisation. 1 hour— 6

20S. Music Education (choral): Summer School only. 10 hours

20Y. A listener's course designed for Arts students to acquaint them with the landmarks of the orchestral, choral and chamber repertoire through guided listening to recordings and live performance. No prerequisite. 2 hours—18

21. Individual lessons in the student's major applied music subject. 1 hour

21A. Piano minor: Individual piano lessons for those students majoring in another applied music subject. ½ hour

22. Piano paedagogy: Teaching approach to all phases of technique, tone production, phrasing, style and interpretation, memorizing, practise methods. 1 hour

23. Piano teaching materials: Assignments in compiling, listing and performing teaching material. Practise teaching. 1 hour

24. 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. 1 hour

25. Theoretical Studies: Analysis, sight-singing, dictation and four-part writing based on triads, dominant seventh chords and their inversions. Rhythmic reading and dictation. Keyboard harmony. 5 hours

26. Music History 1: A study of the history and literature of music up to 1750. The first half of a two year survey. 3 hours

27. Choral Technique: Basic elements of voice production and choral singing. Elementary choral conducting. Study of rehearsal techniques through the performance of selected repertoire. 1 hour

28, 38, 48. Ensembles: Band, orchestra, chorus and chamber ensembles; performance of major works for the respective media. The faculty will assign students to those performing ensembles which are deemed necessary to the musical development of the individual. 3 hours

30. For Arts and Science students: There are three parts of this course: history of music, theory and performance. To obtain credit, two of the three parts must be taken. If a student chooses performance, he must pay for the private lessons.

History of Music: The middle 19th century. Nationalism in music. The end of the 19th century. Impressionism. Contemporary music. 1 hour—24

Theory: "Free" counterpoint; advanced harmony and composition. 1 hour—34

30Y. For Arts and Science students: A continuation of Music 20Y. Will include a detailed study of at least three large scale compositions from a listener's viewpoint, with attention to the life, social background and other works of the composer. 2 hours—18

31. Individual lessons in the student's major applied music subject. 1 hour

31A. Piano minor: Individual piano lessons for those students majoring in another applied music subject. ½ hour

35. Theoretical Studies: Analysis, sight-singing, dictation and writing using diatonic seventh chords, chromatic harmony and extended modulation. Advanced rhythmic reading and dictation. Keyboard harmony.
Prerequisite: Music 25. 5 hours

36. Music History II: A survey from 1750 to the present time.
Prerequisite: Music 26. 3 hours

37. Choral Technique: Continuation of Music 27. 1 hour

40. For Arts and Science Students: An advanced course in score reading, orchestration, advanced form, analysis and composition. Individual research projects. 3 hours

41. Individual lessons in the student's major applied music subject. 1 hour

44. Repertoire: Lecture-recitals presenting outstanding examples of piano, vocal, instrumental, orchestral and choral works by performance or by recordings. 1 hour

45. Counterpoint: First term—the contrapuntal style of the 16th century, including analysis of works of Palestrina and Lassus. Writing in two, three and four parts. Second term—contrapuntal techniques of the 20th century.
Prerequisite: Music 25 and 35. 3 hours

47. Choral methods and materials. 2 hours

Honours Courses

Music 306, 316, 326, 336, 346A, 356 and 366 are music electives for third and fourth year students. They will not be offered every year but a selection of two or three will be offered on an alternating basis.

117, 217, 317, 417. Woodwind and brass class: Actual work on instruments to acquire a proficiency in one of each group and a working knowledge of the others. 1 hour

231, 341, 451. Individual lesson in the student's major applied music subject. 1 hour

231A. Piano minor: Piano lessons for students majoring in another instrument or voice. ½ hour

232, 332, 432. Music Education Ensemble: Performance of band and orchestral literature applicable to high school performing ensembles. 1 hour

235. Theoretical Studies: Analysis, sight-singing, dictation and writing using diatonic seventh chords, chromatic harmony and extended modulation. Advanced rhythmic reading and dictation. Keyboard harmony.
Prerequisite: Music 25. 5 hours

236. Music History II: A survey from 1750 to the present time.
Prerequisite: Music 26. 3 hours

237, 337. Choral Technique: Continuation of Music 27. 1 hour

238, 348, 458. Ensembles: Band, orchestra, chorus and chamber ensembles; performance of major works for the respective media. The faculty will assign students to those performing ensembles which are deemed necessary to the musical development of the individual. 3 hours

239. Composition: Fundamentals. Works in the smaller forms of piano, voice, or solo instrument. Analysis of works in the traditional literature. 2 hours

247, 347, 447. Class instruction in the stringed instruments. 1 hour

247A, 447A. String Repertoire: A survey of string literature for school orchestras and ensembles through performance. 1 hour

252, 352, 452. Collegium Musicum Ensemble: A study of Mediaeval, Renaissance and Baroque Music (vocal and instrumental) through performance. 2 hours

306. History of Ancient, Mediaeval and Renaissance Music. A seminar on music from ancient Greece to circa 1600.
Prerequisite: Music 36 or equivalent. 2 hours

307, 407. Music Education. Instrumental. 1 hour

316. History of Music in the Baroque Era: A seminar on music from approximately 1600 to 1750.
Prerequisite: Music 36 or 236. 2 hours

326. History of the Symphony: A seminar on music composed for orchestra.
Prerequisite: Music 36 or 236. 2 hours

327, 427. Music Education. Choral. 1 hour

336. History of Chamber Music: A seminar on music composed for chamber ensembles from the 16th century to the present time.
Prerequisite: Music 36 or 236. 2 hours

342, 442. Conducting: Advanced choral and orchestral conducting techniques.
Prerequisite: Theory 235. 2 hours

344, 454. Repertoire. General. 1 hour

345. Counterpoint: First term—the contrapuntal style of the 16th century, including analysis of works of Palestrina and Lassus. Writing in two, three and four parts. Second term—contrapuntal techniques of the twentieth century.
Prerequisite: Music 235. 3 hours

346. Music History: Wagner, his predecessors and contemporaries. The late Romantics. Nationalism. Realism. Impressionism. The 20th century. 2 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. 2 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 performed throughout the year. 3 hours

350. Music Education Seminar: Teaching techniques of the wind and string instruments. The psychology of the musical mind. Tests and measurements of musical ability. Care and maintenance of the wind and string instruments. 1 hour

351, 461. Chamber music: Duos, trios, quartets, etc., with and without piano. 1 - 2 hours

353, 463. Church Music: Materials, methods and techniques of service 1 - 2 hours

354(P). Piano Literature: A study of the literature for piano solo. For piano majors in the third year.
Prerequisite: Music 36 or 236. 1 hour

354(O). Organ Literature: A study of the literature for organ. For organ majors in the third year.
Prerequisite: Music 36 or 236. 1 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. 2 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. A different composer will be selected each year.
Prerequisite: Music 36 or 236. 2 hours

437. Choral Methods and Materials: A survey of choral repertoire suitable for use in the high schools. Advanced choral conducting. The practical aspects of teaching choral music in the schools.
Prerequisite: Music 337. 2 hours

450. Music Education Seminar: School music administration. Classroom teaching techniques. School music library. Methods and materials of school wind, string, and percussion classes. Band and orchestra performing materials. Conducting. 2 hours

453. Paedagogy of the Major Instrument. 1 hour

455. Orchestration: Instruments of the orchestra: range, tone colours, transpositions. Practical scoring for individual choirs, chamber orchestra and full orchestra.
Prerequisite: Music 345. 2 hours

456. History of Contemporary Music. 1 hour

467. Percussion Class: Learning fundamentals of percussion instruments. ½ hour

The Affiliated Colleges Faculties and Courses

THE PRELIMINARY YEAR

The Preliminary Year offered at Brescia College is designed for students who have completed Grade XII (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 principal's reports.

Each case of an adult special student seeking admission to the Preliminary Year will be judged on its own merits by the Admission Committee of the College.

The Preliminary Year will consist of the following programme:

For admission to First Year General Programme (Humanities or Social Sciences) or to Secretarial Science:

English 10

Another language

Mathematics 15 or another language

Three of: History 14, Geography 20, Mathematics 15 (if not chosen above), Religious Knowledge 10x, another language 1, 10, 1-10, Music 10, Home Economics 25x.

SPECIAL COURSES

The following courses, equivalent to Grade XIII subjects, are not offered in the Colleges 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. 3 hours—23
Prerequisite: Grade 12 French.

History 14: History of the Americas. 3 hours—14

Latin 1. Elementary Latin: for those beginning Latin at the University. 3 hours—26

Latin 10. Intermediate Latin:
Prerequisite: Grade 12 Latin or Latin 1. 3 hours—26

Mathematics 15: Introduction to Analysis. 5 hours— 5

Huron College

London, Ontario

(Founded in 1863; affiliated in 1878)

OFFICERS OF ADMINISTRATION

Principal:

The Rev. J. Grant Morden, B.A. Toronto; L.Th., B.D., D.D. Wycliffe; S.T.M. Union Theological Seminary; D.Th. General Theological Seminary, N.Y.

Registrar:

J. Catharine Ridley

FACULTY

Business Administration

Lecturer:

H. B. Rooney, B.A., M.B.A.

Classics

Associate Professor:

The Rev. F. H. Allen, M.A., B.D. Oxon.

Lecturer:

P. Derbyshire, B.A. (part-time)

Economics and Political Science

Lecturer:

Elizabeth P. Bond, B.A. Wellesley, M.A. Yale (part-time)
Marion Louise Drynan, B.A. (part-time)
Ivan Charles Johnson, B.A. University of New Castle, M.A. (part-time)
H. B. Rooney, B.A., M.B.A.

English

Professor:

Eleanor Croysdale Jared, B.A., M.A. Toronto; A.M., Ph.D. Radcliffe

Assistant Professors:

A. D. Isler, B.A. Hunter College, M.A., Ph.D. Columbia
Elizabeth Revell, B.A. Toronto; M.A., B.Litt. Oxon.

Lecturers:

The Reverend Mother M. Corona, B.A., M.A., Ph.D. Notre Dame (part-time)
Karen Howell, B.A. McMaster (part-time)
Cynthia Margolis, B.A. Barnard College (part-time)
E. D. McVey, M.A. Queen's

French

Assistant Professors:

G. A. Black, M.A.Toronto; Acting Head of Department
Deborah Metford, B.A., M.A. British Columbia; D. de l'U de Paris

Lecturers:

Christa Burghardt, B.A., M.A. Toronto (part-time)
R. Moorcroft, B.A. Saskatchewan (part-time)
C. M. van der Wel, B.A. London; M.A. (part-time)

Hebrew

Associate Professor:

The Rev. Geoffrey Howard Parke-Taylor, B.A., M.A. Toronto; L.Th., B.D., Wycliffe

History

Professor:
The Rev. J. L. H. Henderson, B.A., B.D., D.D.

Assistant Professor:

K. C. Sessions, B.A., M.A., Ph.D. Ohio State

Lecturer:

J. N. Thompson, B.A. McMaster; M.A. Princeton

Mathematics

Lecturer:

Gordon Edwards, B.S., Toronto, M.A. Chicago (part-time)

Philosophy

Professor:

The Rev. W. S. Morris, B.A. Bristol; Ph.D. Chicago

Assistant Professor:

J. A. Trentman, B.A., M.A., Ph.D. Minnesota; Acting Head of the Department

Lecturers:

J. A. Eisenberg, B.A. Toronto; M.A. Pennsylvania
R. P. Miller, B.A. Cornell; B.Phil. Oxon.; M.A. Michigan

Psychology

Associate Professor:

F. W. Burd, M.A. Toronto; Head of the Department

Assistant Professor:

Moira Sansom, B.A. Mount Allison; B.A. New Brunswick; B.L.S. Toronto; Ph.D., London; (part-time)

Lecturer:

The Rev. Thomas Harris, B.A. Toronto; L.Th. Wycliffe; M.A. Columbia; B.D. Union Theological Seminary

RELIGIOUS KNOWLEDGE

Professor:

The Rev. J. Grant Morden, B.A. Toronto; L.Th., B.D. Wycliffe, S.T.M. Union Theological Seminary; D.Th. General Theological Seminary, N.Y., Principal and Dean of Theology

Associate Professor:

The Rev. F. H. Allen, M.A., B.D. Oxon.

Courses

30x. An Introduction to the Living Religions of the World: A study of the history, faith, and practices of the major living religions. 2 hours

40x. New Testament Greek. 3 hours

42x. Christian Ethics: A consideration of some principles of morals and of Biblical ethics in relation to contemporary problems. 2 hours

PRE-THEOLOGICAL STUDENTS

Students interested in Pre-Theology should consult with the Dean of Arts concerning their programme and options before registering for the Arts Programme of their choice.

Brescia College

London, Ontario

(Affiliated in 1919)

OFFICERS OF ADMINISTRATION

Dean: Mother M. Dominica, B.A., M.A.

Registrar: Mother M. St. Paul, B.A., M.A.

Librarian: Mother M. Rosanna, B.A., M.A.

Assistant Librarian: Christine Suokaite, B.A., M.L.S.

FACULTY

Classics

Lecturer:

Mother M. St. Catherine, B.A.; M.A. Detroit

Economics and Political Science

Lecturer:

Rudolph A. French, B.A., M.A. Queen's (part-time)

English

Associate Professor:

Mother M. Corona, B.A.; M.A., Ph.D. Notre Dame

Lecturers:
Mother M. St. Catherine, B.A.; M.A. Detroit
Mother St. Wilfrid, B.A., M.A.

German

Lecturer:
Mother M. Teresa, B.A.

History

Lecturer:
Mother M. St. Paul, B.A.; M.A. Notre Dame

Instructor:
James Ryan, B.A. Ottawa (part-time)

Home Economics

Professor:
Mother M. Dominica, B.A., M.A. Toronto

Associate Professor:
Mother M. St. Dominic, B.Sc. Marywood

Lecturers:
Mother M. Lorraine, A.B., M.A. St. Louis
Isabel Hodgkinson (Mrs. G. J.), B.A., M.A. Toronto
Mother M. Victoria, B.Sc. Chestnut Hill; M.Ed. St. Louis (part-time)
Dorothy Ragg (Mrs.), B.A.; R.P.Dt.

Mathematics

Instructor:
W. H. Adamson, B.A., M.A.

Philosophy

Professor:
Mother M. St. Michael, B.A.; M.A. Catholic U. of America; Ph.L., Ph.D. Laval

Political Science

Professor:
Mother M. St. Michael, B.A.; M.A. Catholic U. of America; Ph.L., Ph.D. Laval

Psychology

Associate Professor:
Mother M. St. Michael, A.T.C.M.; B.A.; M.A. Catholic U of America; Ph.L., Ph.D. Laval

Lecturer:
Mother M. Perpetua, B.A.; M.A. Detroit
Sister M. Olga, B.A., M.A. Alberta

Religious Knowledge

Professor:

Rev. V. A. McInnes, B.A., M.A.; Ph.D. Aquinas Institute, Dubuque

Instructor:

Mother Marie, B.A., M.A.; Ph.D. Toronto

Romance Languages

Professors:

Mother Marie, B.A., M.A.; Ph.D. Toronto
Mother M. Rosanna, B.A.; M.A. Catholic U. of America
Mother St. Pierre, B.A. Ottawa; M.A., Ph.D. Laval

Sociology

Professor:

Mother M. Rosanna, B.A.; M.A. Catholic U. of America

PROGRAMMES

The General Programmes and some of the Honours Programmes are available in Brescia College. All laboratory courses in the Natural Sciences are taught entirely in the College of Science.

For the outline of the programme in Home Economics offered jointly by Brescia and University Colleges, *see the General Programmes section.*

HOME ECONOMICS

23x. Applied Art: Fundamentals of design and colour. 2 hours—13

25x. Household Administration: General principles of home construction and planning, problems of home management and equipment 2 hours—31

30x. Textiles: A study of textiles; pattern drafting and clothing construction. *1 lecture, 3 laboratory hours*—13

31x. Normal Nutrition: Normal requirements of the body; food nutrients and their functions; deficiencies.
2 lectures, both terms; 2 laboratory hours, one term—21

32x. Foods: The principles of cookery and food preparation and the scientific theory underlying them. 1 lecture, 3 laboratory hours—31

33x. Interior Decoration: Elements of interior decoration and design.
Prerequisite: Home Economics 23x. (1 hour (half course)—35

40x. Clothing and Designing: Art of costume and personal appearance; history of costume; pattern designing; care of fabric; problems in clothing construction. 2 lectures, 3 laboratory hours— 7
Prerequisite: Home Economics 30x.

41x. Advanced Nutrition: Nutritional needs during infancy; the adolescent. Diet therapy. Seminars. 3 hours—14

42x. Foods: Food science and experimental cookery.
Prerequisite: Home Economics 32x. 1 lecture, 3 laboratory hours—19

45x. Family Economics: Marketing and consumer problems. Demonstration Techniques. Meal Service. 1 lecture, one afternoon a week—23

48x. Institutional Management: Discussion of equipment; organization and administration of food services; quantity cookery, field projects.
Prerequisite: Home Economics 32x.
2 lectures, 3 laboratory hours, one term—29

PHILOSOPHY

20x. 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

30x. Basic Philosophical Literature: A critical survey of a selected group of philosophical classics, ancient and modern. 3 hours— 1

31x. Logic and the Problems of Knowledge: This course deals with the problems of definition, formal logic, verification of knowledge, and other problems related to the scientific method. 2 hours—20

35x. Aesthetics: A study of aesthetical theory of classic and modern points of view. 2 hours— 3

42x. Introductory Ethics: A critical inquiry into the nature of ethical standards and behavior, and their application to concrete personal and social problems of morality. 2 hours—31

47x. Early Modern Philosophy: The transition from mediaeval to modern philosophy; Readings from selected basic texts. 2 hours—35

48x. Contemporary Philosophy: A critical examination of representative literature in the fields of Phenomenology and Existentialism. 2 hours—14

Other courses available at King's College.

Honours courses in Philosophy correspond in number and subject matter to those listed in the Philosophy section of the University and are available as needed.

Philosophy 357x available 1966-67.

PSYCHOLOGY

Psychology 20 is ordinarily prerequisite to all other courses in psychology.

20x. Introduction to Psychology: The nature, faculties and functions of man according to the Thomistic interpretation; sensation, perception, intellection, motivation, emotion, volition, habits, the human soul, personality, the relative importance of heredity, environment and the self-structure. 3 hours—19

31x. Psychology of Personality: A study of the major personality theories including the Thomistic. 2 hours— 6

36x. Child Psychology: The Thomistic "person" and Child Development; native equipment and environment; maturation and learning; character and personality; child management; familial and other social relationships.
2 hours—16

46x. Applied Psychology: Psychological principles applied to practical problems in education, industry and vocational guidance; relevance of the Encyclicals to current problem-solving techniques. 2 hours—27

48x. Abnormal Psychology: Abnormal personality theory including Thomistic; the abnormal in sensation, perception, memory, emotions, thought and behavior; mental deficiency; causes and symptoms of neuroses and major disorders; therapy techniques with ethical norms. 2 hours— 6

49x. Social Psychology: Social environment and human response; role of family, church group, etc. in personality growth; attitudes and prejudice; leadership and status; crowd, mob; propaganda and public opinion; Social Psychology of the Encyclicals. 2 hours—33

RELIGIOUS KNOWLEDGE

10x. Introduction to Theology. 2 hours.

20x. Review Survey: The essentials of Catholic Doctrine and of the Catholic way of life. 2 hours.

31x. The Old Testament: Its content viewed as Salvation History and its role in Catholic belief and worship. 2 hours.

32x. Moral Theology: Christian Revelation as applied to man's actions.
2 hours.

33x. History of Liturgy: Survey of expressions of special conciousness in worship from Apostolic to modern times. Lectures, readings, seminars on the Encyclicals. 2 hours.

35x. Comparative Religion: Ecumenism; a study of contemporary religions under various aspects — moral practices; historical and doctrinal considerations.
2 hours.

40x. Dogmatic Theology: A study of revealed truths; God and creation; sin and Redemption; supernatural life; the channels of the supernatural life.
2 hours.

SOCIOLOGY

39x. The Family: The family as a primary social group; a brief history of family life in Western societies; modern biological, psychological, sociological, economic and ethical views on the family. 3 hours—28

40. Social Disorganization and Social Problems: A critical examination of theories of deviant behaviour and the study of crime, delinquency, alcoholism, family disorganization, the aged and minority group relationships.

Prerequisite: Sociology 20 or permission of the instructor. 3 hours— 4

King's College

London, Ontario

(Founded in 1912; affiliated in 1939; name changed in 1966)

OFFICERS OF ADMINISTRATION

Dean of Arts: V. Rev. E. P. La Rocque, M.A.

Registrar: E. M. Arnold (Mrs.)

FACULTY

Classics

Professor:
Charles Jeremiah Treacy, B.A.; M.A., Ph.D., Toronto

Lecturer:
Rev. Patrick E. Cavanagh, B.A., U.W.O.; M.A. Toronto; Ph.D. Notre Dame

Instructor:
Peter Schroeder, B.A. U.W.O.

Economics and Political Science

(Economics, Politics, and Sociology)

Assistant Professor:
Ignatius John Adel-Czlowiekowski, LL.M., Lemberg; LL.D., Fribourg

English

Assistant Professors:
Fritz Maximilian Gerhard Wieden, B.A., M.A. U.W.O.; Ph.D. Toronto; Chairman of the Department
Sean Finbar Gallagher, B.A., National University of Ireland; M.A. U.W.O.
Rev. Carl E. Keane, B.A. U.W.O.; M.A. Notre Dame
Jerome A. Kramer, A.B. John Carroll; Ph.D. expected from Ohio State

History

Assistant Professor:
Rev. Paul E. Crunican, B.A. U.W.O.; M.A. Toronto; Acting Chairman of the Department

Lecturer:
James Q. Cahill, B.A. St. Ambrose; M.A. Columbia

Mathematics

Instructor:
Rudolf Zimmer, B.A., M.A. U.W.O. (part-time)

Philosophy

Professors:

Rt. Rev. Anthony J. Durand, B.A., M.A. U.W.O.; Ph.L., Ph.D. Laval; Chairman of the Department of Pre-Theology
Rev. William J. Ring, B.A. U.W.O.; Ph.L. Laval

Associate Professor:

Rev. Robert A. Graveline, B.A. U.W.O.; Ph.L., S.T.L. Laval

Assistant Professors:

Rev. V. Ambrose McInnes, O.P.; B.A. U.W.O.; M.A. Assumption; Ph.B., Ph.L., Ph.D. Aquinas Institute; Chairman of the Department of Philosophy
Rev. Patrick E. Cavanagh, B.A. U.W.O.; M.A. Toronto; Ph.D. Notre Dame
Rev. Michael T. Ryan, B.A. UW.O.; M.A., Ph.D. Notre Dame
John J. Snyder, B.A. Notre Dame; M.A. Toronto

Lecturer:

Rev. Brian G. Donovan, O.P., B.A., M.A., Ph.L. Aquinas Institute

Instructors:

Grace Twohey, B.A., Toronto; M.S.W. Ottawa (part-time)
Francis Martin, B.A. Ottawa; M.S.W. Ottawa (part-time)

Psychology

Professor:

Rev. William J. Ring, B.A. U.W.O.; Ph.L. Laval

Assistant Professor:

Nicholas Tines, B.A., M.A. University of Windsor

Religious Knowledge

Associate Professor:

Rev. Robert A. Graveline, B.A. U.W.O.; Ph.L., S.T.L. Laval

Assistant Professor:

Rev. V. Ambrose McInnes, O.P., B.A. U.W.O.; M.A. Assumption; Ph.B., Ph.L., Ph.D. Aquinas Institute

Lecturer:

Rev. Brian G. Donovan, O.P., B.A., M.A., Ph.L. Aquinas Institute

Instructor:

Rev. John J. Donohue, B.A. U.W.O.; S.T.L. Gregorianum

Romance Languages

Professor:

Dante Anthony Lenardon, B.A., B.Ed. Alberta; M.A., Ph.D. Toronto; Chairman of the Department

Lecturer:

V. Rev. Eugene P. LaRocque, B.A. U.W.O.; M.A. Laval

PROGRAMMES

The General Programme and Honours Programmes including English, French, Latin, History, or Philosophy and the first two years of Honours Business Administration are available at King's College. All laboratory courses in Science are taught in the College of Science.

Through its Department of Pre-Theology at St. Peter's Seminary, King's College offers courses leading to a B.A. with Pre-Theology (Philosophy) options for students preparing for the Priesthood.

PRE-THEOLOGY B.A. PROGRAMME

Requirements for Admission: The Secondary School Graduation Diploma and Grade 13 standing with an average of 60% in English, another language, a third language or two Mathematics and three other credits; or the Preliminary Year.

This programme leads to a degree of Bachelor of Arts. It is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type B.

First Year

English 20
Philosophy 20x, 21x, 26x
A language other than English at the 20 level

One of:
Religious Knowledge
French 20
Another foreign language
History 20

Second Year

English 32, 36, 38, or 49
Philosophy 36x, 39x
Psychology 30x

Two courses from
Divisions A or B

Third Year

Philosophy 41x, 47x, 45x
Psychology 40x

One of:
Another Philosophy
Another senior English
Another language other than English
Religious Knowledge

LATIN

Course

35x. Survey of Mediaeval Latin: From the death of St. Augustine to the twelfth century; lectures on Latin style and culture of the period; syntax and composition. 3 hours

PHILOSOPHY

Courses

20x. Introduction to Philosophy: This course is concerned with ethical, logical, aesthetic, religious, educational, and political problems. Its purpose is to help students to understand what is involved in these problems and to appreciate some of the solutions provided by the great thinkers of the past and present. 3 hours

21x. Formal Logic: This course deals with the operations of the intellect, conception, judgment and reasoning. 2 hours

26x. Natural Philosophy: An introduction to Aristotelian Philosophy by a close study of the **De Principiis Naturae** of Thomas Aquinas. 2 hours

30x. Basic Philosophical Literature: A critical survey of a selected group of philosophical classics, ancient and modern. 3 hours

31x. Logic and the Problems of Knowledge: This course deals with the problems of definition, formal logic, verification of knowledge, and other problems related to the scientific method. 2 hours
(Offered in 1967-68)

32x. Philosophical Theory: Readings in selective philosophical classics, with emphasis on the scientific method. 2 hours
(Offered in 1967-68)

33x. Philosophy of Being: Introduction to Science of Metaphysics.
(Offered in 1967-68) 2 hours

34x. Logic and the Philosophy of Science: An introduction to problems in logic and the philosophy of science. 2 hours

35x. Philosophy of the Fine Arts: A study of classic and modern aesthetical theory. The general theory of art: useful arts and fine arts. 2 hours

36x. Ancient Philosophy: Selective readings from the ancient Greeks, up to the early mediaeval period. 3 hours

37x. Medical Ethics. 2 hours

38x. Philosophy of Social Work. 2 hours

39x. Social Philosophy: The relationship of philosophy to the social sciences. 2 hours

40x. Philosophy of Marriage: An analysis of the role of marriage considered from the psychological, moral and social points of view. 2 hours

41x. Natural Theology — Metaphysics: The philosophical study of the first cause and of its attributes. 3 hours

42x. Introductory Ethics: A critical inquiry into the nature of ethical standards and behavior, and their application to concrete personal and social problems of morality. 2 hours
(Offered in 1967-1968)

43x. The Philosophy of Religions: An examination of the principal religions of the world. 2 hours

44x. Principles and Problems of Philosophy. 2 hours
(Not offered in 1966-1967)

45x. Political Philosophy: Critical readings from selected original sources of the political thought of ancient, modern, and contemporary theories. 2 hours

47x. Early Modern Philosophy: The transition from mediaeval to modern philosophy; readings from selected basic texts. 3 hours

48x. Contemporary Philosophy: A critical examination of representative literature in the fields of Phenomenology and Existentialism. 2 hours
(Offered at Brescia College)

49x. Philosophy of Education: An inquiry into the classical and modern philosophies of education. 2 hours

Honours Courses

Honours courses in Philosophy, equivalent in content and weight to University courses, will be arranged according to demand.

357x. Modern Philosophy: (Offered at Brescia College 1966-67) 2 hours

PSYCHOLOGY

Courses

20x. Introduction to Psychology: Problems and Methods: individual differences and their assessment; learning; memory; thinking; sensation and perception; motivation; emotion; personality. Open only to Freshmen. 3 hours

21x. Principles and Methods: A discussion of the motives, emotions and intellectual abilities of human beings, special emphasis on the effective use of these factors in private and social activities. Open only to senior students, including pre-medical students, who have neither had or are taking Psychology 20. 3 hours

30x. The Nature of Man: Man's soul and its essential qualities; the union of soul and body in man; personality; the origin and the immortality of the human soul. 3 hours

31x. Psychology of Personality. 2 hours
(Offered at Brescia College.)

36x. Child Psychology: The Thomistic "person" and Child Development; native equipment and environment; maturation and learning; character and personality; child management; familial and other social relationships. 2 hours

40x. Dynamology: Vegetative powers; sensation and perception; internal senses, feeling and emotion; reflex behavior; intellectual operations; the unconscious; abnormal phenomena; the faculty theory and modern psychological research. 3 hours

48x. Abnormal Psychology: A consideration of abnormal activities in sensation, perception, memory, emotion, thought and behavior; mental deficiency; the causes and symptoms of psychoneuroses; some reference to major mental disorders; psycho-therapeutic techniques.
Prerequisite: Psychology 31. 2 hours

49x. Social Psychology: The activities of living beings in response to their social environment. The conditioning of personality by the family and other groups; types of prejudice; leadership and prestige in social life; the mob; mental epidemics; propaganda; public opinion. 2 hours

RELIGIOUS KNOWLEDGE

Courses

21x. Salvation History: God's Covenants with men in the Old Testament and in the New Testament. 2 hours

34x. Principles of Catechetics: the teaching of religious knowledge as to content and method. 2 hours
(Not offered in 1966-67)

35x. Comparative Religion: a study of the theological issues at stake in the division of Christendom; approaches to Christian unity; Eucumenism. 2 hours

37x. Church History: Christian antiquity and mediaeval church history from the birth of Christ to 1500 A.D. 2 hours
(Not offered in 1966-67)

40x. Contemporary Theology: a study of the six main movements which helped shape the second Vatican Council; the Biblical, Liturgical; Ecumenial, Lay-apostolic, social and Thomistic revivals. 2 hours

41x. Biblical Theology: the theology of the Bible; inspiration; revelation; special problems concerning history and interpretation. 2 hours
(Not offered in 1966-67)

47x. Church History: The Reformation and modern church history from 1500 A.D. to the present day. 2 hours
(Not offered in 1966-67)

REGISTRATION IN THE FACULTY OF ARTS AND SCIENCE, 1965-66

	University College	Middlesex College	College of Science	College of Music	Huron College	Brescia College	St. Peter's Christ the King	Seminary St. Peter's	TOTALS	
Full-time Students:										
Preliminary	.....	.....	.....	.....	.....	28	.....	.....	28	
First	604	510	474	43	193	99	74	21	2,018	
Second	451	443	331	26	169	55	58	14	1,547	
Third	346	334	218	21	141	44	47	11	1,162	
Fourth	61	87	68	22	7	.....	9	.....	254	
										5,009
Part-time Students:										
Intramural	53	12	17	3	8	19	57	2		171
Correspondence .. 232	.....	.....	.....	.....	.....	.....	.....	.....	232	
Summer School .. 2,486	.....	.....	.....	.....	.....	.....	.....	.....	2,486	
Extension 1,276	.....	.....	.....	.....	.....	.....	.....	.....	1,276	3,994
TOTALS	1,515	1,386	1,108	115	518	245	245	48		9,174
Less (winter session) Part-Time Duplicates										63
										9,111

SUMMARY OF REGISTRATION IN THE WHOLE UNIVERSITY, 1965-66

	Arts	Science	Business	Engineering	Law	Medicine	Nursing	TOTALS
UNDERGRADUATE:								
Full-Time Students								
First	1,572	474	.....	111	82	74	.....	
Second	1,216	331	.....	69	48	57	.....	
Third	944	218	78	48	49	60	118	
Fourth	186	68	48	51	.....	54	68	
Part-Time Students	1,599	17	.....	1	.....	2	.....	
TOTALS	5,517	1,108	126	280	179	247	186	7,643
GRADUATE:								
Full-Time Students	297	204	268	15	.....	64	9	
Part-Time Students	54	13	.....	7	.....	2	.....	
TOTALS	351	217	268	22	.....	66	9	933
SUMMER 1965:								
Undergraduate	2,104	15	5	2	.....	.....	43	
Graduate	134	140	.....	13	.....	28	2	
TOTALS	2,238	155	5	15	.....	28	45	2,486
Althouse College of Education:			Full Time	182	Part time	2		184
University Total Enrollment:								11,246
Constituent University	10,190		Men	7,170	Full time	7,063		
Affiliated Colleges	1,056		Women	4,076	Part time	4,183		

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