Ron Rossiter.

University of

Western Ontario

Arts and Science

CALENDAR

University of

Western Ontario

LONDON - CANADA

UNIVERSITY COLLEGE
MUSIC TEACHERS' COLLEGE
HURON COLLEGE
URSULINE COLLEGE
ST. PETER'S and
CHRIST THE KING COLLEGES
WATERLOO COLLEGE

ARTS AND SCIENCE CALENDAR 1959-60

BUILDINGS DIRECTORY

Stevenson Hall

Chief Accountant—208
Cashiers—208
Comptroller—204
Dean of Graduate Studies—101
Dean of Men—109
Dean of Women—108
Post Office—15
President—101
Registrar—110
Superintendent of Buildings and Grounds—205
Vice-President—101

University College

Astronomy and Mathematics—21
Classics—208
Dean of Arts and Sciences—104
Economics, Political Science and Sociology—122
English—115
Extension—114
Geography—101
German—215
History—128
Philosophy—305
Principal—104
Psychology—311
Romance Languages—136
Russian—7
Secretarial Science—139
Student Government—6
Summer School—114

Biological and Geological Sciences Building

Botany—208
Geology—107
Geophysics—12
Zoology—307

Physical and Chemical Sciences Building

Chemistry—101
Dean of Nursing—322
School of Nursing—322
Physics—138

Lawson Memorial Library

Chief Librarian—102
Library Office—103
Main Reading Room—2nd Floor
Museum—8
Reserve Book Reading Room—108

McIntosh Memorial Building

Art Galleries
Trois-Pistoles Summer School—1

Somerville House

Book Store—103
Coffee Shop—125
Dining Hall—203
Food Service Manager—205C
Student Organizations—114, 115, 116, 117, 118

Thames Hall

Alumni Association—115
Athletics—120
Canadian Officers' Training Corps—117
Health Services—17
Housing Bureau—26
Journalism—205
Physical Health and Recreation Education—119
University Naval Training Division—113
University Reserve Training Plan (R.C.A.F.)—112

Richard Ivey School of Business Administration Building

Business Administration Office—123
Dean—122

Engineering Science Building

Engineering Science Office
Law Faculty

A. E. Silverwood Building

Music Teachers' College
Principal, Music Teachers' College—102
Western Ontario Conservatory of Music—102

Medway Hall

Warden's Office

The Registrar

For your information

THIS PLAN, BASED ON OLD AND NEW CALENDARS, SHOWS WHAT ACTUALLY MUST BE TAKEN IN THIS CURRENT YEAR

THE UNIVERSITY OF WESTERN ONTARIO
University College
DEPARTMENT OF ENGLISH

Honours Courses for 1959 - 1960

COURSES	Second Year	Third Year	Fourth Year
English Language and Literature	254 270 280	356 360 373 436 470	438 459 463 480
English and French) English and German)- English and Latin)	254 270 280	356 360 373 470	459 480; and 436 or 438
English and History	254 280	32 356 470	438 459 480
English and Philosophy (Sequence A - non-specialist)	254 270	356 360 470	280 459 480
English and Philosophy (Sequence B - specialist)	254 270 280	356 360 373 470	459 480; and 436 or 438

NOTE

1. Honours students in third and fourth years who wish to take an additional English course may apply to the Head of the Department for permission to enrol in English 441, 44, or 45.

2. All third year honours English students, including all combinations, will take a short course in bibliography, English 470.

   Fourth year honours students will also take this course if they failed to take it in third year.

DEPARTMENT OF PURE AND APPLIED MATHEMATICS AND ASTRONOMY

The following program in Applied Mathematics will be submitted to the University Senate, for approval in May. It will not be possible to include a description of this program in the 1959-60 Announcement but, if it is approved, the program will be available for September 1959. (New programs in Pure Mathematics, Mathematical Statistics, Actuarial Mathematics, and Astronomy will appear in the 1959-60 Announcement.)

APPLIED MATHEMATICS

Requirements for Admission: Junior Group 1, page ---, with an average of 60% in the Science and Mathematics subjects, and at least 60% in Mathematics 24;

OR

Junior Group 2, page ---, with at least 60% in Mathematics 20.

The Applied Mathematics Program leads to the Bachelor of Arts degree.

SECOND YEAR

Mathematics 250, 256
Three options, not previously selected, at least one of which must be from Division A or B.

THIRD YEAR

[illegible]
One additional mathematics course at the 300 or 400 level.
Two optional courses at the 300 or 400 level.
One course (or its equivalent) from Division A or B.

FOURTH YEAR

✓ Mathematics 478 (Applied Mathematics II)
✓ One of: Mathematics 450, 456, 460
Two additional mathematics courses at the 300 or 400 level.
Two optional courses at the 300 or 400 level.

Note (i) A department other than the Department of Pure and Applied Mathematics may prescribe the optional courses in each year, subject to the approval of the Department of Mathematics. In this case, the program 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. See pages ------ for a listing of such a set of prescribed options. Similar programs are available in cooperation with other departments even though they have not listed a set of prescribed options.

(ii) In cases not covered by note (i), the program will be called "Applied Mathematics". In this program the student may select options in more than one field of application. The departments concerned will, however, require that the selections provide a coherent program.

(iii) Students who plan to continue into graduate studies are advised to begin work in a second foreign language in the second year of the program.

DEPARTMENT OF ENGINEERING SCIENCE
THE UNIVERSITY OF WESTERN ONTARIO

List of Courses, IV Engineering Science, 1959-1960

The number of lecture hours per week and the number of laboratory or problem hours per week, are shown at the right.

Each student will take the courses listed under ALL OPTIONS and the courses listed under on of the four options.

Where the number of laboratory or problem hours per week is 1½, there will be a 3-hour period in alternate weeks.

ALL OPTIONS

Elective course in humanities or social sciences.....	3-0
[illegible]	[illegible]

OPTION A (Chemical Engineering)

Engineering Science 417 (Unit Operators II)	3-6
Engineering Science 418 (Electrochemistry) (first term)	2-0
Engineering Science 419 (Instrumentation and Control) (second term)	2-0
Engineering Science 420 (Chemical Thermodynamics)	2-0
Engineering Science 421 (Chemical Kinetics)	2-0

OPTION B (Civil Engineering)

Engineering Science 407 (Structural Analysis and Design)	3-6
Engineering Science 408 (Soils Engineering)	2-3
Engineering Science 409 (Transportaiton Engineering)	2-1½
Engineering Science 411 (Hydrology and Sanitation)	2-1½

OPTION C (Electrical Engineering)

Physics 455	2-0
Physics 477	2-0
Physics 479 (part)	0-6
Engineering Science 404 (Electric Machines)	2-3
Engineering Science 405 (Electric Power Systems)	2-1½
Engineering Science 406 (Control Systems)	2-1½

OPTION D (Mechanical Engineering)

Engineering Science 400 (ThermodynamicsII)	2-2
Engineering Science 401 (Heat Engineering)	2-2
Engineering Science 402 (Internal-Combustion Engines)	2-2
Engineering Science 403 (Fluid Mechanics and Machines)	2-2
Engineering Science 406 (Control Systems)(part)	2-0
Engineering Science 410 (Mechanical Analysis and Design II)	0-5

3rd year

Course in the humanities or the social sciences (optional subject)	3	0
Mathematics 377 (Engineering Mathematics)	3	0
Engineering Science 300 (Thermodynamics I)	2	1½
Engineering Science 301 (Fluid Mechanics)	2	1½
Engineering Science 303 (Electric Machines and Electronics)	3	3
Engin'g, Science 307 (Mechanics of Materials II)	2	3
sub-total	15	9
Option A (Chemical Engineering):		
Chemistry (Physical) - new course - see Note B	3	0
Engineering Science 305a* (Process Engineering Calculations)	2	3
Engineering Science 306b* (Unit Operations I)	2	3
Engineering Science 314 (Industrial Process Chemistry)	2	0
*One-term course Total	22	12

Note B:

Chemistry 303 (Organic)(2-3) will be taken in 1959-60 and Chemistry 354 (Intermediate Physical Chemistry)(part, 2-1½) will be taken in 1960-61. Chemistry (Physical Chemistry) will be taken in 1961-1962 and after.

Option B (Civil Engineering):		
Engineering Science 308 (Theory of Structures)	2	0
Engineering Science 309 (Surveying)	2	3
Total	19	12
Option C (Electrical Engineering):		
Physics 356, 359 (part)(Electronics and lab. technique)	2	3
Engineering Science 302 (Electric Circuits II)	2	0
Total	19	12
Option D (Mechanical Engineering):		
Engineering Science 310 (Mechanical Analysis and Design I)	3	3
Total	18	12

4th year

Course in the humanities or the social sciences (optional subject)	3	0
Engineering Science 412 (Engineering Practice)	2	3
Engineering Science 413 (Project and Thesis)	0	3
sub-total	5	6
Option A (Chemical Engineering):		
Chemistry 353 (Note C)	3	3
Engineering Science 417 (Unit Operations II)-new course	3	6
Engineering Science 418a* (Electrochemistry) - new course	2	0
Engineering Science 419b* (Instrumentation and Control) - new course	2	0
Engineering Science 420 (Chemical Thermodynamics) - new course	2	0
Engineering Science 421 (Chemical Kinetics) - new course	2	0
*One-term course Total	17	15

Note C:

Chemistry 354 (Physical Chemistry)(3-0) will be taken in 1960-61 only. Chemistry 353 (Organic Chemistry) will be taken in 1961-62 and after.

Option B (Civil Engineering):		
Engineering Science 407 (Structural Analysis and Design)	3	6
Engineering Science 408 (Soils Engineering)	2	3
Engineering Science 409 (Transportation Engineering)	2	1½
Engineering Science 411 (Hydrology and Sanitation)	2	1½
Total	14	18

4th year (continued)

Option C (Electrical Engineering):

Physics 455 (Electromagnetic Theory)	2	0
Physics 477 (Communications Circuits) and 479 (part)	2	6
Engineering Science 404 (Electric Machines)	2	3
Engineering Science 405 (Electric Power Systems)	2	1½
Engineering Science 406 (Control Systems)	2	1½
Total	15	18

Option D (Mechanical Engineering):

Engineering Science 400 (Thermodynamics II)	2	2
Engineering Science 401 (Heat Engineering)	2	2
Engineering Science 402 (Internal-Combustion Engines)	2	2
Engineering Science 403 (Fluid Mechanics and Machines)	2	2
Engineering Science 406 (Control Systems)(lectures only)	2	0
Engineering Science 410 (Mechanical Analysis and Design II)	0	5
Total	15	19

**Subject to the approval of the University Senate at its next meeting, in May 1959

HONORS COURSE IN ENGINEERING SCIENCE**
The University of Western Ontario

Requirements for Admission: Grade XIII or equivalent standing in English, another language, Algebra, Geometry, Trigonometry and Statics, Physics and Chemistry, with an average of 60%, in these subjects combined, and with an average of 66%, preferably, in the mathematical and science subjects.

The course leads to the degree of Bachelor of Engineering Science (B. E. Sc.).

(a) All students in Engineering Science will be required to take one course in each of the following: English 20 (in the first year), History 20 and Philosophy 20 (in the second year).

(b) In addition to the three courses (three hours each) in (a), a total of six additional hours of options will be taken during the third and fourth years (either two courses requiring three hours each, or three courses requiring two hours each).

(c) These courses should be selected, subject to the approval of the Head of the Department of Engineering Science, from the following list:

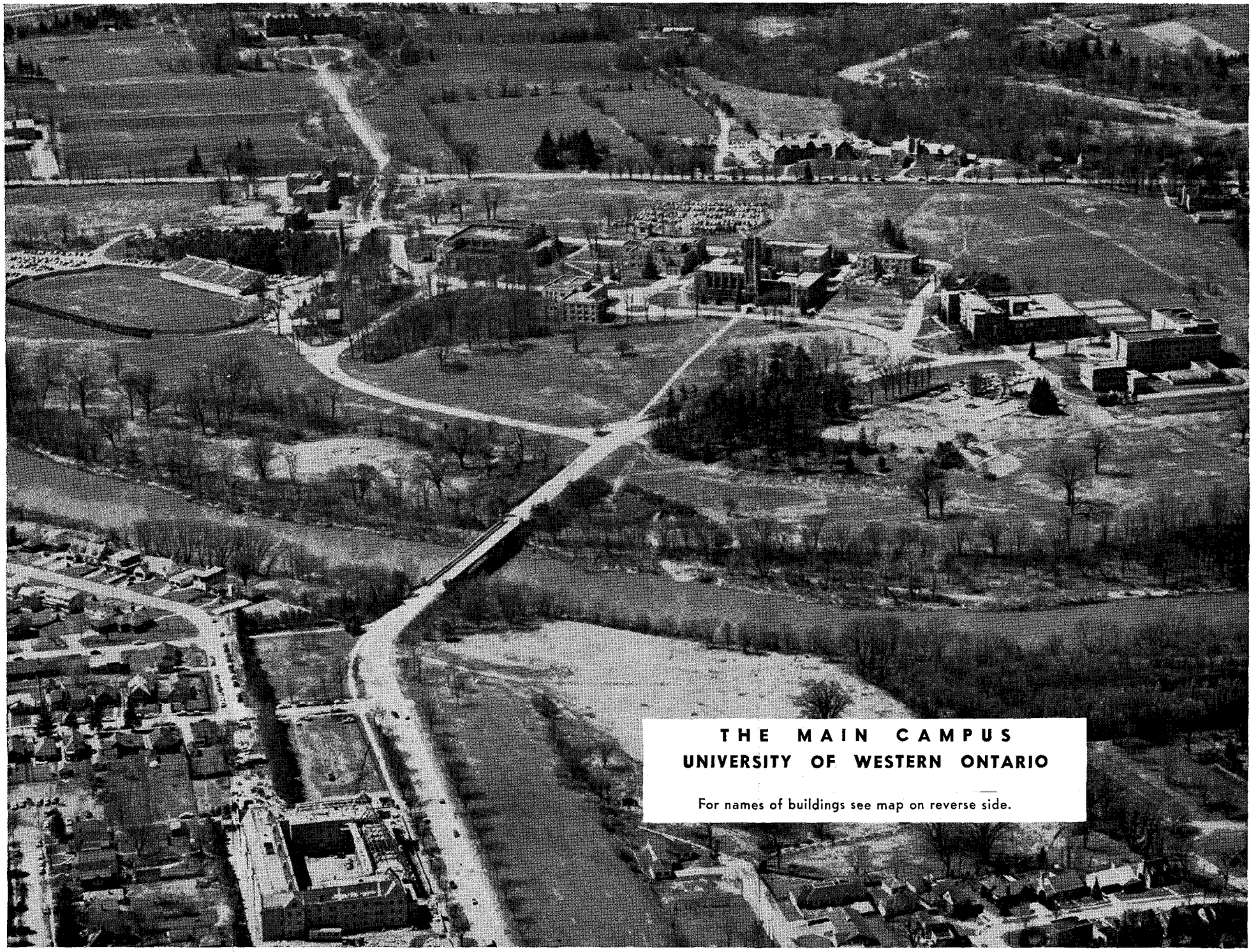
A second course in English or History or Philosophy
A foreign language
History of Science
Psychology
Economics
Geography
Politics

1st year	Hours Lects.	Hours Labs.
English 20	3	0
Chemistry (Physical) - new course	3	1½
Mathematics 27 (Calculus)	4	0
Physics (Modern) - new course	2	3
Engineering Science 20 (Mechanics I)	3	3
Engineering Science 21 (Graphics I)	1	3
Total:	16	10½

Health lectures
Library Science
Physical Education
Introduction to Engineering

36 modern Europe) 2nd year		
History ~~20~~ (~~Mediaeval~~)	3	0
Philosophy 20 (Human Problems)	3	0
Chemistry (Inorganic) - new course (Note A) 200 + 252	2	0
Chemistry (Organic) - new course (Note A) 203	2	0
Mathematics 277 (Calculus and Differential Equations)	3	0
Physics 264 - new course - 236	3	3
Engineering Science 200 (Mechanics of Materials I)	2	0
Engineering Science 201 (Electric Circuits I)	2	0
Engineering Science 202 (Mechanics II)	2	3
Engineering Science 204 (Graphics II)	0	3
Total:	22	9

Note A:
Chemistry 200 (Elementary Physical Chemistry)(lectures only, 2 hours) and Chemistry 203 (Organic Chemistry)(lectures only, 2 hours) will be taken in 1959-60.



THE MAIN CAMPUS
UNIVERSITY OF WESTERN ONTARIO

For names of buildings see map on reverse side.

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Calendar for 1959

JANUARY						
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Calendar for 1960

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Academic Calendar

1959

July 6, Monday	Summer Session begins.
August 6 and 7, Thursday and Friday	Supplemental examinations (Faculty of Arts and Science).
August 13, Thursday	Summer Session examinations begin.
August 15, Saturday	Summer Session examinations end.
September 1, Tuesday	Last day for receiving applications and certificates for the winter session.
September 19, Saturday	Extension classes begin.
September 21, Monday	Conference of the Faculty (all Arts and Science colleges).
September 22, Tuesday	Registration of new students from Brant, Elgin, Essex, Lambton, Middlesex and Oxford counties; physical examinations of the same students.
September 23, Wednesday	Registration of new students from other centres; physical examinations of the same students.
September 24, Thursday (8:30-12:00; 1:00-4:00)	Registration of second, third and fourth year students in Arts and Science, from Brant, Elgin, Essex, Lambton, Middlesex and Oxford counties. Prescribed Orientation program for new students.
September 25, Friday (8:30-12:00; 1:00-4:00)	Registration of second, third and fourth year students in Arts and Science, from other centres.
September 28, Monday	Lectures begin for all Arts and Science students
October 12, Monday	Thanksgiving Day, holiday.
October 13, Tuesday	Last day for the enrolment of full-time students.
October 30, Friday	Autumn Convocation; meeting of the University Senate.
November 11, Wednesday	Remembrance Day ceremony.
November 14, Saturday	Last day for changes in registration.
December 11, Friday	Meeting of the University Senate.
December 19, Saturday	Christmas vacation begins.

1960

January 4, Monday	Lectures resume.
January 18, Monday	Second term begins in the Faculty of Arts and Science.
February 6 and 13, Saturday	Graduate Record Examinations.
February 29 - March 5	Faculty-Student Conference Week; lectures and laboratories withdrawn.
March 7, Monday	Founders' Day.
April 15, Friday	Good Friday; University closed.
April 23, Saturday	Second term classes close, in the Faculty of Arts and Science.
April 30, Saturday	Arts and Science examinations begin.
May 14, Saturday	Arts and Science examinations end.
June 3, Friday	Meeting of the University Senate.
June 4, Saturday	Spring Convocation.

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, and The School of Business Administration. The Faculty of Arts includes the constituent colleges, University College, Middlesex College, and Music Teachers' College, and the following arts colleges, affiliated with the University: Huron College; Ursuline College; St. Peter's Seminary and Christ the King Colleges; Waterloo College, Waterloo, Ont.

By its charter the University of Western Ontario may confer degrees in Arts, Medicine, Science, Dentistry, Agriculture, Law, Education, Music, Theology, and other branches of learning, upon persons who, having complied with the requirements, are admitted to such degrees by the Senate of the University.

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 Science; Bachelor of Engineering Science; Bachelor of Science in Nursing; Bachelor of Divinity; Master of Arts; Master of Laws; Master of Science; Master of Clinical 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. It occupied its present buildings in 1921.

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. Classes will begin in Middlesex College in September, 1960.

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 honors course offered in the Faculty of Arts from 1920 to 1950.

The Faculty of Law was established in 1958.

THE LIBRARIES:

There are two libraries at the University, the general library and the medical library, as well as special reading rooms in several other buildings. The main collection of books, 190,000 volumes, is housed in the Lawson Memorial Library building. The medical library consists of more than 50,000 volumes.

The general library is conspicuously rich in Canadiana, Americana and books relating to Shakespeare. The Regional Collection of local history contains much material valuable for graduate work in history and economics. There are also important newspaper and periodical files.

The Board of Governors

Officers of the Board:

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

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

Mr Ross B. Willis, Secretary.

Ex officio Members:

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

Appointed Members:

By the Lieutenant-Governor-in-Council—Mr. W. L. Duffield, Mr. E. P. Dignan, Lieut.-Col. D. B. Weldon, M.C., Col. W. H. Hemphill.

By the London City Council—Lieut.-Col. J. E. Smallman, Hon. Lieut.-Col. J. Gordon Thompson, Capt. Joseph Jeffery, Q.C., Mr. Robert H. Reid.

By the Board of Governors—Mr. Louis L. Lang, Mr. C. F. Stevens, Col. George W. Little, Dr. A. R. Ford.

By the Alumni Association—Mr. Harold R. Newell, Dr. C. Hauch.

The Senate

Officers of the Senate:

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

Ex officio Members:

The Chancellor, the Dean of each Faculty and School of the University, the Principal of University College, the Principal of Middlesex College, the Principal of Music Teachers' College, the Principal or other head of each affiliated college, the Chairman of the Board of Governors, the Librarian, 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—three; the Faculty of Medicine—two; the Faculty of Graduate Studies—one; the School of Nursing—one; the School of Business Administration—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 Honor, the Lieutenant-Governor of Ontario.

Chancellor: Richard G. Ivey, Q.C., LL.D.

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

Vice-President and Dean of Graduate Studies: Ronald Alexander Allen, B.A., Toronto, M.A., ibid., Ph.D., Chicago.

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: Ross Baxter Willis, B.A., M.A.

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

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

Registrar: Helen M. B. Allison, B.A., M.A., Minnesota.

Curator of the Museum of Indian Archaeology: Wilfrid Jury, D. ès L., Montreal.

Administrative Departments

Athletics:

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

Buildings and Grounds Department:

Superintendent: John Shortreed, B.Sc., Toronto.
Assistant Superintendent: R. M. Yeo, B.Sc., Toronto.

Comptroller's Office:

Comptroller: Ross Baxter Willis, B.A., M.A.
Bursar and Chief Accountant: R. R. Glover, B.A.
Purchasing Agent: D. E. Crinklaw.

Food Services Department:

Manager: George A. Bullas.

Library:

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

Assistant Librarians: Lillian Rea Benson, B.A.; Kate M. Gillespie, B.A., McGill; John P. McLaughlin, B.A., Queens, Ph.D., London.

Registrar's Office:

Registrar: Helen M. B. Allison, B.A., M.A., Minnesota.

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

Faculty of Arts and Science

Dean: Frank Stiling, M.A., Ph.D., Michigan.

UNIVERSITY COLLEGE

Principal: Frank Stiling, M.A., Ph.D., Michigan.

Secretary of the Faculty: D. B. McMillan, M.Sc., Ph.D., Toronto.

Representatives on the University Senate: Professors J. A. Gunton, E. E. Reilly R. L. Allen.

Representatives on the Athletic Directorate: Professors D. A. McLarty, G. H. Reavely, M. H. M. MacKinnon, Helen Battle.

MIDDLESEX COLLEGE

Principal: A. Brandon Conron, D.S.O., M.A., Ph.D., Harvard.

MUSIC TEACHERS' COLLEGE

Principal: Clifford Poole.

Admission Requirements

For admission to the Regular Academic Session in September official high school or college certificates must be presented to the Registrar's Office by September 1st, and for the Summer Session by July 1st. A non-returnable fee of two dollars must accompany all non-Canadian certificates submitted for evaluation.

UNIVERSITY COLLEGE

University Colleges requires the Grade XII Diploma and the detailed Grade XIII certificates of the Department of Education of the Province of Ontario or the equivalent from other Provinces of Canada and other countries.

An average of 60 per cent in at least nine papers of Grade XIII is required. These must include English, Latin or Mathematics (a minimum of two papers), one other language, and three other papers to be selected according to the program which the student proposes to follow.

Where circumstances demand a restricted registration in any program, preference will be given to students who have passed the requisite number of Grade XIII papers in five years of Secondary School attendance.

The Grade XIII subjects are: English (Literature and Composition), Mathematics (Algebra, Geometry, Trigonometry and Statics), History, Latin, Greek, French, German, Spanish, Italian, Physical Science (Physics and Chemistry), Biology (Botany and Zoology), Geography, Music (or a Conservatory of Music Certificate for Grade VIII Practical and Grade II Theory; or Grade IV Theory), Mathematics of Investment (alternative for Algebra only), Accountancy Practice, Secretarial Practice.

Grade XIII examination standards are as follow: First Class Honors requires at least 75 per cent; Second Class Honors, 66 per cent; and Third Class Honors 60 per cent of the marks assigned to any subject, with a minimum of 50 per cent on each paper of that subject; Credit standing requires at least 50 per cent in each paper of that subject.

An applicant presenting Grade XIII certificates or the equivalent in at least nine papers specified above, with an average of 60 per cent, together with the full requirements listed above, may expect to complete one of the General Programs in three years, or an Honors Program in four years.

The Admissions Committee may grant permission for a deficiency in one subject of Grade XIII to be made up in the first year, by the completion of an appropriate university course. It is advisable, however, to clear such a condition in a Summer Session, rather than to carry it as an extra course in the winter session.

AFFILIATED COLLEGES

The affiliated colleges admit students to the first year of university with the same requirements as University College.

In addition, the affiliated colleges may admit students to a Preliminary Year of Arts subjects, but not Science subjects, on the presentation of a Secondary School Graduation Diploma, or the equivalent, showing satisfactory completion of the following Ontario Grade XII subjects: (i) English and History; (ii) Latin or Mathematics; (iii) One of: Latin, French, German, Greek, Italian or Spanish; (iv) One of: Mathematics, Science or Agriculture, Geography, another language from section (iii), Music (or a Conservatory of Music Certificate for Grade VII Practical and Grade II Theory; or Grade III Theory).

Following successful completion of the Preliminary Year with an average standing of 60 per cent, the student is eligible to register in one of the first year programs.

ADMISSION ON EQUIVALENT CERTIFICATES

Certificates of having passed Secondary School subjects parallel to Grade XII or Grade XIII subjects named above, may be accepted, provided that the standards of these certificates meet the requirements of this University.

The local examinations formerly conducted by the English and Scottish universities for the School Certificate and the Higher School Certificate are accepted instead of Grade XIII standing in some subjects, providing such subjects are passed "with Credit" or higher standing.

The General Certificate of Education of England and Wales is accepted in lieu of Grade XIII, if it shows standing in either five or six subjects, with at least two of these subjects at the Advanced level. English Literature, a language other than English, and either Mathematics or an approved Science must be included.

ADMISSION WITH ADVANCED STANDING

All applications for admission with advanced standing must be accompanied by official certificates from the institution where work has been done, and should be presented to the Registrar by July 1st.

These official documents must include a certificate of honorable dismissal from the institution last attended.

No student may register in the University of Western Ontario if he may not re-register from the institution from which he wishes to transfer.

ADMISSION OF ADULT SPECIAL STUDENTS

Adult Special students desiring admission to the University for intramural study must be at least 21 years of age and absent from formal education for at least three years.

Such students must submit evidence of standing in two Grade XIII papers in English, two in another language and one paper in another subject, or their equivalent.

Special students must satisfy their professors by regular attendance and attention to the work of their classes.

They will not be allowed to advance from year to year in a subject without passing the regular examinations.

Consult the Registrar for additional information regarding the admission of Adult Special students.

Fees

Students must pay fees 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 unless their fees are paid, except by permission of the Dean of the Faculty and the Comptroller. No student shall be recommended for any diploma or degree until his tuition fees and other accounts owed the University are paid in full.

Students registering in the constituent University in any year and then transferring during the same year to an affiliated college will be charged by the University, on such transfer, a minimum penalty of $50.00.

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:

This includes registration, regular examination and graduation fees, laboratory and microscope charges, University College Council, University Concert Series, Athletic Association, Thames Hall facilities and Students' Health Insurance and Health Service fees, for the following:

First year (except Engineering Science)	$425.00
Second and subsequent years, Honors programs in the Humanities and the Social Sciences (excluding Business Administration, Mathematics and P.H.R.E.)	385.00
Second and subsequent years, all other programs	425.00
Engineering Science (all years)	500.00

Part-time Students:

Intramural, each course including examination	75.00
Correspondence, Extension, Summer School, each course, including examination	60.00
Half-course	30.00
Non-credit (non-refundable), each course	15.00
Laboratory and microscope fees, each science course	10.00

EXAMINATION FEES

Payable at time of application for any of the following:

Supplemental, each paper $5.00, maximum	$ 15.00
Presiding fee at an outside centre, each half-day	5.00
Graduate Record Examination (institutional plan)	5.00
Aptitude Test, at date other than regular testing-period	6.00
Special examination, at date other than May or August, each paper	15.00

LATE REGISTRATION

For intramural students (waived only when a medical certificate of serious illness is presented)	5.00

CERTIFICATES

Evaluation of non-Canadian certificates for admission	$ 2.00
Transcript of record, each copy	1.00

DEGREES AND DIPLOMAS

Degree of B.D.	24.00

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

STUDENT EXPENSES

A statement of annual expenses can, at best, be approximate; purely personal items (e.g., laundry, clothes, recreation, transportation) are not included in the summary below and in other items individual tastes may vary. The following is a suggestion only:

Tuition and incidental fees	$ 425.00	to	$ 500.00
Board (34 weeks)	$ 600.00	to	$ 700.00
Books and supplies	$ 60.00	to	$ 80.00
	$1,085.00		$1,280.00

Housing

Accommodation for nearly 1,000 students in provided in University and College residences.

Spencer Hall, for women, fourth concession London Township, has a capacity of 104. University College freshmen are given preference. Fees are $600. for the academic year. For information write to: Dean of Women, University of Western Ontario.

Medway Hall, for men, University Drive, has a capacity of 300. Freshmen are given preference but some accommodation is reserved for students in other years. Fees are $650. for the academic year. For information write to: Dean of Men, University of Western Ontario.

Brescia Hall, for women, Western Road, is the residence of Ursuline College. Only students enrolled in Ursuline College are accepted for residence. For information write to: The Dean, Ursuline College.

Huron College, for men and women, Western Road, has a capacity of 250 in several residences. Men students from other colleges are accepted. For information write to: Dean of Residence, Huron College.

Christ the King College, for men, Waterloo Street, gives preference to students enrolled in Christ the King College but accepts some men from other colleges. For information write to: Dean of Residence, Christ the King College.

Students who will not be living in residence may apply to the Housing Bureau, Room 26, Thames Hall between August 5 and October 14 for assistance in finding accommodation in private homes in the University area. Students registering in an affiliated college should apply to the Dean of Residence of their college for help in finding private accommodation.

Health Services

A physical examination by practising physicians under the supervision of the University Health Service is required of all students who are enrolling in this University as intramural students in the winter session for the first time.

The University Health Service operates a clinic, Room 17 Thames Hall, where students may consult the University Physician for diagnosis, treatment or advice. A V.O.N. nurse is in attendance. The Health Service secretary deals with inquiries and assists students with insurance claims.

A student who is taken ill out of clinic hours should call the family physician of those with whom he is residing or the University Physician for advice.

All students entering this University for the first time must take intracutaneous testing for tuberculosis. Students showing a positive reaction must have chest x-rays. Students with a negative reaction should have the skin test repeated once yearly.

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

The University no longer enrolls all full-time intramural students in a health insurance plan. Since January 1, 1959, when the Ontario Plan of Hospital Care Insurance was introduced, all students have been expected to possess basic hospitalization protection through the Ontario Plan as individuals, or if under 19, through their parents' policies.

Information on any additional coverage for students which may be arranged through the University for the academic year 1959-60 will be available before the registration period.

Conduct of Students

The University of Western Ontario is a private university. In accordance with the University of Western Ontario Act, 1955, the University is governed by the Board of Governors, which is responsible for its property and financial affairs, and by the Senate, which is responsible for its educational policy.

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 or Principal of a College or School, his attitude toward his University obligations has been unsatisfactory.

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.

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

The **Student Handbook** published each November and distributed free to all students who pay student government fees contains detailed information about Student Government and organizations.

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 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 Program.

THE RESERVE PLANS

The University Naval Training Division (UNTD) of the Royal Canadian Navy, 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 own choice while attending University.

Winter Training is one night a week up to a maximum of 64 hours a winter for three or four academic years with pay up to a maximum of 16 days (approx. $112) a winter.

Summer Training taken with the Regular Force is a minimum of 12 weeks up to a maximum of 22 weeks for a minimum of two summers but preferably three, paid at the rate of $210 a month. Rations, quarters, transportation, uniforms, medical and dental care are provided.

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

After registering at the University apply to any one of: University Naval Training Division, Room 113, Thames Hall; Canadian Officers' Training Corps, Room 117, Thames Hall; RCAF University Reserve Squadron, 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, and year-round room and board, pay, and medical and dental care for up to four years of undergraduate study.

Graduates of this plan are commissioned in the Regular Force and are given the option of release after three years' Regular Service as an officer.

Apply to ROTP Selection Board, National Defence Headquarters, Ottawa prior to enrolment at University, or to the Service of your choice, as shown above, at any time after enrolment at University and prior to graduation.

Scholarships, Medals, Prizes and Bursaries

Bursaries require a minimum average of 66 per cent (II Class Honors) with some measure of financial need. Scholarships are competitive, requiring a minimum average of 75 per cent.

UNIVERSITY COLLEGE ADMISSION SCHOLARSHIPS

Candidates must notify the Registrar of the University of Western Ontario by May 1st (on forms provided on request) of their intention to compete for Scholarships the following June.

For information about the admission scholarships available in the affiliated colleges, write the Registrars of the respective colleges.

The following scholarships will be awarded on the results of the Ontario Grade XIII examinations.

No scholarship will be awarded unless a candidate obtains an average of First Class Honors (75 per cent) on the papers involved in the award.

Candidates must write all the papers on which an award is based. No credits by "recommendation" will be considered.

Each candidate must write at least six papers in order to be eligible for competition for any scholarship.

The winners of the scholarships must register in University College or Music Teachers' College.

Scholarships cannot be deferred. Winners must register for a full year's work beginning the academic session following the award.

In order to retain the privileges of these scholarships the winners must maintain a satisfactory degree of proficiency from year to year of their programs.

BOARD OF GOVERNORS' SCHOLARSHIPS

Two General Proficiency Scholarships awarded on nine papers:

English, Mathematics (any two), History, two foreign languages;

English, Mathematics (Algebra, Geometry, Trigonometry), a language and a science, either Physical (Physics and Chemistry) or Biological (Botany and Zoology).

Total value of each scholarship, $900 ($300 the first year, $200 in each of the next three years).

Six Scholarships awarded on six papers:

English, Mathematics (any two), and two other papers;

English, French and German or Greek or Latin or Spanish;

French, two of German, Greek, Latin, Spanish;

Mathematics (Algebra, Geometry, Trigonometry), Physics and two other papers;

Biology, Mathematics (any two) and two other papers;

Latin, French and German or Greek or Spanish;

Total value of each scholarship, $500 ($300 in the first year, $200 the second).

A Scholarship for the highest applicant in each Collegiate Institute, Vocational School and High School, whether Commercial, Agricultural or Academic, in the counties named in the University of Western Ontario Act, 1923, viz., Brant, Bruce, Elgin, Essex, Grey, Huron, Kent, Lambton, Middlesex, Norfolk, Oxford, Perth, Waterloo and Wellington, and all the cities situated therein. The successful applicants must have an average of at least First Class Honors (75 per cent.) in nine papers of the examination written in June of the year of the award, and chosen from the following subjects: English, French, German, Greek, History, Latin, Mathematics, Spanish, Botany, Zoology, Physics, Chemistry, Geography. Total value of each scholarship, $200 (payable the first year).

Scholarships for proficiency in single subjects:

Awarded to the applicant with an average of 75 per cent. on six papers and the highest standing in one of the following subjects:

(a) Latin; (b) Greek; (c) English; (d) Mathematics (Algebra, Geometry, Trigonometry); (e) French; (f) German; (g) Biology; (h) Physics and Chemistry; (i) Geography and History. Total value of each scholarship, $100 (payable the first year).

The Harriett M. Giddens Scholarship:

One General Proficiency Scholarship for the highest ranking student from the City of London who has not qualified for Board of Governors' Scholarships. This rule does not apply to the scholarships in single subjects.

Total value of scholarship, $200 (payable the first year).

(The capital fund for this scholarship was bequeathed to the University by the late Harriet M. Giddens of London.)

The George Williamson Young Memorial Scholarship:

One General Proficiency Scholarship for the highest ranking student in Grade XIII English, History, one language, and one other paper. Total value of scholarship, $500 ($300 the first year, $200 the second year).

(The capital fund for this scholarship was bequeathed to the University from the estate of the late George Williamson Young of Port Stanley.)

The Aluminum Company of Canada Scholarship:

One General Proficiency Scholarship for the highest ranking student in Grade XIII Physics, Chemistry, Mathematics (any two papers) and two other papers. Total value of scholarship, $500 ($300 the first year, $200 the second year).

The Ontario Hockey Association Scholarship:

An entrance award of $150, the gift of the Ontario Hockey Association, tenable for one year only the recipient to be selected by the University Scholarship Committee, subject to the general conditions governing admission scholarships.

The London Life Actuarial Scholarship:

One General Proficiency Scholarship of $2400 ($600 a year) based on nine papers of Grade XIII, especially on high standing in Mathematics for admission to Junior Group 1 or Junior Group 2. The Scholarship Committee shall select a winner (to be approved by the London Life Insurance Company) from the students who make application for the award and agree to take the actuarial option of the Honors Mathematics or the Honors Mathematics and Physics Program. If the winner fails to maintain First Class Honors he will forfeit the award until he regains that standard; if he withdraws from the actuarial option he will forfeit the award permanently.

Scholarships

The following Admission Scholarships are awarded to assist deserving students to obtain a university education and have the following stipulations in common:

They are based on standing in nine papers of Grade XIII in Ontario, written in the year of the award, or Senior Matriculation from the other provinces of Canada.

Both financial need and academic standing will be considered by the Selection Committee, which comprises the Chairman of the University Scholarship Committee, the Principal, the Dean of Men, the Dean of Women, and the Registrar.

All applicants for these awards must supply the Selection Committee with information regarding their personal contributions toward their education, and the amount of help available from family and other sources. Such information will be used by the Selection Committee, and will otherwise be kept entirely confidential.

The winners may hold these awards for the duration of their undergraduate courses in this University, if they maintain academic standing satisfactory to the University Scholarship Committee.

Applications must be submitted to the Registrar by May 1st, and must be accompanied by a letter from the applicant's Secondary School Principal, certifying that he (or she) is an outstanding and deserving student.

The General Motors Canadian Scholarship:

General Proficiency Scholarships of $200 to $2,000 a year, depending on financial need, throughout an undergraduate program. The choice of program is unrestricted.

The International Nickel Company of Canada Limited Scholarship:

One Inco Scholarship of $300 a year, in addition to tuition and incidental fees; limited to students in the field of engineering, geology, geophysics, mathematics and physics.

The Union Carbide Canada (Limited) Scholarship:

One General Proficiency Scholarship of $2,000 ($500 a year). The purpose of the award is twofold: to assist deserving students, interested in a business career, to obtain a university education, and to assure larger numbers of men and women trained in universities for future executive and administrative careers in business and industry. The Secondary Principal should state in his recommendation to the Selection Committee the applicant's talents for business or industry.

The Scholarships of the Institute of Chartered Accountants of Ontario:

Two General Proficiency Scholarships of $1,000 each for the two students entering a Business Administration or Commerce Program at any Ontario University, who have the highest standing in eight Grade XIII papers, including English Literature, English Composition, and Algebra. The winners may not accept other scholarships and bursaries for their freshman year valued in the aggregate at more than $500. Application must be made to the Institute of Chartered Accountants of Ontario, 69 Bloor Street East, Toronto 5, before June 20th.

ADMISSION BURSARIES AND LOANS

Dominion-Provincial Student-Aid Bursaries, Type A:

Applications and terms of qualification may be obtained from Secondary School principals or the Registrar of the Department of Education of Ontario.

Ontario Department of Education Provincial Student-Aid Loans:

Unsuccessful applicants for Student-Aid Bursaries, Type A, will automatically be considered for Student-Aid Loans.

Leonard Foundation Bursaries:

The income of a trust created by the late Lieut.-Col. and Mrs. Reuben Wells Leonard, St. Catharines, Ont., will be expended in paying part of the college expenses of selected students at several institutions of Canada, including the University of Western Ontario, for from one to four years.

Application forms may be obtained from Professor J. D. Ralph, Room 208, University College, and must be returned to him by February 15th.

The Atkinson Charitable Foundation Grade XIII Bursaries:

These are available to residents of the Province of Ontario who obtain an average of 66 per cent. on eight Grade XIII papers, and who need financial assistance to attend a university. Applications should be submitted to the Registrar of the University of Western Ontario by May 1st of the final year in Grade XIII.

Children of War Dead (Education Assistance) Act:

Under the terms of this Act, fees and monthly allowances are provided for the children of veterans whose death was attributable to military service. Enquiries should be directed to the nearest District Office of the Department of Veterans Affairs.

UNDERGRADUATE SCHOLARSHIPS AND PRIZES,

UNIVERSITY COLLEGE

Unless otherwise specified, these awards are competitive and are assigned by the Scholarship Committee, without the necessity of application, except as indicated for certain special scholarships.

The Board of Governors of the University provides the scholarships and prizes in University College, unless other donors are indicated. Students enrolled in affiliated colleges are not eligible for University College Scholarships and prizes.

Scholarships

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Except for final year awards, these scholarships and prizes will be paid only to students who are in actual attendance and carrying a full year's work in University College.

An award requires a minimum average standing of 75 per cent., based on the Honors subjects for the Honors Program awards, and on all subjects for all other scholarships.

An award is made to the registrant with the highest average standing, who is carrying a full year's work as laid down for his year and program in the Calendar.

Students who take courses out of sequence are not eligible for an award unless the whole class follows the same sequence.

Students who fail to write one or more examinations, for illness or other reasons, are disqualified to receive awards.

A student may hold more than one award in one year, if the combined value of the awards does not exceed $500. Any amount in excess of $500 must revert to the next highest student eligible to receive it.

In cases of reversion, the honor of each award will be given to the original winner.

Awards will be paid in two instalments on November 1st and February 1st.

Board of Governors' Scholarships:

Scholarships: For general proficiency in the following:

Junior Group 1: $60.

Junior Group 2: $60.

Premedicine: first year: $60.

Premedicine: second year: $60.

The F. G. Jewell Scholarship: $50; the highest ranking student in Junior Group 2 who plans to enter one of the professional programs: Honors 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 W. J. Roche Scholarship: $50; for the highest ranking student in Junior Group 2 who plans to enter one of the social science programs: Honors Economics, Politics, Geography, History or Psychology. In honor of the late Hon. W. J. Roche, M.D., LL.D., C.M.G., former Chancellor of the University.

The B'Nai Brith Scholarship: $50; for the highest ranking student in Junior Group 2 who plans to enter one of the humanities programs: English, Ancient or Modern Languages and Literatures, or Philosophy. Given each year by the London Branch of the Order.

Board of Governors' Scholarships: $60 each for highest standing in the following Second Year Honors Programs: Business Administration and Secretarial Science, Chemistry and Physics, Classics, English and French, English and German, English and Latin, English and Philosophy, French and Latin, Geology, Journalism, Modern Languages, Philosophy, Physical and Health Education, Psychology.

Third Year Honors Program: Business Administration and Secretarial Science, Chemistry and Physics, Classics, English and German, English and Latin, English and Philosophy, French and Latin, Geology, Journalism, Modern Languages, Philosophy, Physical and Health Education, Psychology, and History, in alternate years, when the Joseph Henry Marshall Scholarship is not available; next in 1960-61.

The Albert O. Jeffery Scholarship, No. 3: $60; for Honors 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 resident of the London Life Insurance Company.

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

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

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

The William Wyatt Scholarship, No. 1: $60; for Honors English Language and Literature, Second Year.

The William Wyatt Scholarship, No. 2: $60; for Honors History, Second Year. The capital fund for these Scholarships was bequeathed to the University by the late William Wyatt, of London.

The Myrtle Rowntree Memorial Scholarship: $60; for Honors English Language and Literature, Third Year. This Scholarship was established as a memorial to the late Myrtle Martindale Rowntree, a 1919 graduate in Honors English and History, by her brothers and sisters.

The California Standard Company Scholarship in Engineering: $400; for a student in the Chemical or Mechanical Engineering option of the Engineering Science Program, to be chosen by the Scholarship Committee.

The Ontario Hydro Engineering Scholarships: Three awards of $300 each, for outstanding students in the first and second and third years of the Engineering Science Program.

The Royal Canadian Engineers Memorial Scholarship: $125; to be awarded to a third year Engineering Science student who is also a member of C.O.T.C., provided he has completed one summer season of training with the C.O.T.C., or who is a member of the Canadian Army (Regular) attending the university under the terms of the R.O.T.P. Application for this scholarship must be made to the University Registrar before July 1st.

The J. P. Bickell Foundation Scholarship: $1,200; for a student entering the second year of the Honors Geology Program; $600 the second year, $400 the third year, and $200 the final year, if he maintains First Class Honors standing from year to year.

The Johnson's Wax Scholarship: $600 a year for a period of three years, to the outstanding man in Junior Group I who enters Honors Chemistry or the Chemistry Option of the Honors Chemistry and Physics Program. The selection is to be made by the Scholarship Committee of University College, who may take into consideration the financial need of the applicants; the award is to be announced each Spring, when the Scholarship Committee releases its Spring awards list. If the successful candidate falls below First Class standing in Chemistry or fails to attain reasonably high standing in his accessory subjects, the scholarship shall revert to the top ranking First Class student in the same year provided his financial need warrants his selection.

The Rhoda Ann Rinn Scholarship in English Literature: $1,000; to be awarded on the basis of academic standing in Junior Group 2 to a student in University College who enrols in the second year of Honors 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 Honors and remains in the Honors Program in English Language and Literature. This Scholarship was established as a memorial to his mother, by the late Lionel Harris Rinn, Honors English graduate of this University in 1927.

The Hon. Edward Blake Scholarship, No. 1: $60; for Honors Economic and Political Science, Second Year. Offered in 1961-62.

The Hon. Edward Blake Scholarship, No. 2: $60; for Honors Economic and Political Science, Third Year. Offered in 1961-62. 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 Joseph Henry Marshall Scholarship: $60; for Honors History, Third Year. Open only to Canadian-born students. To be awarded in 1961-62. 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 Andrew Grant Scholarship, No. 1: $60; for Honors Economic and Political Science, Second Year. Offered in 1959-60.

The Andrew Grant Scholarship, No. 2: $60; for Honors Economic and Political Science, Third Year. Offered in 1959-60.

The Andrew Grant Scholarship, No. 3: $60; for Honors Social Science, Second Year.

The Andrew Grant Scholarship, No. 4: $60; for Honors Social Science, Third Year. These Scholarships were bequeathed to the University by Mrs. Grant as a memorial to her husband, Mr. Andrew Grant, St. Thomas.

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

The John Gordon McIntosh Scholarship, No. 2: $60; for Honors 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. 1: $100; for highest standing in Honors Business Administration, Second Year.

The Wilhelmina and J. Gordon McIntosh Prize, No. 4: $60; for Honors Geography, Second Year.

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

The Famous Players Canadian Corporation Scholarship: $500; to be awarded for high standing in the Journalism subjects of the penultimate year of the Journalism course; 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. For further details of the award and for application forms, apply to the University Registrar not later than April 1st.

The Midland Securities Scholarship: $100; for the student with the highest standing in Journalism 20, who registers in the Honors Journalism course.

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

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

The California Standard Company Scholarship in Geophysics: $400; as an aid to the completion of the third or fourth year in Honors Geophysics, Geology, Physics or Mathematics, with a preference for Geophysics. The selection committee is to be the Scholarship Committee. Women and foreign students are only eligible to receive the award subject to the approval of the Company. The Scholarship may revert if the highest-ranking student has any larger award.

The Canadian Society of Exploration Geophysics Scholarship: $350; to be awarded to a male student in University College entering the Honors Program in Geophysics, on the basis of high standing in Junior Group I. Application must be made to the Registrar before May 1st.

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 Honors Geophysics Program. Application must be made to the Registrar by May 1st.

Khaki University and Y.M.C.A. Scholarship: $60; for the highest average obtained by an ex-service man or woman, or the son or daughter of an ex-service man or woman, in any year of any program in University College.

Sir Wilfrid Laurier Memorial Scholarships: Two scholarships, one elementary ($30.00) and one advanced ($50.00); 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.

Bruce County Scholarships: Two, $100 scholarships, one for the man, one for the woman, from Bruce County who stand highest in any year of any regular program in the University. These scholarships can be held only once by any student; an award won a second time reverts to the student coming next in order of merit. These Scholarships were voted by the Council of Bruce County in June, 1945.

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 program in the University. These Scholarships were voted by the Council of Elgin County in June, 1945.

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 program in the University. These Scholarships were voted by the Council of Huron County in 1944.

William C. Benson Prize: $50; for the highest standing in the Accounting course of Second Year Honors Business Administration.

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

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

W. W. Tamblyn Prize: $75; for the highest standing in the use of language (English Composition and Public Speaking) at the Junior Group 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 International Nickel Company Award in Journalism: A plaque and a portable typewriter for the student completing the Graduate Diploma Program in Journalism with the highest average, provided the average is at least 66 per cent. The award shall be made by the Scholarship Committee on recommendation of the Head of the Department of Journalism.

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

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

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

Chemical Institute of Canada Prize: $25; in books to be awarded to the student with the highest standing in Chemistry Courses in the Honors Chemistry or Chemistry and Physics Programs of the third year.

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

Applications for the following scholarships available for study at the Summer School for French and English, Trois-Pistoles, Quebec, 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.

Board of Governors' Scholarship: $60.

UNDERGRADUATE MEDALS

These awards are competitive and are assigned by the Scholarship Committee without the necessity of application.

Students in affiliated colleges are eligible for medals only if their relevant examination papers have been marked by members of the Faculty of Arts and Science of the Constituent Colleges of the University.

University Gold Medals: For competition in the final year of the following Honors Programs:

Botany, Business Administration and Secretarial Science, Chemistry, Chemistry and Physics, Classics, English Language and Literature, English and French, English and German, English and History, English and Latin, English and Philosophy, French and Latin, Geography, Geology, Journalism, Modern Languages (French and German, and French and Spanish), Philosophy, Physical and Health Education, Physics and Mathematics, Psychology, Radio Physics and Mathematics, Zoology.

Governor-General's Medal: Senior Group, General Program.

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

The Joseph J. and Annie R. Kingston Gold Medal: Final year Mathematics, University College. Endowed by Dr. H. R. Kingston in memory of his parents.

The London life Insurance Company Gold Medal: Final year Actuarial Mathematics, University College.

Ursuline College of Arts Award: Gold Medal: fourth year Home Economics.

The S. F. Glass Awards: Gold Medals: for the highest standing in the Honors Economics and Political Science Program, one in Honors Economics and the other in Honors Political Science of the final year. Endowed by the estate of the late S. F. Glass of London.

UNDERGRADUATE BURSARIES AND LOANS

Unless otherwise stated, applications for Bursaries are to be submitted to Dean T. L. Hoskin, Secretary of the Student Loans and Bursaries Committee, by November 1st.

Dominion-Provincial Student-Aid Bursaries, Type B: These bursaries, up to $500 are for second, third and fourth year students with financial need and a record of Grade B, or better, in the university work of the preceding year. Applications are submitted through Dean T. L. Hoskin, Secretary of the Student Loans and Bursaries Committee, by October 10th.

Ontario Department of Education Provincial Student-Aid Loans: A *student* who has been a resident of Ontario for at least one year and has been in attendance at a Canadian University or an affiliated College or a Canadian Service College during the preceding year, may apply for a Provincial Loan up to $500. These loans are available to students who attained a minimum average of 60 per cent on the preceding year's work with no unremoved failures or conditions; and to students who for other reasons are unable to qualify for a Dominion-Provincial Student-Aid Bursary. Consideration will not be given to a student enrolled under the Regular Officer Training Plan. Unsuccessful applicants for Student-Aid Bursaries Type B will automatically be considered for a Provincial Student-Aid Loan.

Student-Aid Bursaries from the W. F. Thomas Estate: Grants of $100 to $300 are available for students in financial need, in any year of a degree. An applicant must be able to give evidence of satisfactory academic achievement. Preference is given to applicants whose residence is in St. Thomas or Elgin County.

Atkinson Charitable Foundation Student-Aid Grants: These awards are made to deserving undergraduates in any year of a degree program. Applicants must be residents of the Province of Ontario, able to give evidence of financial need.

The Bill McKibbon Bursary: $500 a year throughout Premedicine and Medicine, provided 66 per cent standing is maintained. A male student, preferably from southwestern Ontario, is to be selected by the Secretary of the Loans and Bursaries Committee and the donor. Academic standing and personality will count equally in the selection. This Bursary is endowed by Dr. Walton McKibbon of Wingham, a Medical graduate of this University, in memory of his son.

The C. W. Loaring Bursary: $150; for an undergraduate student in any year of Engineering Science at this University, preferably a student from Western Ontario, to be selected by the Student Loans and Bursaries Committee, on the basis of proven academic ability (66 per cent or better) and evidence of financial need. This Bursary is the gift of Mr. John W. Loaring, graduate of this University in 1940.

The Canadian Women's Press Club (London Branch) Bursary: $50; for a woman student entering the third or fourth year of the Honors Journalism course.

The London Free Press Journalism Bursary: $500; for a graduate of any Canadian university entering the Diploma Program in Journalism at this University. The Selection Committee (the Head of the Journalism Department of this University, the president of the London Free Press Printing Company or his delegate, and the Dean of Men) shall base the award on undergraduate record, financial need, character and personality, evidence of aptitude for journalism as a profession and on anticipated ability to improve the status of journalism as a profession. Applications shall be made to the Registrar not later than August 31st. The first half of the award shall be payable upon registration and the other half at the beginning of the second term.

Huron County Bursaries: Five tuition bursaries up to $100 a year each are available for students who have been residents of Huron County for the past three years. These Bursaries are tenable only in the constituent colleges of this University, and are renewable on the same terms as the Dominion-Provincial Student-Aid Bursaries. Awards will be made by a committee of Huron County representatives, the University Registrar, and the Secretary of the Student Loans and Bursaries Committee. These Bursaries were voted by the County Council of Huron County in 1948.

Perth County Bursaries: Five tuition bursaries of $100 each, tenable only in the constituent colleges of this University, are awarded to Perth County students (outside St. Marys and Stratford) on approximately the same terms as the Dominion-Provincial Student-Aid Bursaries, with the possibility of renewal from year to year. The Selection Committee (including the Warden and other representatives of Perth County Council and University Scholarship and Bursaries representatives) may award a maximum of $200 to a student, depending on the degree of financial need, if the total sum of $500 a year is not exceeded. These awards were voted by the County Council of Perth County in 1955.

Y-Mac Club Bursary: $100; for a student of Y.M.C.A. background; to be awarded each fall by a special committee of Y.M.C.A., Y-Mac Club and University representatives.

The Undergraduate Women's Organization Bursary: $100; for a woman in any year of any program, to be selected by a committee consisting of the Dean of Women, the Registrar, the Secretary of the Loans and Bursaries Committee, and the President and the Chairman of the Undergraduate Women's Organization. Applications must be submitted to the Dean of Women by October 15th.

Pi Beta Phi Fraternity Bursary: $50; to be awarded on February 1st to a woman student in any year of any program in any faculty, by a committee composed of the Dean of Women, the Registrar, the Secretary of the Loans and Bursaries Committee and the Scholarship Chairman of the local Fraternity Chapter.

University Women's Club Bursary: $100; for a woman student in her third or preferably, her fourth year in any Faculty. This bursary will be awarded on the basis of satisfactory academic standing and some financial need, by a committee consisting of the Dean of Women, the Registrar, and a representative of the University Women's Club of London. Application should be made to the Dean of Women or the Registrar before October 1st. This award is made annually by the University Women's Club of London.

The Olga Alice Miller Bursary: $100; for a woman in any year of any program. Applications should be made to the Dean of Women by November 1st. The Selection Committee shall be the Registrar, the Dean of Women, and the Secretary of the Loans and Bursaries Committee. This Bursary was established as a memorial to the late Olga Alice Miller, a 1928 graduate in Honors English and History, Assistant Registrar, 1933-51, by her mother Mrs. A. E. Miller and her sister Helen.

The Proctor and Gamble Company of Canada Bursaries: $100 minimum; to benefit students of good academic standing who are in financial need.

I.O.D.E. (Municipal Chapter) Bursary: $100; for a student in pure or applied Science.

I.O.D.E. (William E Saunders Chapter) Bursary: $100; for the student registered in the Botany option who stood highest in Third Year Honors Biology during the preceding session. The bursary may be awarded, under special circumstances, to a student registered in a course other than Botany.

I.O.D.E. (Dr. John Dearness Chapter) Bursary: $100; awarded annually to a graduate of any Canadian University enrolled at this University in a Mycology course; if there is no graduate candidate with good scholarship and financial need, the award shall be made to an undergraduate student in Botany 461a, under the same conditions.

I.O.D.E. (London Air Force Chapter) Bursary: $100; awarded annually by the Scholarship Committee to a student in any branch of Honors Physics, preferably Radio Physics, third year.

I.O.D.E. (Nina Moore Jamieson Chapter) Bursary: $100; awarded annually to the student with the highest standing in the Third Year of the Honors Program in English and French.

I.O.D.E. (Lord Roberts Chapter) Bursary: $100; awarded annually to a woman student enrolled in the final year of the Medical course or in the Public Health Option of the degree program in Nursing.

I.O.D.E. (The Colonel William Gartshore Chapter) Bursary: $100; awarded by the Scholarship Committee to a student in the Humanities.

I.O.D.E. (The Princess Patricia Chapter) Bursary: $100; awarded by the Scholarship Committee to a student in the Social Sciences.

I.O.D.E. (The Sir George Ross Chapter) Bursary: $100; awarded by the Scholarship Committee to a student in the Humanities or the Social Sciences.

I.OD.E. (The Colonel G. Eric Reid Chapter) Bursary: $100; awarded by the Scholarship Committee to a student in any year of any program.

I.O.D.E. (The David Crombie Chapter) Bursary: $100; awarded annually by the Scholarship Committee to a student in any year of any program.

Academic Regulations

LENGTH OF PROGRAMS

General Programs in Arts and Science leading to the Bachelor of Arts general degree require three years for students admitted with Grade XIII standing in nine papers.

Honors Programs leading to either the B.A. with honors in Arts or the B.Sc. with honors in Science require four years from Grade XIII standing in nine specified subjects. One year of Junior Group 1 or 2 is followed by three years of honors work.

The professional program in Engineering Science requires four years and leads to B.E.Sc. degree. Professional programs in Journalism; Business Administration and Secretarial Science; and in Physical Health and Recreation Education (P.H.R.E.) require four years and lead to the B.A. with honors. Three year programs lead to a general B.A. with Home Economics, Secretarial Science or Pre-theological options

The Pre-business program requires two years in University College, and followed by two years in the School of Business Administration, leads to the B.A. with honors in Business Administration.

The Pre-medical program requires two years in University College and is followed by four years in the Faculty of Medicine leading to the degree of M.D.

The program for the B.Sc.N. degree requires one year in University College, three years professional training in a recognized hospital, followed by one year in the School of Nursing.

In some of the affiliated colleges Grade XII standing is the entrance requirement and accordingly the General Programs and the Honors Programs in Philosophy are four years in length; other Honors Programs are five years.

ATTENDANCE

A candidate for a degree must attend 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 is reduced to a minimum of one winter session or three summer sessions by attending Extension classes held by this University or by the transfer of credit from an approved college or university.

Freshmen and sophomore students are required to attend eighty per cent of their lecture and laboratory classes.

Any student who, in the opinion of his instructor, is absenting himself too frequently from class or laboratory periods will be reported to his Dean.

On recommendation of the Department concerned and with the permission of the Dean, after due warning has been given by the Dean, the student shall be debarred from taking the regular examinations in that course.

GENERAL REGULATIONS

When a student begins a foreign language in the University, no credit towards a degree will be given for the first year of that language unless that year is followed by a second year in the same language.

No student may begin two foreign languages in the same year.

A course that is an optional course need not be given unless it is elected by at least five students. Students are warned that the timetable often limits wide choice of options.

A student may take one course more than than the number normally required for the academic year in which he is registered. Permission to take any other additional course must be obtained from the Academic Standing Committee. Tuition and laboratory fee for such additional courses will be charged at the usual rate for Special students.

Any student of the two final years who shows an unsatisfactory knowledge of spoken or written English must do additional assignments until his work satisfies his instructors.

A student, on admission each year, by his registration subscribes to the regulations as stated from time to time in the University official announcements.

EXAMINATIONS

Regular Examinations:

Regular course examinations for the winter session are conducted in April and May and for the summer session in August.

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, but will be required to write a special examination at a time determined by the Registrar after consultation with the department involved.

A student who is compelled because of personal illness or death in his family, to miss an examination must have his physician forward to the Registrar a certificate specifying the dates on which he was unable to be present. The Registrar will then request recommendations from the instructors.

Supplemental Examinations:

Supplemental examinations, for which special application must be made to the Registrar, are conducted in August for students who have been conditioned (40 to 49 per cent) in any course of the General Program. (See Failures).

Students whose grade is less than 40 per cent in any course may not write a supplemental examination in that subject.

Supplemental examinations will not be allowed any student in more than the equivalent of two full courses.

A student may not write a supplemental to raise his grade in a course in which he has already received a passing grade, except by permission of the Petitions sub-committee of the Academic Standing Committee.

No supplemental examination will be allowed in Honors Course subjects.

No supplemental examination will be held within three months following the regular examination period.

Special Examinaitons:

A special examination is any examination other than the regular or supplemental examinations.

No special examination may be assigned except on the recommendation of the Head of the Department concerned, after consultation with the instructor involved.

Students may be advised to adopt the alternative of repeating the lectures and taking the next regular examination without fee.

Whenever possible special examinations will be held during the first full week in September.

No special examination will be set within three months of failure.

No General Program student may write special examinations on more than the equivalent of one full course in one academic year.

No Honors Program student may write a special examination in any academic year if he has failed in more than one Honors examination paper or has secured less than 35 per cent on one Honors examination paper.

A special examination may be written only at the college in which a student is registered.

Comprehensive Examinations:

Various departments of University College require comprehensive examinations for Honors students.

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

GRADES

General Programs:

In the General Programs the following grades are used: A, B, C, D, E, F. The minimum for Grade A is 75 per cent of the marks obtainable; for Grade B, 66 per cent; for Grade C, 60 per cent; for Grade D, the minimum passing grade, 50 per cent. A mark that falls in Grade E, 40 to 49 per cent, entitles the student to a supplemental, subject to the regulations governing supplementals. Grade F, less than 40 per cent, indicates a total failure and the necessity of repeating the course in class.

No student will be admitted to the degree of Bachelor of Arts in the General Program unless he has obtained an average of 60 per cent in the Major subject, with 60 per cent in each of six courses out of the eleven required in the Senior Group, in addition to 50 per cent in all other courses.

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

Honors Programs:

In Honors Programs the following grades are used: Class I—75 per cent or over; Class II—66 to 74 per cent; Class III—60 to 65 per cent; and Class IV—50 to 59 per cent.

A student in an Honors Program must obtain an average of at least 60 per cent in the courses of the Honors subjects of the second and third years, with an average of at least 60 per cent in other subjects, to be permitted to continue in Honors.

An average of at least 60 per cent in the Honors subjects of the fourth year, with no failure on any examination, is required for an Honors degree.

Term Work:

A student may be debarred from writing the final examination for 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.

Repeat Examinations:

If a student writes more than one examination in a course, the last mark he obtains shall be the only one considered.

FAILURES

A student who fails to obtain 50 per cent in the regular or supplemental examination in a subject will not be eligible for re-examination without a further year's attendance at the lectures in the subject in which he has failed. The student must repeat that course, if it is prescribed, the year after failure, no matter what subject or subjects must be postponed.

A student may not take the same course more than twice, except by permission of the Principal and the Head of the Department concerned.

A student shall be required to pass in two-thirds of his approved registration at the Spring examinations; if he fails to do so, he shall repeat and complete successfully, at the Spring examinations, the entire work of his year (not necessarily the same program); a student who fails to satisfy this requirement shall withdraw from his program.

A student who is required to repeat his year's work may petition his Dean or Principal to be allowed to substitute a subject of equivalent weight, at the same year-level, available without clash of timetable, for a subject in which he has obtained a minimum of 66 per cent.

A candidate in an Honors Program for the degree of Bachelor of Arts who has obtained 50 per cent in each course of his final year, but has failed to obtain the requisite average for honors (60 per cent), may on the recommendation of the Academic Standing Committee, be awarded a General degree. The candidate may write a subsequent examination for an Honors degree.

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

CONDITIONS

A student who is permitted by the Admissions Committee to enter a program with one condition must remove that condition within two years of his admission.

Students conditioned at the regular examinations should attempt to remove their conditions at the next supplemental examinations. If a condition is not removed the course must be repeated.

APPEALS AND PETITIONS

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

Programs for Teachers:

University College through its Extension and Summer School Department offers the General Program for students unable to attend the intramural winter sessions. Certain courses are available from the correspondence division of the Department of Extension.

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 or in Science from a British University, based upon programs approved by the Minister of Education.

TYPE A: Subject to the conditions specified below, an Honors 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 Classics, Commercial Subjects, English, English and French, English and German, English and History, English and Latin, French and German or Spanish, Geography, History, Latin and French, Mathematics, Mathematics and Physics, Physical Education, Physics and Chemistry, or Science.

For the University of Western Ontario, the courses specified above shall be the corresponding Honors Programs as defined in the current Calendar of the Faculty of Arts and Science.

The programs shall extend over at least five years from Grade XII or, as may be determined under the regulations of the University, over four years from Grade XIII standing in nine subjects.

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 of any case whose merits justify special consideration.

Graduates in General Programs who wish to obtain Type A standing should submit formal transcripts of their University records to the Ontario College of Education for evaluation.

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 Honors Degree in Arts or Science in accordance with the present agreement prescribed for Type A qualifications.

or

A General Program Degree in Arts and Science with a standing of 66 per cent. on the work of the final year of the program; 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.

Programs

First year students will register in one of the following programs:

Junior Group 1: Mathematics and Natural Sciences

Junior Group 2: Humanities, Social Sciences, Mathematics and certain Professional Programs

General Program: Secretarial Science Options

General Program: Pre-Theological Options

General Program: Home Economics Options

General Program: Music Options (see Music Teachers' College)

Degree Programs in Nursing

Engineering Science

Premedicine

Course-Numbering System

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

Courses 10-19 are equivalent to corresponding subjects of Secondary School Grade XIII (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 Honors Courses.

Courses 300-399 are Third year Honors Courses.

Courses 400-499 are Fourth year Honors 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.

The Junior Groups

The purpose of the Junior Groups is to offer one year of basic general education and to postpone the selection of a specific program until the end of the first year. Thus the student can make a final decision as to his future program on the basis of university work which will include subjects not available in the secondary school. On the successful completion of the Junior Group, the student is eligible to register in the second year of the General Program, or the second year of one of the Honors Programs.

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

JUNIOR GROUP 1

This group is for Mathematics and Natural Sciences.

Requirements for Admission:

Grade XIII or equivalent standing in English, another language, Mathematics (Algebra, Geometry, Trigonometry and Statics), Physics and Chemistry, with an average of 60 per cent. If a student plans to specialize in Biology he may present Botany or Zoology instead of Trigonometry and Statics.

Courses:

Chemistry 20

English 20

Physics 20

Three of: Botany 20, Geology 20, Mathematics 24, Zoology 20.

Half courses in Health, Library Science and Physical Education.

JUNIOR GROUP 2

This group is for Humanities, Social Sciences, Mathematics, and certain Professional Programs.

Requirements for Admission:

Grade XIII or equivalent standing in English, another language, Latin or Mathematics (two of Algebra, Geometry, Trigonometry and Statics), and three additional papers, with an average of 60 per cent.

Courses:

English 20

French 20 or another language at the 20 level

Latin 20 or Mathematics 20 or a Natural Science at the 21-29 level

Two of: Economics 20, History 20, Philosophy 20

One of: Business 20, Economics 20, Geography 20, History 20, Journalism 20, Mathematics 20, Music 20, Philosophy 20, Psychology 20, Politics 20, Sociology 20, another language, another science.

Half courses in Health, Library Science, and Physical Education.

GENERAL RULES

A student who plans to enter an Honors Program should study the requirements for that Program before selecting the options in Junior Group 1 or 2. Because of certain limitations in the size of classes a student may not always be able to obtain the options he has selected.

No Grade XIII standing may be substituted for a Natural Science in a Junior Group.

No course numbered between 1 and 9 may be counted toward a degree unless followed by a second course in the same subject.

Any course taken in a Junior Group may be counted once only toward a degree and will not count also in any subsequent year of any program.

The General Program

1. The courses offered are grouped into four divisions:

Division A—The Humanities

Division B—The Social Sciences

Division C—The Natural Sciences, Mathematics, and Astronomy

Division D—Other Subjects

For a complete list of courses in each Division see pages 38 and 39.

2. A student entering the second year of the General Program shall select a Major subject of concentration from either Division A, Division B, or Division C, and a Minor subject from a Division other than that of his Major subject.

3. Neither the Major nor the Minor subjects may be selected from Division D.

4. A Major subject shall consist of three or four Senior options in that subject.

5. Senior options are courses numbered from 30 to 499.

6. A Minor subject shall consist of two Senior options in that subject.

7. One or two Senior options of the Major subject shall be selected in the second year and two in the third year.

8. Prior to registration, a student shall consult with the Head of the Department of his Major subject who will advise him concerning his choice of options, and sometimes may permit him to register in an Honors Course, at the appropriate level.

9. A minimum of four courses, three of which must be Senior Courses shall be selected from each of Division A, and Division B.

10. A minimum of two courses, one of which must be a laboratory Science course shall be selected from Division C.

11. A maximum of two courses from Division D may be credited towards a degree.

12. Not more than one course from those numbered between 10 and 19 may be credited towards a degree.

13. The following courses must be included in every program:

Economics 20

One of: History 20, 35, 36

One of: English 32, 35, 36, 38, 44, 45, 49

One of: French 20, Latin 20, Greek 20, German 20, Spanish 20, Russian 20, Italian 20

One laboratory course in a natural science

One of: Philosophy 20, 30, 32

One of: Psychology 20, 30

14. No more than five courses may be taken in any one subject.

15. Eight of the eleven required courses of the two final years must be Senior options. A *minimum* of six of these Senior options must be taken at this University.

16. A minimum of 60 per cent must be obtained in each of six courses out of the eleven required in the second and third years, and an average of 60 per cent in the options of the major subject.

GENERAL PROGRAM 1

Prerequisite: Junior Group 1.

Second Year

Six courses to be chosen as follows:

French 20 or another language at the 20 level
Economics 20
One option from the Major subject
One option from the Minor subject
Another option from the Major subject or a senior option from any Division in which one is required under rules 9 and 10.

One option from:
English 32, 35, 36, 38, 44, 45, 49
History 35 or 36
Philosophy 30 or 32
Psychology 30

If one of these four subjects is selected as a Minor, a course in another of these subjects should be taken.

Third Year

Five courses to be chosen as follows:

The courses required for graduation under rule 12 but not previously selected.

Two options from the Major subject
One option from the Minor subject

Another option in Division A or B if needed under rule 9.

GENERAL PROGRAM 2

Prerequisite: Junior Group 2.

Second Year

Six courses to be chosen as follows:

One option from the Major subject
One option from the Minor subject

One option from English 32, 35, 36, 38, 44, 45, 49. This course may be counted as a Major or a Minor option in English. A student majoring in English is limited to two Senior courses in the second year.

Two options not previously selected from the following subjects; one course from each of which must be taken ultimately under rule 13.

Economics 20
History 35 or 36
Philosophy 30 (if Philosophy 20 was not selected in Junior Group 2)

Psychology 20
A laboratory course in Natural Science or Mathematics 20 or 23.

Another option from the Major subject, or a Senior option from any Division in which another is required.

Third Year

Five courses to be chosen as follows:

A laboratory course in Natural Science; or if both courses from Division C have been completed, another Senior option must be selected.

Two options from the Major subject
One option from the Minor subject
One option from senior courses in any Division

THE DIVISIONS

DIVISION A (The Humanities)

At least four courses are to be selected, three of which must be senior courses.

Junior Courses

(numbered 1-29)
Classics: Greek 1, 10, 20, 29
Latin 1, 10, 20
English 20
German 1, 10, 20, 22; 5, 15 for Science students
Hebrew 1-10, (or 1 and 10), 20
Music 10, 20 or 20S
Philosophy 20
Romance Languages:
French 10, 20
Italian 1, 10, 20
Spanish 1, 10, 20
Russian 1, 10, 20

Senior Courses

(numbered 30-499)
Classics: Greek 30, 39, 40
Latin 30, 39, 40
English 32, 36, 38, 39, 44, 45, 46, 49
German 30, 40, 45, etc.
Hebrew 30, 40
Music 30
Philosophy 30, 31, 35, 36, 42, 43, 44, 47, 48, etc. and in affiliated colleges 30x-36x, 42x-47x
Romance Languages:
French 30, 31, 40, 41, 48
Spanish 30, 31, 35, 40, 41, 48

DIVISION B (The Social Sciences)

At least four courses are to be selected, three of which must be senior courses.

Junior Courses

(numbered 1-29)
Economic and Political Science:
Economics 20; Politics 20 or Sociology 20
Geography 20
History 14, 20
Psychology 20

Senior Courses

(numbered 30-499)
Economics 30, 33, 34, 36, 37, 355
Politics 34, 42, 44, 348, 351, 452, 462
Sociology 30, 37, 40
Geography 30, 32, 36, 39, 40, 41, 43, 45, 46, 47
History 31, 33, 35, 36, 44, 354b or 356a
Psychology 30, 35, 36, 38, 39, 46, 48, 49

DIVISION C (The Natural Sciences, Mathematics, and Astronomy)

At least two courses are to be selected, one of which must be a laboratory science.

Junior Courses

(numbered 1-29)

Astronomy 29
Biological Science:
Botany 21 or Zoology 21
Botany 20
Chemistry 20
Geology 20 or 21
Mathematics 20, 23, 24
Physics 20
Physical Science:
Chemistry 21 or Physics 21
Zoology 20, 21

Senior Courses

(numbered 30-499)

Botany 31a, 32b, 33a, 36b, 43b, etc.
Chemistry 32, 33, 44, 46
Mathematics 30, 32, 35
Physics 31, 41, etc.
Zoology 30, 34, 37, 41, 43, 45

Division D (Other Subjects)

These subjects may not be used as Major or Minor subjects and not more than two courses may be counted toward a General Program degree.

Junior Courses

(numbered 1-29)

Business Administration 20
Home Economics 23, 24, 25, 26
Journalism 20
Military Studies
Religious Knowledge (in the affiliated colleges) 10x, 20x, 21x
Secretarial Science (not available for General Program 1 or 2 students; those who have transferred from the General Program with Secretarial Science options to General Programs 1 or 2 may count two of Secretarial Science 28, 29, 30, 36, 37, 38, 39)

Senior Courses

(numbered 30-499)

Business Administration 250
Journalism
Physical Education 251, 253, 258, 352, 366
Religious Knowledge (in the affiliated colleges) 30x, 31x, 32x, 37x, 40x, 42x, 43x, 44x, 47x

GENERAL PROGRAM: SECRETARIAL SCIENCE OPTIONS

Requirements for Admission: Secondary School Graduation Diploma, and Grade XIII or equivalent standing (with an average of 60%) in English, another language (French preferred), Latin or Mathematics (two papers), and three papers from Biology, Geography, History, Music, Physics, Chemistry, another language.

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

Enrolment is limited and students are admitted on the quality of their secondary school certificates. The program is available at both University and Waterloo Colleges.

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

First Year

Business 20
English 20
Health Lectures
Library Science
Physical Education
A survey course in Science
One of: French 20, German 10 or 20, Spanish 20
Secretarial Science 28, 29

Second Year

Economics 20
English 35
Philosophy 30 or Psychology 20
One of: French 33, German 20 or 30, Spanish 30, 31
Secretarial Science 30, 37, 38, 39

Third Year

One of: English 32, 36, 38, 44, 45, 49
History 31
Secretarial Science 47, 48, 49
One of: French 43, German 30, or 40, Spanish 40, 41

GENERAL PROGRAM: PRE-THEOLOGICAL OPTIONS

Requirements for Admission: Secondary School Graduation Diploma, and Grade XIII (or equivalent) standing in English; History; and six papers, including a language, from: Latin, French, German, Spanish, Mathematics (at least two of Algebra, Geometry, Trigonometry and Statics) and Science. An average of 60% is required. See also the Preliminary Year in Huron College, p. 121.

This program is open to students of any denomination and is offered in Huron College and University College.

It leads to the degree of Bachelor of Arts and is the normal requirement for admission to a three-year course in Theology. If, however, a prospective Theological student wishes to take another program leading to a General or an Honors degree, he may do so. In such a case, the student should include Greek 1x, 25x and 35x among his undergraduate options.

Course-numbers followed by "x" indicate a subject approved by the University and taught by Huron College only.

First Year

English 20
Greek Ix
History 20
Mathematics 20 or a Natural Science at the 21-29 level
Philosophy 20
Psychology 20
Health Lectures, Library Science and Physical Education

Second Year

Economics 20
English 32
Greek 25x
Philosophy 30
Religious Knowledge 30x
One of: History 31, 36, 44, Psychology 36, 46, 48, 49

Third Year

English 38
Greek 35x
Religious Knowledge 40x
One of: Philosophy 31, 36, 42, 47
Two of: Hebrew 1-10x, History 31, 36, 44
Psychology 36, 46, 48, 49

GENERAL PROGRAM: HOME ECONOMICS OPTIONS

Requirements for Admission: Grade XIII standing in English, another language, Latin or Mathematics (any two) or Music (Grade VIII Practical and Grade II Theory), Botany, Zoology, Chemistry, with an average of 60% and with a grade of 60% in each Science course.

This program may also be entered by way of the Preliminary Year which is offered by Ursuline College but not by University College.

This program, which leads to the B.A. degree in Home Economics, is offered jointly by University College and Ursuline College. University College students in the course will take all their classes at University College except in Home Economics; Ursuline College students will take all their science courses in University College. 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, if they enter the High School Assistants' Course of the Ontario College of Education, elect the supplementary course offered for Intermediate Home Economics certificates.

First Year

Botany 36b
Chemistry 32a
English 20
French 20 or German or Spanish 20
Home Economics 23x, 24x, 25x, 26x
Religious Knowledge 20x (for Ursuline College students only)
Zoology 24a
Health Lectures, Library Science and Physical Education

Second Year

Chemistry 33
Economics 20
English 32 or 36 or 38
Home Economics 30x, 31x, 32x, 33x
Psychology 20

Third Year

Chemistry 46
Home Economics 40x, 41x, 42x, 45bx, 46x, 47x, 48x

GENERAL PROGRAM: MUSIC OPTIONS

This program is available at Music Teachers' College, one of the Arts colleges of the constituent university, located in the A. E. Silverwood Building, Waterloo Street North. Students in this program will take their Arts subjects in University College.

Requirements for Admission: (1) Satisfactory results in audition test; (2) Grade XIII standing with an average of 60% in English, French, Latin or Mathematics (any two), Music (Grade VIII Practical and Grade II Theory; or Grade IV Theory), and one other paper, preferably History, or the completion of the equivalent Preliminary Year in an approved college or university.

If the Admission Committee approves, a student may be admitted conditioned in one subject.

This course offers two options: Music C or Music T. Music C is a performer's course, while Music T is a pedagogy course for private teachers and for teachers of music in the elementary and secondary schools. Students in Music T will major in instrumental or vocal performance or theory. Music T will consist also of lectures in pedagogy, repertoire, choral conducting, teaching materials and methods. Students in Music C will stress performance and will have more practice periods and correspondingly less work in pedagogy than students in Music T.

As this course is a combination of Arts subjects and Music, it is conceivable that a student might have finished the required Arts subjects without reaching the required standard in the Music courses. In such case, the required standard in music may be attained extramurally under the guidance of the College.

Both courses satisfy the academic requirements for admission to the Type B (High School Assistant) Certificate of the Department of Education of Ontario. Those students who hold, in addition to the degree of Bachelor of Arts, the diploma of Music Graduate in Pedagogy (Mus. G. Paed.) will be admitted to the High School Assistants' Course, Type A, in Vocal Music, at the Ontario College of Education. Those students who do not hold this diploma will be admitted if they make application to take the Supplementary Music Option at the Ontario College of Education, to the Elementary Vocal Option, the Elementary Instrumental Option, or both, if the instructor deems them qualified for such admission.

One subject from the options is to be continued consistently throughout the course. Students who expect to attend the Ontario College of Education should select Geography and History as their options (Geography or History in the second year).

A student who enters the University with Senior Matriculation German will do German 20, 30, 40 as his prescribed or his optional language.

First Year

English 20
French 20 or German 1
Italian 1 (prescribed for vocal students)
Music 25C or 25T
One of: Economics 20, Geography 20 History 20, Mathematics 20, Philosophy 20, Psychology 20, a second language
Health Lectures, Library Science and Physical Education

Second Year

English 32
French 30 or German 10
Italian 10 (prescribed for vocal students)
Music 35C or 35T
Two of: Economics 30, Geography 35, History 36, Mathematics 24, Philosophy 30, Politics 32, Psychology 20 or 36, a second language

Third Year

English 36
French 40 or German 20
Music 45C or 45T
For vocal students, one of the following options; for all other students, two options:
Economics 46, Geography 45, History 31, 44, Italian 20 or another language, Philosophy 35 or 48, Politics 42, Psychology 20 or 49

DEGREE PROGRAMS IN NURSING

Leading to the degree of Bachelor of Science in Nursing (B.Sc.N.)

PROGRAM A

Requirements for Admission: Secondary School Graduation Diploma and Grade XIII (or equivalent) standing in English, another language (French preferred) Latin or Mathematics (any two of Algebra, Geometry, Trigonometry and Statics), Botany, Chemistry and Zoology, with an average of 60%, and with 60% in each Science Course.

Part A: One academic year in the Faculty of Arts and Science:

Botany 36b
Chemistry 32a
Sociology 20
English 20
A second language at the 20 level
Psychology 20
Zoology 24
Health, Library Science and Physical Education

Part B: The completion of Diploma requirements in a Hospital School of Nursing where there is a course that is in all its details approved by a Committee of which the Dean of the School of Nursing is a Convener.

Part C: One academic year in the Graduate Division of the School of Nursing of this University. The student may choose the Public Health Nursing or the Nursing Education or the Nursing Service Administration option. She must inform the Dean of the School of Nursing by June 30th of the option she has chosen for her final year's work.

No conditions may be carried from Part A to Part B, or from Part B to Part C of this program, without the written permission of both the Dean of the School of Nursing and the University Registrar.

PROGRAM B

For Registered Nurses only.

Requirements for Admission: Secondary School Graduation Diploma and Grade XIII (or equivalent) standing in English, one language (preferably French), and any five additional papers. Equivalent standing includes first year college courses available for adult special students over twenty-one years of age.

Proof of graduation from a hospital School of Nursing in which the program of education and clinical experience is approved by a committee of which the Dean of the School of Nursing is Convener.

Proof of registration as a graduate nurse in good standing.

The completion of one academic year in one of the specialized professional programs (Public Health Nursing or Nursing Education or Nursing Service Administration) in this University School of Nursing. Applicants who hold certificates or diplomas of specialized professional study at another University are required to complete one term (or semester) or its equivalent of study in this University's School of Nursing in addition to the Arts and Science subjects of the degree program.

English 20
A second language at the 20 level
Physical Science 21 (Chemistry section) or Zoology 21
Library Science, and
Physical Education

Three options from: English 36 or 38 (if English 20 has been passed), Geography 20, History 36, 31, Journalism 20, 260, 355, 460, Philosophy 42, Politics 42, Psychology 20, 48, 49, Sociology 20, 30, 38

PREMEDICINE

Requirements for Admission: Grade XIII standing in English and Mathematics (Algebra and Geometry), French or German or Latin, Chemistry and Physics, Botany or Zoology or Trigonometry and Statics, with an average of 60%.

This University is not merely offering a training in Medicine as a technology, nor is it requiring a full academic degree for admission to Medicine. In common with most universities it has adopted a compromise course, which insists on some cultural background.

First Year

Chemistry 20
English 20
Health Lectures
Library Science
Physical Education
Physics 20
Zoology 20

Two options from:
- Botany 20
- Economics 20
- Geography 20
- History 36
- Mathematics 24
- Philosophy 20
- Politics 20
- Sociology 20

Second Year

Chemistry 203M, 204M
English 33M
Mathematics 35
Physics 204M
Psychology 30
Zoology 200M

One option from:
- Botany 31a, 36b (to follow 20)
- Economics 30 or 33 (to follow Economics 20)
- Geography 30 (to follow 20)
- History 31 (to follow 36)
- Philosophy 30 (or another senior Philosophy option)
- Physics 251 (if Math. 24 is complete)
- Sociology 30 (to follow 20)
- Politics 42 (to follow Politics 20)

On the completion of this program, those accepted by the Admission Committee of the Faculty of Medicine must be prepared to register with the College of Physicians and Surgeons, and to submit a birth certificate for this purpose.

Any students who are not accepted for admission to Medicine proper may proceed, if their records are satisfactory, to one of the Honors Science courses, or to the General Course with Science options. On completion of the Honors third year or the General Course this year, they may again apply for admission to the Faculty of Medicine.

Please see the Announcement of the Faculty of Medicine for the four years of Medicine proper, leading to the M.D. degree.

Honors Programs

The first year of an Honors Program is Junior Group 1 or 2.

The length of an Honors Program is four years past Grade XIII or equivalent standing.

The Honors Programs in Biology, Chemistry, Chemistry and Physics, Geology, Geophysics, Physics, and Radio Physics lead to the degree of Bachelor of Science (B.Sc.). The other Honors Programs lead to an Honors Bachelor of Arts degree (B.A.).

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

A student expecting to enter an Honors Program should consult that program before selecting his options in Junior Group 1 or 2.

ASTRONOMY

Requirements for Admission: Group 1, with an average of 60% in the Science and Mathematics subjects, and at least 60% in Mathematics 24. Leads to the B.A. degree.

Second Year

Astronomy 229
Mathematics 250, 256
Physics 250, 254, 255

Third Year

Applied Mathematics 1
Astronomy 359
Physics 350

Two additional mathematics or physics courses, at the 300 or 400 level.

One course from Division A or B.

Fourth Year

Astronomy 459

Two of: Physics 454, 455, 457

Two additional courses, at the 300 or 400 level, from mathematics, physics, geophysics, or chemistry.

One course from Division A or B.

Selection of options is subject to the approval of the Department of Mathematics.

This Program may be accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, Mathematics, provided Algebra, Geometry, Trigonometry and Statics have been completed in Grade XIII.

Students who plan to continue into graduate studies are advised to begin work in a second foreign language in the third year, if they have not done so earlier.

BIOLOGY

Requirements for Admission: Group 1, with an average of at least 60% in the Science subjects, and not less than 60% in Botany 20 and 60% in Zoology 20.

This program satisfies the academic requirements for the High School Assistant's Certificate, Type A, Science, of the Department of Education of Ontario.

Second Year

Botany 250
Chemistry 200
German 5 or Russian 1
Mathematics 35
Physics 204
Zoology 250
One of: Economics 20
English 32 or 35
Philosophy 20
Psychology 30

Third Year

For admission to the Third Year an average of 60% in the Biology of the Second Year, and an average of 60% in all other subjects, is required.

Botany 352a
Chemistry 303
German 15 or Russian 10
Zoology 337, 350
Three of: Botany 354, 361, Zoology 354, 360b

Fourth Year

For admission to the Fourth Year an average of 60% in the Biology of the Third Year and an average of 60% in all other subjects is required.

(a) Botany Option

Botany 453a, 453b or 454b, 460, 461a, 466b, 452 (optional)
Chemistry 406
French 45
German 45 or Russian 45
Zoology 455

(b) Zoology Option

Botany 453a or 453b or 466b
Chemistry 406
French 45
German 45 or Russian 45
Zoology 452, 453, 454, 455, 456, 460
One of: Zoology 462, 470

BUSINESS ADMINISTRATION

Requirements for Admission: Group 2 with at least 60% in Economics and 60% in Business.

This program leads to a Bachelor of Arts degree in Honors Business Administration.

Credit is given by the Institute of Chartered Accountants and by the Certified Public Accountants Association of Ontario for work done in this course.

Second Year

Business 250 (Accounting)
English 35
Two of:
Economics 230, 257 ,333, 346
Politics 234, 242, 344
Geography 239

Two courses (or the equivalent) from English 32, 36, 38, French 20, 30, 33, 43, History 31, 35, 44, Philosophy 30 or 32, Psychology 20, 49, Spanish 20, 30, 31.

Third Year

Admission to the Third Year (in the School of Business Administration) is by permission of the Dean. 60% in Business 250 and an average of 60% in the other subjects of the Second Year are required, without conditions in any subjects of the first two years, unless exceptional circumstances are given exceptional treatment by the Dean.

Information concerning Graduate Courses in Business Administration and additional information concerning undergraduate courses will be found in the School of Business Administration Announcement. A copy may be obtained from the Registrar on request.

BUSINESS ADMINISTRATION AND SECRETARIAL SCIENCE

Requirements for Admission: Group 2, with at least 60% in Economics 20 and Business 20.

This program, with the addition of Penmanship and Methods, satisfies the academic requirements for the High School Assistant's Certificate, Type A, Commercial Subjects, of the Department of Education of Ontario.

Second Year

Business 250 (Accounting)
Geography 39
Economics 257, 333
Secretarial Science 28, 29, 36

Third Year

For admission to the Third Year an average of 60% in Second Year Business and Secretarial Science is required, and an average of 60% in all other subjects.

Business 351 (Marketing) and 357 (Control)
English 35
Secretarial Science 37, 38, 39

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Business and Secretarial Science of the Third Year, and an average of 60% in all other subjects.

Business 456 (Commercial Law and Documents of Commerce) and 460b (Auditing)

Economics 46 or English 32, 36, 38, 44, 45, 49, History 36, 31 or 44 or Philosophy 30, Secretarial Science 47

Students who do not wish to qualify for the High School Assistant's Certificate, Type A, Commercial Subjects, may substitute for Business 460b either Business 461 (Retailing) or 471 (Advertising).

CHEMISTRY

Requirements for Admission: Group 1, with an average of at least 60% in Science and Mathematics courses and not less than 60% in Chemistry, and an average of 60% in Physics and Mathematics.

This program satisfies the academic requirements for the High School Assistant's Certificate, Type A, Chemistry and Physics, of the Department of Education of Ontario, if Botany and Zoology are selected in Group 1 and either Botany or Zoology in the second year. It leads to the degree of B.Sc.

Second Year

Chemistry 200, 251, 252, 253
French 10 or German 5 or Russian 1 or Spanish 1

Physics 255
Botany 250 or Geology 261 or Math. 277 or Zoology 250

Third Year

For admission to the Third Year an average of 60% is required in the Chemistry of the Second Year, and an average of 60% in all other subjects.

Chemistry 351, 353, 354
German 15 or Russian 10 or Spanish 10

Physics 254
English 35 or Philosophy 32

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Chemistry of the Third Year, and an average of 60% in all other subjects.

Chemistry 451, 452, 453, 454, 458, 359
Physics 456 or Chemistry 406

Two of: French 45, German 45, Russian 45, Spanish 45

CHEMISTRY AND PHYSICS

Requirements for Admission: As for Honors Chemistry.

This program satisfies the academic requirements for the High School Assistant's Certificate, Type A, Physics and Chemistry, of the Department of Education of Ontario. It leads to the degree of B.Sc.

Second Year

Chemistry 200, 252, 253
French 10 or German 5 or Russian 1 or Spanish 1
Mathematics 277
Physics 251, 254, 255

Third Year

For admission to the Third Year an average of 60% is required in the Chemistry and Physics of the Second Year, and an average of 60% in all other subjects.

Chemistry 351, 353, 354
German 15 or Russian 10 or Spanish 10
Mathematics 377 or Physics 250 or 351
Physics 353, 366

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Chemistry and Physics of the Third Year, and an average of 60% in all other subjects.

English 44, or Philosophy 32
Two of: French 45, German 45, Russian 45, Spanish 45
Chemistry 458 and 459, or Physics 458 and 459
Any five of the following: Chemistry 451, 452, 453, 454, Physics 454, 455, 456, 457

CLASSICS

Requirements for Admission: Group 2, with an average of 60% in Latin 20 and 60% in Greek 20. This program satisfies the academic requirements for the High School Assistant's Certificate, Type A, Classics, of the Department of Education of Ontario.

Second Year

English 32
French 20 or German 20 or Hebrew 20
Greek 230, 250, 251
History 257
Latin 230, 250, 251

Third Year

For admission to the Third Year an average of 60% is required in the Greek and Latin of the Second Year, with 60% in English.

English 45
Greek 340, 350, 351, 352
Latin 340, 350, 351, 352

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Greek and Latin of the Third Year, with 60% in English.

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

ECONOMICS

Requirements for Admission: Group I or Group 2 with an average of 60%, and 60% in Economics 20 if taken. If Economics 20 is not taken in the Junior Group, it must be taken in the second year and a mark of at least 60% obtained. If Economics 20 is taken in the second year, Economics 230 must be deferred until the third year. It is recommended that a course in Mathematics, approved by the Department of Economic and Political Science be taken as early as possible.

To graduate with an Honors degree, a student must have taken at least one course in Sociology and one course in Politics. Leads to the degree of B.A.

Second Year

Economics 230, 237
Business 250 or Math. 20 or 24

Three courses in subjects other than Economics approved by the Department of Economics

Third Year

For admission to the Third Year an average of 60% is required in the Economics courses of the Second Year, and an average of 60% in all other subjects.

Economics 333, 350, 355
One of: Economics 334, 336, 351a and 351b, 363, 447, 453, 455.

Two courses in subjects other than Economics approved by the Department of Economics

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Economics courses of the Third Year and an average of 60% in all other subjects.

Economics 440, 460, 480

Two of: Economics 334, 336, 351a and 351b, 363, 447, 453, 455. (Not all of these are offered in any one year.)

ECONOMICS AND POLITICAL SCIENCE

Offered only to students enrolled in this program prior to July 1, 1959.

Third Year

For admission to the Third Year an average of 60% is required in the Economics courses of the Second Year, and an average of 60% in all other subjects.

Economics 333, 355
Three courses (or the equivalent) from: Economics 334, 336, 351a, 351b, 363, 440, Politics 234, 242, 348, 351a, 351b, Sociology 330, 338
Two courses from: Politics 234, 242, 348, 351a, 351b, Sociology 338, Business 351 (Marketing), 354 (Production Management), English 44, French 30, 33, Geography 39, German 20, 30, History 31, 36, 44, 257

Options (continued):
Mathematics 20, 24, 33, 230, 350, 355, Philosophy 31, 44, Psychology 20 or 46, Spanish 20, 30, 31, another option approved by the Dept. of Economics.

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Economics courses of the Third Year and an average of 60% in all other subjects.

Economics 350, 453, 460
Politics 234 or 452
Two courses (or the equivalent) from: Economics 447, 455, 480, Geography 45, Politics 344, 348, 462, Sociology 440, 478

Options (continued):
Mathematics 355, 455, Psychology 48, 49, other options approved by the Department

ENGINEERING SCIENCE

Requirements for Admission: Grade XIII or equivalent standing in English, another language, Algebra, Geometry, Trigonometry and Statics, Physics and Chemistry, with an average of 60%, and with an average of 66%, preferably, in the mathematical and science subjects.

The program in Engineering Science is designed to provide the academic basis for the profession of engineering. Emphasis is placed on the study of mathematics, physics, chemistry, the engineering sciences, and the analysis and synthesis of engineering systems and structures.

The program leads to the degree of Bachelor of Engineering Science (B.E.Sc.).

The size of the first year class is limited, and selection will be made according to the qualifications of the applicants.

First Year

Chemistry 20
Engineering Science 20, 21
English 20
Geology 20
Mathematics 27
Physics 20
Health Lectures, Library Science and Physical Education

Second Year

Chemistry 200
Economics 20
Engineering Science 200, 201, 202, 203, 204, 205
Mathematics 277
Physics 254, 255

Third Year

One option in the humanities or the social sciences
Engineering Science 300, 301, 310, 311, 313
Mathematics 377
One of the following groups of courses:
Group A:
Chemistry 351, 353
Engineering Science 304, 305, 306, 314

Group B:
Engineering Science 304, 307, 308, 309

Group C:
Engineering Science 302, 303
Physics 356, 359 (part)

Group D:
Engineering Science 303, 307
Physics 356, 359 (part)

Fourth Year

One option in the humanities or the social sciences
Engineering Science 411, 412, 413
One of the following groups of courses:
Group A:
See a separate sheet.
Group B:
Engineering Science 403, 407, 408, 409, 416
Group C:
Engineering Science 404, 405, 406
Physics 476, 477, 479 (part)
Group D:
Engineering Science 400, 401, 402, 403, 410

ENGLISH AND FRENCH

Requirements for Admission: Group 2, with 60% in English 20 and in French 20.

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

Second Year

English 254, 270, 280
French 270, 271
Greek 29
German 290 or Latin 230, 250, or Spanish 230 or 340, 231

Students who begin Spanish in the University will take Spanish 20 in the second year and defer Greek 29 and Spanish 231 until the third year.

Third Year

For admission to the Third Year an average of 60% is required in the English and French of the Second Year, and an average of 60% in all other subjects.

English 356, 360, 373
French 380, 381
One of: History 35 or 36, Philosophy 31 or 35, Psychology 20 or 49

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and French of the Third Year, and an average of 60% in all other subjects.

English 459, 480; 436 or 438
French 450, 490, 491, 499

ENGLISH AND GERMAN

Requirements for Admission: Group 2, with at least 60% in English 20 and in German 20. History 20 must be chosen as an option in the Junior Group.

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

Second Year

English 254, 270, 280
German 290, 291
History 36

One of: French 270, Greek 20, Latin 230, 250, Politics 32, Russian 10, Spanish 20 or 230

Third Year

For admission to the Third Year an average of 60% is required in the English and German of the Second Year and an average of 60% in all other subjects.

English 356, 360, 373
German 333, 390, 391

One of: Economics 20, French 380, Latin 340, or 350, 352, Greek 30, Philosophy 30, Russian 20, Spanish 230 or 340

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and German of the Third Year, and an average of 60% in all other subjects.

English 459, 480; and 436 or 438

German 420, 480, 481

ENGLISH AND HISTORY

Requirements for Admission: Group 2, with 60% in English 20 and in History 20. Students are strongly advised to take a course in Philosophy in their first or second year.

This program is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, in English and History, provided that the student takes English 373 and two courses in Geography. These three courses could be taken in the second and third years.

Second Year

English 254, 280
History 236, 257

One foreign language option
Economics 20 or Philosophy 30 or a second language or a social science course

Third Year

For admission to the Third Year an average of 60% is required in the English and History of the Second Year, and an average of 60% in all other subjects.

English 32, 356
History 35, 331
A foreign language option

A social science course or a second language
Another option approved by all the Departments concerned

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and History of the Third Year, and an average of 60% in all other subjects.

English 438, 459, 480

History 444, 452, 460

ENGLISH AND LATIN

Requirements for Admission: Group 2, with 60% in English 20 and 60% in Latin 20.

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

Second Year

English 254, 270, 280
Greek 29
History 257
Latin 230, 250, 251
French 270 or Greek 20 or Greek 230 and 250 or German 20 or 290

Third Year

For admission to the Third Year an average of 60% is required in the English and Latin of the Second Year, and an average of 60% in all other subjects.

English 356, 360, 373
History 35
Latin 340, 350, 351, 352

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and Latin of the Third Year, and 60% in History.

English 459, 480; and 436 or 438
Latin 450, 451, 452, 453

ENGLISH AND PHILOSOPHY

Requirements for Admission: Group 2 (including History), with 60% in English 20 and 60% in French 20 or German 20 or Latin 20.

Sequence B is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, English. For this certificate, French is the language preferred by the Department of Education.

Sequence A

Second Year

English 254, 270
Philosophy 230, 231
Two otions aproved by the Heads of the two major Departments

Third Year

For admission to the Third Year an average of 60% is required in the English and Philosophy of the Second Year, and an average of 60% in all other subjects.

English 356, 360
Philosophy 336, 347
Two options, to be selected as in the Second Year

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and Philosophy of the Third Year, and an average of 60% in all other subjects.

English 280, 459, 480

Philosophy 457, 448, and one of: 443, 456, 462, 466

Sequence B

Second Year

English 254, 270, 280

Philosophy 230, 231

French 270, 271, or German 290, 291 or Latin 230, 251

Third Year

For admission to the Third Year an average of 60% is required in the English and Philosophy of the Second Year, and an average of 60% in all other subjects.

English 356, 360, 373

French 380 or German 390 or Latin 340, 250

Philosophy 347, 335

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English and Philosophy of the Third Year, and an average of 60% in all other subjects.

English 459, 480; and 436 or 438

Philosophy 336, 457, 448

ENGLISH LANGUAGE AND LITERATURE

Requirements for Admission: Group 2, with 60% in English 20 and an average of 60% in History 20, Geography 20 and a foreign language, or an average of 60% in the two languages taken. The student who has History 20 and Geography 20 will enter Sequence A; the student with two languages in the Junior Group will enter Sequence B. Philosophy 20 is strongly advised as a Junior Group option.

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

Second Year

English 254, 270, 280

Greek 29 or English 441 or English 45a

History 36

Sequence A:

History 257 and French 30 or German 30 or Latin 30 or Greek 30

Sequence B:

Two of: French 270, German 290, Latin 230, 250, Greek 230, 250

Third Year

For admission to the Third Year an average of 60% is required in the English of the Second Year, and an average of 60% in all other subjects.

English 356, 360, 373, 436

Sequence A:
History 31 or 35
Geography 35

Sequence B:
French 380, or German 390, or Latin 340, 352, or Greek 340, 352
One of: History 31, History 35, Philosophy 30, Geography 35, Geography 45, French 48, or an Honors course in a second foreign language.

Fourth Year

For admission to the Fourth Year an average of 60% is required in the English of the Third Year, and an average of 60% in all other subjects.

English 438, 459, 463, 470, 480

Sequence A:
History 460

Sequence B:
French 490, or German 480, or Latin 450, 452, or Greek 452

FRENCH AND LATIN

Requirements for Admission: Group 2, with at least 60% in French 20 and 60% in Latin 20.

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

Second Year

English 35
French 270, 271

German 20 or Greek 20
Latin 230, 250, 251, 257

Third Year

For admission to the Third Year an average of 60% is required in the French and Latin of the Second Year, and an average of 60% in all other subjects.

French 380, 381
German 30 or Greek 30
Greek 29

One of: English 49, History 35, 36, Philosophy 31, 35, Psychology 20, 49
Latin 340, 350, 351, 352

Fourth Year

For admission to the Fourth Year an average of 60% is required in the French and Latin of the Third Year, and an average of 60% in all other subjects.

French 450, 490, 491, 499

Latin 450, 451, 452, 453

GEOGRAPHY

Requirements for Admission: Group 1 or Group 2, with an average of at least 60% in the subjects taken.

This program is accepted by the Department of Education of Ontario as academic qualification for the High School Assistant's Certificate, Type A, Geography, providing the following options are selected: Mathematics 29, History 20, 36 and two of History 31, 33, 35, 44. It leads to a Bachelor of Arts degree.

Second Year

Geography 20, 239
Mathematics 35 or 29
One course from Economics, History, Mathematics, Sociology
Sequence A: (Follows Group 1)
Economics 20
German 5 or Russian 1 or Spanish 1
Psychology 30

Sequence B: (Follows Group 2)
Two Junior Group Science Subjects not selected previously
Philosophy 30 or one additional year's work in a modern foreign language.

Anyone who has taken Geography 20 (with 66%) in Junior Group 2 may take Geography 330 in the Second Year.

Third Year

Geography 330
332
336
one of 441 or 443

Two senior options chosen from: English, Geology, History, Mathematics, Politics, Sociology or one additional year's work in a modern foreign language or the beginning work in a second foreign language.

Anyone who has taken Geography 330 in the Second Year may take Geology 367 in the Third Year.

Students who intend to continue into Graduate Studies are advised to begin work in a second foreign language in the Third Year, if they have not done so earlier.

Fourth Year

Geography 445, 441 or 443
Any two of: 440, 446 (one section), 447, 450

Geology 367
One of: German 45, French 45, Spanish 45, Russian 45

Anyone who has taken Geology 367 in the Third Year may take an additional Geography option or the second year of a modern foreign language.

GEOLOGY

Requirements for Admission: Group 1, or First Year Engineering Science, with an average of 60% in the Science subjects and not less than 60% in Geology 20.

This program leads to a Bachelor of Science degree.

Consult the department head regarding options in the various years.

During the second week of the first term, the department will conduct a field trip of one week's duration, in which all Third and Fourth Year students are required to participate. The cost of each trip will not exceed fifty dollars, it is hoped.

Second Year

Chemistry 200
Geology 251, 256, 263
German 5 or Russian 1
Physics 204
One of: Botany 20, Mathematics 254, Zoology 250

Third Year

For admission to the Third Year an average of 60% is required in the Geology of the Second Year, and an average of 60% in all other subjects.

Business 20 or Economics 20 or Philosophy 30 or Sociology 30
Geography 30
Geology 351, 354, 355, 363, 365, 367
German 15 or Russian 10

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Geology of the Third Year, and an average of 60% in all other subjects.

French 45
Geology 458, 460
Three of: Geology 452, 454, 463, 465
One of: Philosophy 31, Politics 32, Psychology 30 or any non-science option not taken in the third year.

GEOPHYSICS

Requirements for Admission: Group 1, including Geology 20 and Mathematics 24, with 60% in Mathematics, 60% in Physics, and an average of 60% in all the Mathematics and Science subjects. This program leads to the degree of B.Sc.

Second Year

Geology 261
German 5
Mathematics 230, 254
Physics 250, 251, 254, 255

Third Year

For admission to the Third Year an average of 60% is required in the Honors Courses of the Second Year, and an average of 60% in all other subjects.

Chemistry 200
Economics 20
Geology 351
German 15
Physics 350, 353, 356, 359

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Honors Courses of the Third Year and an average of 60% in all other subjects.

French 45
Geology 452, 355, 465
German 45
Philosophy 30
Physics 351, 455, 456, 458

HISTORY

Requirements for Admission: Group 2, with 60% in History 20 and an average of 60% in English, one other language and either Economics or a second language.

This program is accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A. History, if the following options are taken: Economics 20, Geography 20, Geography 335, Geography 445.

Second Year

Two of: Philosophy 30, Economics 20, English 32
History 236, 257
Two of: French 30 or 40, German 30, Greek 30, Latin 30, Spanish 30 or 40, Geography 20

Third Year

Geography 335 or Politics 234 or Economics 333, or Economics 237
History 35, 331, 333, 356
One of: English 32, 36, 38, 44, 45, 49, or a literature course in another language.

Fourth Year

History 444, 452, 455 or 460
Two of: Politics 234, 242, 452, Economics 237, 333, Geography 445, English 36, 38, 44, 45, 49, or a literature course in another language.

HISTORY AND PHILOSOPHY

Requirements for Admission: Group 2, with an average of 60%, and with 60% in History 20 and Philosophy 20. The consent of the Heads of the Departments of History and Philosophy is also required.

Second Year

History 236, 257
One course in English
One option (History 20 if not taken previously)
Philosophy 230, 231

Third Year

For admission to the Third Year an average of 60% is required in the History and Philosophy of the Second Year and an average of 60% in all other subjects.

History 35, 331
Two options (to be approved by the two Departments).

Philosophy 336, 347

Fourth Year

For admission to the Fourth Year an average of 60% is required in the History and Philosophy of the Third Year and an average of 60% in all other subjects.

History 444, 460
One of: History 333, 452

Three of: Philosophy 335, 443, 448, 456, 457, 462, 466

JOURNALISM

Requirements for Admission: Group 2 with Journalism 20 (60%), Economics 20 and Philosophy 20. Leads to the B.A. degree.

Students following B sequence must elect a subject of concentration within one department, with the written permission of the head of that department. Students shall complete at least five courses offered by that department, at least three of them at Honors level. B sequence students may revert to A sequence at the end of the second year, but students continuing in B sequence may not change their subject of concentration.

Transfer students from other colleges or courses must include Journalism 20 in the second year of the Honors course if it has not been taken previously; 60% is required in it.

Optional courses must be approved by the Journalism department. Courses within the B sequence subject of concentration must be approved by the department concerned and by the Journalism department.

Second Year

Journalism 250, 260, 270
Politics 32
Psychology 20
English 35 (or an Honors course if English is the subject of concentration)

Sequence A or Sequence B

Sequence A:
Business 20 or Sociology 20

Sequence B:
One course in subject of concentration

Third Year

For admission to the Third Year, an average of 60% is required in the Honors subjects, and an average of 60% in all other subjects.

Journalism 351, 355, 365, 375
History 31 or 331
Politics 42
Sequence A or Sequence B

Sequence A:
Geography 239
An optional course

Sequence B:
Two courses in subjects of concentration (at least one to be at Honors level)

Fourth Year

For admission to the Fourth Year, an average of 60% is required in the Journalism subjects of the Third Year, and an average of 60% in all other subjects.

Politics 351b
History 44 or 444
Journalism 451, 455, 460
Sequence A or Sequence B

Sequence A:
History 36
Two courses of options
Sequence B:
Two Honors courses in subject of concentration

DIPLOMA PROGRAM 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 do special assignments in reporting, writing and editing.

An average of 60% in this one-year program is required for the Diploma. Journalism 260, 351, 355, 365, 375, 400, 455, 460

MATHEMATICS

Requirements for Admission: Group 1, with an average of 60% in the Science and Mathematics subjects, and at least 60% in Mathematics 24; or Group 2, with at least 60% in Mathematics 20. Leads to the B.A. degree.

Second Year

Mathematics 250, 256

Three options, not previously selected, at least one of which must be from Division A or B.

Third and Fourth Years

In the Third and Fourth Years, a student may select one of three sequences:

PURE MATHEMATICS

Third Year

Mathematics 350, 351, 356
One additional mathematics course at the 300 or 400 level
One course from Division A or B

Fourth Year

Mathematics 450, 452, 456
Two additional mathematics courses at the 400 level

ACTUARIAL MATHEMATICS

Third Year

Mathematics 353, 355, 356
One additional mathematics course at the 300 or 400 level
One course from Division A or B

Fourth Year

Mathematics 463
Two of' Mathematics 450, 452, 455, 456, 460
Two additional mathematics courses at the 300 or 400 level, one of which must be Mathematics 363 (if not taken previously)

MATHEMATICAL STATISTICS

Third Year

Mathematics 355, 356
Two additional mathematics courses at the 300 or 400 level
One course from Division A or B

Fourth Year

Mathematics 445, 455
One of: Mathematics 450, 452, 456, 460
Two additional mathematics courses at the 300 or 400 level

Selection of options is subject to the approval of the Department of Mathematics.

Each of the foregoing Programs may be accepted by the Department of Education of Ontario as the academic qualification for the High School Assistant's Certificate, Type A, Mathematics, provided Algebra, Geometry, Trigonometry and Statics have been completed in Grade XIII.

The Actuarial Mathematics Program will prepare students to write the three Preliminary Actuarial Examinations, prepared by ths Educational Testing Service, and also to write Parts 4A and 4B of the Actuarial Examinations. These examinations are held about May 15th and may be written in London.

Applications to write the examinations must be received not later than April 1.

Students who plan to continue into graduate studies are advised to begin work in a second foreign language in the second year of the selected program.

MODERN LANGUAGES AND LITERATURES

Requirements for Admission: Group 2, with at least 60% in French 20 and in German or Spanish.

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

Second Year

English 35
French 270, 271
German 290, 291 or Spanish 230 or 340, 231, 260
Greek 29
At least one course in a foreign language not chosen as a major.

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 and Greek 29 until the Third Year.

Third Year

For admission to the Third Year an average of 60% is required in the French and in the German or Spanish of the Second Year, and an average of 60% in all other subjects.

French 380, 381
German 333, 390, 391 or Spanish 340 or 230, 341, 365
One of: English 49, History 35, 36, Philosophy 31, 35, Psychology 20, 49
At least one course in the minor foreign language of the Second Year

Fourth Year

For admission to the Fourth Year an average of 60% is required in the French and in the German or Spanish of the Third Year, and an average of 60% in all other subjects.

French 450, 490, 491, 499
German 420, 480, 481 or Spanish 455, 460, 461, 465
One course in the minor foreign language continued from the Third Year

PHILOSOPHY

(This program is offered in University College only.)

Requirements for Admission: The completion of any Junior Group or of the first year of the General Program: Pre-Theological Options with at least 60% in English and 60% in each of five other subjects.

Second Year

English 32 or 38 or History 257
A Natural Science 21 not chosen previously
Philosophy 230, 231
At least two courses from options approved by the Department of Philosophy

Third Year

For admission to the Third Year an average of 60% is required in the Philosophy of the Second Year, and an average of 60% in all other subjects.

Philosophy 336, 347
Philosophy 335, or 350
A course in Psychology
Two courses from options approved by the Department of Philosophy

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Philosophy of the Third Year, and an average of 60% in all other subjects.

Philosophy 443, 448, 456, 457, 462, 466
One course from options approved by the Department of Philosophy

PHILOSOPHY AND PSYCHOLOGY

Requirements for Admission: Group 2, with an average of 60%. The consent of the Heads of the Departments of Philosophy and Psychology is also required.

Second Year

Philosophy 230, 231
Zoology 30 (or 21, if not qualified to register in 30)
Psychology 236, 349
One option (Psychology 20 must be *elected if not taken previously*)

Third Year

For admission to the Third Year an average of 60% is required in the Philosophy and Psychology of the Second Year and an average of 60% in other subjects.

Students who plan to continue into graduate studies are advised to begin work in a second foreign language in the third year of this course, if they have not done so earlier.

Philosophy 336, 347
Psychology 337, 338, 355
One option

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Philosophy and Psychology of the Third Year and 60% in the option.

Psychology 444, 448, 459
Any three of: Philosophy 335, 443, 448, 456, 457, 462, 466

PHILOSOPHY AND SOCIOLOGY

Requirements for Admission: Group 2, with an average of 60%. The consent of the Heads of the Departments of Philosophy and Economic and Political Science is also required.

Second Year

Philosophy 230, 231
Economics 237
Politics 20
Sociology 330
One of: English 32, 36, 38

Third Year

For admission to the Third Year an average of 60% is required in the Economics, Philosophy, Politics and Sociology of the Second Year. 60% is required in the English course selected.

Philosophy 336, 347
History 36
Psychology 30
Sociology 440
Economics 333 or Politics 334

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Economics (or Politics), Philosophy and Sociology of the Third Year. An average of 60% must be obtained in other courses.

Students who plan to continue into graduate studies are advised to begin work in a second foreign language, if they have not done so earlier.

Philosophy 448, 462
Politics 452
Psychology 49
Sociology 478
One option

PHYSICAL AND HEALTH EDUCATION

Requirements for Admission: Group 2, with an average of 60% in the subjects taken in the University. Psychology 20 must be selected in Group 2, and Zoology 21 should be selected if Botany and Zoology have not been studied successfully in Grade XIII. Leads to the B.A. degree.

This program 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

English 35
English 39
Psychology 36
Zoology 24
Physical and Health Education 251, 253, 258
One optional course beginning a field of concentration in the Humanities, the Social Sciences, or the Natural Sciences, to be approved by the Head of the Department.

Third Year

For admission to the Third Year, an average of 60% is required in the Honors courses of the Second Year, and an average of 60% in all other subjects.

Normal Nutrition (Home Economics) 31x (lectures only)
One of: Sociology 20, Psychology 49, Philosophy 30
Physical and Health Education 351, 352, 354, 366
First Aid (if not taken previously)
Two optional courses approved by the Head of the Department

Fourth Year

For admission to the Fourth Year, an average of 60% is required in the Honors subjects of the Third Year, and an average of 60% in all other subjects.

Physical and Health Education 451, 453, 454, 456, 457
Two optional courses approved by the Head of the Department

PHYSICS AND MATHEMATICS

Requirements for Admission: Group I or First Year Engineering, with an average of 60% in the Science and Mathematics subjects, and at least 60% in Mathematics and 60% in Physics. Leads to the degree of B.Sc.

This program 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.

Second Year

One of: German 5, Russian 1, Spanish 1
Mathematics 250, 256
Physics 250, 251, 254, 255

Third Year

For admission to the Third Year an average of 60% is required in the Honors courses of the Second Year, and an average of 60% in all other subjects.

One of: German 15, Russian 10, Spanish 10
Mathematics 356
Physics 350, 353, 356, 359
One of Physics 351 or Math. 378

Fourth Year

For admission to the Fourth Year, an average of 60% is required in the Mathematics and Physics of the Third Year, and an average of 60% in all other subjects.

French 45
One of: German 45, Russian 45, Spanish 45
Physics 454, 455, 456, 457, 458, 459
One of: Economics 20, English 32 or 35, Psychology 30, Philosophy 31 or 32

RADIO PHYSICS

Requirements for Admission: Group I or First Year Engineering, with an average of 60% in the Science and Mathematics subjects, and at least 60% in Mathematics and 60% in Physics. Leads to the degree of B.Sc.

This program 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.

This program is intended to provide students with the type of background that will fit them to occupy responsible technical positions in all branches of the radio industry, and in electronic laboratories for development and research. It also serves as a sound preparation for graduate study in other branches of physics.

Second Year

One of: German 5, Russian 1, Spanish 1
Mathematics 250, 256
Physics 250, 251, 254, 255

Third Year

For admission to the Third Year an average of 60% is required in the Honors courses of the Second Year, and an average of 60% in all other subjects.

One of: German 15, Russian 10, Spanish 10
Mathematics 356

Physics 370, 376, 377, 379
One of: Physics 351, Mathematics 378

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Honors courses of the Third Year, and an average of 60% in all other subjects.

French 45
One of: German 45, Russian 45, Spanish 45

Physics 455, 456, 457, 458, 476, 477, 479
Physics 476 or Mathematics 478

POLITICS

Requirements for Admission: Group 2, with an average of 60%, and 60% in Economics 20 and Politics 20 if taken. If Economics 20 and Politics 20 are not taken in Group 2, they must be taken as options in the second year and a mark of at least 60% obtained in each.

Second Year

Politics 234, 242
History 331, 35

Two of: English 35, Philosophy 42, Economics 230, 237, Sociology 220, Psychology 20, Geography 20 or other options approved by the Department

Third Year

For admission to the Third Year an average of 60% is required in the Politics courses of the Second Year, and an average of 60% in all other subjects.

Politics 344, 348
History 444

Three of: History 236, 257, Philosophy 231, Economics 333, 350, 351, Sociology 338, Psychology 349, or other options approved by the Department

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Politics courses of the Third Year, and an average of 60% in all other subjects.

Politics 480
Two of: Politics 351, 452, 462

Two of: History 333, 452, 462, Economics 334, 447, or other options approved by the Department

PSYCHOLOGY

(This program is offered in University College only)

Requirements for Admission: Group 1 or 2, with an average of at least 60%. Zoology should be selected as an option in the Junior Group.

Second Year

English 35
Philosophy 30
Psychology 234, 235, 236
One other course approved by the Department of Psychology
Zoology 30 (21 must be taken instead, if Zoology has not been completed in the Junior Group, or in Grade XIII).

Third Year

For admission to the Third Year an average of 60% is required in the Psychology of the Second Year, and an average of 60% in all other subjects.

Psychology 337, 338, 339, 349, 355
Two optional courses approved by the Department of Psychology

Fourth Year

For admission to the Fourth Year an average of 60% is required in the Psychology of the Third Year, and an average of 60% in all other subjects.

Psychology 444, 446, 448, 459
Three optional courses approved by the Department of Psychology

University College Faculty and Courses

BOTANY

Professor:

Anson Robertson Walker, B.A., Queen's, M.A. Toronto, Head of the Department (Deceased Feb. 8, 1959)

Associate Professor:

Wilbert Ezekiel McKeen, 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

Assistant Professor:

Frankland Shaw Cook, B.A. and Ph.D. Toronto

Honorary Lecturers (Part-time):

Wolfgang Albert Andreae, M.Sc. and Ph.D. McGill
Ralph Anthony Ludwig, B.S.A. and M.Sc. Alberta, Ph.D. McGill
William Harold Minshall, B.S.A. Toronto, M.Sc. and Ph.D. McGill

Instructor:

John K. Johannesen, Diploma, Royal Agricultural College, Copenhagen (Plant Culture)

Preceptor:

Clara Winifred Fritz, M.Sc. McGill, Ph.D. Toronto

Demonstrators:

Clarence Madhosingh, M.Sc. British Columbia
Irmgard Messmer, Dipl. Agr. Hohenheim, M.Sc. Wisconsin
Jean McL. Wright (Mrs.), B.A. British Columbia
Isabel Allin (Mrs.), B.A.
Rosemary Scott (Mrs.), B.Sc. King's College, University of Durham
E. Diane Wilson

Courses

20. Introductory Botany: for students in Junior Group I; the general principles of Botany. To qualify for the Honors Program in Biology a student must student must obtain 60 per cent. in Botany 20.
2 lectures, 3 laboratory hours a week.

21. Biological Science (Botany Section): 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 illustrated by examples from zoology as well as botany. 2 lectures and 2 laboratory hours a week.

31a. Plant Diseases and Fungi: The recognition of poisonous and edible fungi and the identification, cause and control of common plant diseases.
2 lectures, 4 laboratory hours a week, one term.
Prerequisites: Botany 33a and 32b, or 20, or 21 (60%) or Zoology 21 (60%).

32b. Plant Culture: The elementary principles of plant growth, propagation and care, with particular reference to plants of the garden and home.
3 lectures, 3 laboratory hours a week, one term.
Prerequisites: Botany 20 or 21 (60%) or Zoology 21 (60%).

33a. Plant Ecology: The relationship between plants and their surroundings, including the recognition and classification of common plants.
2 lectures, 4 laboratory hours a week, one term.
Prerequisites: same as for 32b.

36b. Elementary Bacteriology: The common economic organisms in reference to: water, food supplies, public health and civic problems. Prescribed for second year students in Home Economics: optional for others.
Prerequisites: as in 31a. 2 lectures, 4 laboratory hours a week.

43b. Plant Taxonomy: The recognition and classification of the common garden and field plants with special reference to adaptations to environment and distribution. 2 lectures, 4 laboratory hours a week, one term.
Prerequisite: Botany 31a or 32b or 33a.

Honors Courses

250. The Vascular Plants: The morphology, anatomy and development of the Pteridophyta and Spermatophyta, stressing the Seed Habit.
Prerequisite: Botany 20. 2 lectures, 3 laboratory hours a week.

337. Historical Biology: See Zoology 337. 2 hours a week.

352a. Plant Physiology: The function and reactions of plants and their organs. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 250.

354b. Cytology: A study of the structure and functions of cells and tissues, including the techniques of preparing materials for cytological studies.
Prerequisite: Botany 250. 2 lectures, 6 laboratory hours a week, one term.

361. Mycology and Plant Pathology: Plant diseases and classification, morphology and structure of the fungi.
Prerequisite: Botany 250. 1 lecture, 2 laboratory hours a week.

452. Advanced Plant Physiology: Special emphasis on biochemical and physical reactions in plants. Optional for fourth year Honors and graduate students. 2 lectures and 6 laboratory hours a week, one term.

453a. Plant Ecology: The structure of vegetation and its relation to the environment. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 250.

453b. Systematic Botany and Taxonomy: The principles of taxonomy and the identification and distribution of plants.
2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 453a.

454b. Plant Anatomy: The anatomy and histology of the Pteridophyta and Spermatophyta, including some Palaeobotany. Optional for fourth year Honors and graduate students. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 352a.

455. Genetics: See Zoology 455. 2 hours a week.

460a. Cryptogamic Botany, Algae: The morphology, evolution and classification of the Algae. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 352a.

460b. Cryptogamic Botany, Origin of a Land Flora: General consideration of the evolution of land plants based largely on the studies of the liverworts and mosses. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 460a.

461a. Advanced Mycology and Plant Pathology: A continuation of 361, with special emphasis on groups of economic importance.
Prerequisite: Botany 361. 2 lectures, 6 laboratory hours a week, one term.

466b. Bacteriology: The culture, classification and life histories of selected groups of bacteria. 2 lectures, 6 laboratory hours a week, one term.
Prerequisite: Botany 361 or 461a.

BUSINESS ADMINISTRATION

(Members of the Faculty of the School of Business Administration)

Assistant Professors:

Donald Hammond Thain, M.B.A. and D.B.A. Harvard

Samuel A. Martin, M.B.A. Harvard, C.A.

John G. Myers, B.S.F. British Columbia, M.B.A.

Robert E. Sproule, B.Comm. McGill, M.B.A.

Courses

20. Introduction to Business Organization: 3 hours a week.

250. Fundamentals of Accounting: 3 hours a week.

CHEMISTRY

Professors:

John Aberdeen Gunton, B.A., and M.A. McMaster, Ph. D. Illinois, Head of the Department
James Wendel Burns, B.Sc., New Brunswick, M.Sc. Queen's
Christian Sivertz, B.A.Sc., British Columbia; M.Sc. and Ph.D. McGill
Frederick Lewis Maitland Pattison, B.A., M.A., and Ph. D. Cambridge
Hubert Martin, M.S. and D.Sc. London (Honorary part-time)

Associate Professors:

Kenneth William Hunten, B.A. Bishop's, B.Sc., M.Sc. and Ph.D. McGill (On leave 1958-59)
James Keith Watson, B.A., and M.A. McMaster, M.A. and Ph.D. Toronto

Assistant Professor:

Armas John Sukava, B.Sc. and M.Sc. Manitoba, Ph.D. McGill

Lecturer:

Walter Colston Howell, B.Sc., M.Sc. and Ph.D.

Instructor:

Howard Wesley Baldwin, B.A. and M.A., Saskatchewan

Preceptor:

Duncan Archibald MacRae, B.A.

Honorary Lecturers (part-time):

Kenneth K. Carroll, B.Sc. New Brunswick, M.Sc. Toronto, Ph.D.
David Milroy Miller, B.Sc. and M.Sc. Alberta, Ph.D. McGill
Elvins Y. Spencer, M.Sc. Alberta, Ph.D. Toronto
George Denis Thorn, B.Sc. Alberta, M.A. Queen's, Ph.D. McGill

Demonstrators:

Michael Ktenas, Dip. Athens
Anthony J. MacNamara, B.Sc., M.Sc.
Michael E. Mirhej, B.Sc. McGill
Wilfred J. Newby, B.Sc. McGill
Lorine Knill, B.A.
Claude Brezeau

Fellows and Scholars:

Donald M. Graham, B.Sc., M.Sc., Ph.D. Brooklyn Poly. Inst.
Joseph Trenouth, B.Eng.Sc.

Courses

20. General Chemistry and Qualitative Analysis: For Junior Group I.
2 lectures, 3 laboratory hours a week.

21. Physical Science 21 (Chemistry Section):
2 lectures and 2 laboratory hours a week.

32. Quantitative Analysis: For Home Economics, Nursing and General Course students. 2 lectures, 3 laboratory hours a week.
Prerequisite: Chemistry 20 or 21.

33. Organic Chemistry: For Home Economics and General Course students.
Prerequisite: Chemistry 20 or 21. 2 lectures, 3 laboratory hours a week.

44. Physical Chemistry: For General Course students.
Prerequisite: Chemistry 32. 2 lectures, 3 laboratory hours a week.

46. Biochemistry and Food Analysis: For Home Economics and General Course students. 2 lectures, 3 laboratory hours a week.
Prerequisites: Chemistry 32 and 33.

Honors Courses

200. Elementary Physical Chemistry: For students in Honors Chemistry, Chemistry and Physics, Biology, Geology; chemical principles.
2 lectures, 3 laboratory hours a week.

203M. Organic Chemistry: For prospective medical students.
2 lectures (both terms) and 3 laboratory hours (one term) a week.

204M. Physical Chemistry: For prospective medical students.
2 lectures (both terms) and 3 laboratory hours (one term) a week.

251. Treatment of Experimental Data: For students in Honors Chemistry.
1 lecture, 2 laboratory hours a week.

252. Quantitative Analysis: For students in Honors Chemistry and Honors Chemistry and Physics. First term: 1 lecture, 3 laboratory hours a week; *Second term:* 1 lecture, 6 laboratory hours a week.

253. Elementary Organic Chemistry. 1 hour a week: half course.

303. Organic Chemistry: For Honors Biology students.
Prerequisite: Chemistry 20. 2 lectures, 3 laboratory hours a week.

351. Inorganic Chemistry: A survey of the more common elements with emphasis on electronic structure. 1 lecture, 3 laboratory hours a week.

353. Intermediate Organic Chemistry: For students in Honors Chemistry and Honors Chemistry and Physics. Lectures and laboratory exercises dealing with carbon compounds. 2 lectures, 4 laboratory hours a week.
Prerequisites: Chemistry 20, 200, 253.

354. Intermediate Physical Chemistry: For students in Honors Chemistry and Physics. A systematic derivation of the principles which govern reactions in chemical systems. 2 lectures, 3 laboratory hours a week.
Prerequisites: Chemistry 200 and either Chemistry 251 or Physics 251.

406. Biochemistry: For Honors Biology students.
Prerequisites: Chemistry 200, 203. 2 lectures, 3 laboratory hours a week.

451. Advanced Inorganic Chemistry: Chemistry of the less familiar elements. Selected topics: nature of solutions, co-ordinate compounds, radiochemistry.
2 hours a week.

452. Advanced Analytical Chemistry — Instrumental Analysis: theory and practice. 1 lecture, 3 laboratory hours a week.

453. Advanced Organic Chemistry:
Prerequisite: Chemistry 353. 3 lectures, 3 laboratory hours a week.

454. Advanced Physical Chemistry: Thermodynamics and Kinetic Theory of Matter. Prerequisite: Chemistry 354. 3 lectures, 3 laboratory hours a week.

458. Senimar: Presentation of papers on topics selected from the current chemical journals, dealing with the more recent and fundamental developments of the science; prescribed for fourth year Honors Chemistry students and desirable for all students majoring in Chemistry. Half course.

459. Research: Six hours a week will be devoted to a project upon which a report will be required as a senior thesis. 6 hours a week.

CLASSICS

Professors:

John Danby Ralph, B.A. Queen's, Ph.D. Chicago, W. Sherwood Fox Professor of Classics, Head of the Department
Robert Edward Kingsdown Pemberton, M.A. Oxon.

Associate Professor:

Alfred Ernest Raymond, B.A., M.A. Toronto, Ph.D. Chicago

GREEK COURSES

1. Elementary Greek: A preparatory course for those who wish to begin the study of Greek at the University. 3 hours a week.

10. Plato, Selected Dialogues; Colson's "Greek Reader", Part VIII; composition, sight translation. 3 hours a week.
Prerequisite: Grade XII Greek or Greek 1.

20. Plato, "Crito"; Euripides, "Alcestis"; Xenophon, "Oeconomicus"; Demosthenes, "In Cononem"; composition, sight translation. 3 hours a week.
Prerequisite: Greek 10 or Grade XIII Greek.

29. Greek Literature in English Translation: A survey of Greek literature for those without a reading knowledge of Greek. 1 hour a week: half course.

30. Plato, "Apology"; Aristophanes, "Clouds"; Homer, selections from the "Iliad" and the "Odyssey"; lectures on the social, religious and political life of Athens in the fifth century, B.C.; composition, sight translation.
Prerequisite: Greek 20. 3 hours a week.

40. Aeschylus, "Prometheus Vinctus"; Euripides, "Medea"; Sophocles, "Oedipus Tyrannus", "Antigone"; lectures on the theatre and the development of the drama; composition, sight translation. 3 hours a week.
Prerequisite: Greek 30.

Honors Courses

230. Plato, "Apology"; Aristophanes, "Clouds", "Wasps"; public, social and political life of Athens in the fifth century, B.C.
Prerequisite: Group 2, including Greek 20. 2 hours a week.

250. The Greek Epic: Selections from the "Iliad" and the "Odyssey".
Prerequisite: Group 2, including Greek 20. 1 hour a week; half course.

251. Syntax and Composition:
Prerequisite: Group 2, including Greek 20. 1 hour a week: half course.

257. Ancient Civilizations: The Near-East, Greece and Rome. Identical with Latin 257 and History 257. 3 lectures a week.

340. Greek Tragedy: Sophocles, "Oedipus Tyrannus", "Antigone"; Aeschylus, "Prometheus Vinctus"; Euripides, "Medea". Lectures on the theatre and the drama. Prerequisite: Greek 20. 2 hours a week.

350. I: Introduction to the Greek Historians: Herodotus.
II: The Attic Orators: Lysias and Demosthenes.
Prerequisite: Greek 230. 2 hours a week.

351. Syntax and Composition: 1 hour a week: half course.
Prerequisite: Greek 251.

352. Introduction to Greek Philosophy: Plato, "Republic", I-IV.
Prerequisite: Greek 20. 1 hour a week: half course.

450. The Greek Historians: Thucydides.
Prerequisites: Greek 340, 350. 2 hours a week.

451. Syntax and Composition: 1 hour a week: half course.
Prerequisite: Greek 351.

452. Greek Philosophy: Plato, "Republic", V-X; Aristotle, "Ethics", I, II, IV, V. Prerequisite: Greek 340, 350. 3 hours a week.

453. Reading Course in Greek: To be taken with Latin 453.
Prerequisites: Greek 340, 350. 3 hours a week, one term: half course.

457. Greek and Roman History: Lectures, readings and reports. Prescribed for students in Honors Classics and optional with the consent of the instructor for other qualified students. Identical with Latin 457. 2 hours a week.

LATIN COURSES

1. Elementary Latin: A preparatory course for those who wish to begin the study of Latin at the University. 3 hours a week.

10. Selections from Latin Prose and Poetry; composition and sight translation. 3 hours a week.
Prerequisite: Grade XII Latin.

20. Pliny, "Letters"; Virgil, "Aeneid" VI; composition; sight translation.
Prerequisite: Latin 10 or Grade XIII Latin. 3 hours a week.

30. Catullus; Virgil, selections from the "Bucolics" and "Georgics"; selections from Horace Odes and the Elegiac Poets; composition and sight translation. Prerequisite: Latin 20. 3 hours a week.

39. Latin Literature in English Translation: A survey of Latin Literature for those without a reading knowledge of Latin. 1 hour a week: half course.

40. Virgil, "Aeneid" I-IV; Horace, "Satires", "Epistles"; Juvenal, "Satires"; composition, sight translation. 3 hours a week.
Prerequisite: Latin 30.

Honors Courses

230. Catullus; Virgil, selections from the "Bucolics" and "Georgics"; selections from Horace Odes and the Elegiac Poets. 2 hours a week.
Prerequisite: Group 2, including Latin 20.

250. Cicero, "De Amicitia". 1 hour a week: half course.
Prerequisite: Group 2, including Latin 20.

251. Syntax and Composition:
Prerequisite: Group 2, including Latin 20.

257. Ancient Civilizations: The Near-East, Greece, Rome. Identical with History 257 and Greek 257. 3 hours a week.

340. Virgil, "Aeneid" I-VI; Horace, "Satires" and "Epistles"; Juvenal "Satires". Prerequisite: Latin 230. 2 hours a week.

350. Cicero: the history of his life and times; "De Officiis" III, "Pro Archia", "Philippic", II; "Letters". 2 hours a week.
Prerequisites: Latin 230, 250.

351. Syntax and Composition: 1 hour a week: half course.
Prerequisite: Latin 251.

352. Roman Comedy, with an introduction to historical Latin Grammar.
Prerequisites: Latin 230, 250. 1 hour a week: half course.

450. Roman Historians, with special reference to Livy and Tacitus.
Prerequisites: Latin 340, 350, 352. 2 hours a week.

451. Syntax and Composition: 1 hour a week: half course.
Prerequisite: Latin 351.

452. Lucretius, I-III (Selections), V; Virgil, "Aeneid" VII-XII; Quintilian X; Horace, "Satires" I, 4, 10; "Ars Poetica". 2 hours a week.
Prerequisites: Latin 340, 350, 352.

453. Reading Course in Latin: to be taken with Greek 453.
Prerequisites: Latin 340, 350, 352. 3 hours a week, one term: half course

457. Greek and Roman History: Lectures, readings and reports. Prescribed for students in Honors Classics and optional with the consent of the instructor for other qualified students. 2 hours a week.

ECONOMIC AND POLITICAL SCIENCE

Professors:

Mark Keith Inman, B.A. Acadia, M.A. and Ph.D. Harvard, Head of the Department
Edward Ernest Reilly, B.S.A. Toronto, M.S. Wisconsin, F.R.S.A.

Associate Professor:

David Ivor, B.A. and M.A., Ph.D. London

Assistant Professors:

Grant Louis Reuber, B.A., A.M. and Ph.D. Harvard
Walter Donald Ridley Eldon, B.A., A.M. and Ph.D. Harvard
Ronald Johnston Wonnacott, B.A., A.M. and Ph.D. Harvard

Lecturers:

Kenneth John Duncan, B.A. and M.A. Toronto
John Rowland William Gwynne-Timothy, B.A. and M.A. Toronto, D.Phil. Oxon., (part-time)
John Joseph Madden, B.A. Manitoba, M.A. Toronto, Ph.D. Cantab.
John Edgar Kersell, B.A. and M.A. Queen's, Ph.D. London

Instructor:

William Henry Nelles Hull, B.A. and M.A.

ECONOMICS COURSES

20. Introduction to Economics: The nature of economics; economic organization; national income accounting; money, banking and monetary policy; economic fluctuations, determinants of the national income; public finance and fiscal policy; production; price determination; wages, rent, interest and profits; international trade; Canadian economic problems; and the economics of underdeveloped countries. 3 hours a week.

30. Economic Theory: An intensive course in economic analysis. 3 hours a week.

Prerequisite: Economics 20 (with at least 60%) or permission of the instructor.

33. Money and Banking: Monetary systems, characteristics and functions of money; banking organization and practice; central banking in Canada, United States and England; other financial institutions; the principles and mechanism of international payments; the development of short run economics; contemporary monetary theories and policies; international monetary problems.
Prerequisite: Economics 20. 3 hours a week.

34. Economic Organization of Society: Problems of monopoly and economic concentration with special reference to Canada. Government intervention in agriculture, public utilities, transport, and foreign enterprise. Public ownership and state planning.
Prerequisite: Economics 20. 2 hours a week.

36. Labor Problems: The study of labor movements, the forms of labor organization, economic problems of labor in relation to national economy, labor legislation, methods of dealing with labor disputes, the social aspects of industrial relations. 3 hours a week.

37. Economic History of North America: A survey of the economic development of the North American continent with special emphasis on the influence of the European economy in this development. 3 hours a week.

Honors Courses

Where honors and general course students attend the same lectures, additional assignments may be required from honor students.

230. Economic Theory. 3 hours a week.

237. Economic History of North America. 3 hours a week.

333. Money and Banking. 3 hours a week.

334. Economic Organization of Society. 2 hours a week.

336. Labor Problems. 2 hours a week.

350. History of Economic Thought: A survey of the historical development of economic theory. 2 hours a week.

Prerequisite: Economics 230 or permission of the instructor.

351a. International Economics: A survey course designed to acquaint the student with balance of payments statistics; the economic basis of trade and investment; foreign exchange rates and their determination; recent developments in commercial policy, international investment and foreign aid.

Prerequisite: Economics 20. 3 hours a week.

351b. International Trade and Economic Development: A study of the theory of international trade and investment, with special reference to the problems of economic development. 3 hours a week.

Prerequisites: Economics 230, 237, and 351a or permission of the instructor.

355. Statistical Methods: The application of statistical methods to Economics; graphic methods and tabulation; frequency distributions; measures of central tendency and deviation; probability; the normal curve; correlation; reliability and validity; time series; index numbers. 3 hours a week.

363. Public Finance: The economic theory of public revenues, expenditures and debt, and the application of public finance in the Canadian economy; the incidence, equity and economic effects of various forms of taxation; fiscal policy; inter-governmental financial relationships. 2 hours a week.

Prerequisite: Economics 230.

440. Income Theory: A critical examination of selected topics in the theory of income determination and the role of business and government in promoting economic stability and growth. A detailed study of the degree to which various trade cycle theories explain economic fluctuations since World War I.

Prerequisites: Economics 230, 333 and 355. 2 hours a week.

447. Economic History of Europe: The economic development of Europe from the breakdown of the Roman Empire to World War I. In the first term the determinants of long-term economic growth will be studied. In the second term the determinants of cyclical economic change will be studied.
2 hours a week.
Prerequisites: Economics 230 and 333 or permission of the instructor.

453. Monetary and Fiscal Policy: Business cycles, booms and depressions; governmental expenditures, revenues, borrowing and debt structures; the shifting and incidence of taxation; government activities and financial policies.
Prerequisites: Economics 333 or permission of the instructor. 3 hours a week.

455. Mathematical Economics: Mathematical formulation of economic theory; an introduction to dynamic models and their solution; the use of linear systems in economic analysis; an introduction to input-output analysis and linear programming. 3 hours a week.
Prerequisites: Economics 230 and Mathematics 24 or permission of the instructor.

460. Modern Price and Distribution Theory: An intensive course in selected current theories of consumption, production and distribution under various market conditions. 2 hours a week.
Prerequisite: Economics 230.

480. Seminar: Contemporary Economic Problems. 2 hours a week.
Prerequisite: Permission of the Head of the Department.

POLITICS COURSES

20. Introduction to Government and Politics: A study of liberal democratic ideology and the challenge from Communism, and an analysis of parliamentary and presidential governmental institutions and processes. (Ordinarily prerequisite to all other courses in Politics.) 3 hours a week.

34. Elements of Political Theory: An analysis of the principal concepts of politics: the basis, origin, nature and organization of the state.
2 hours a week.

42. Canadian Government and Politics: A study of Ontario municipal government and of federal institutions and political processes. 3 hours a week.

44. American Government and Politics: A study of the American Constitution, institutions of government and political processes. 2 hours a week.

Honors Courses

Politics 234, 242 and 344 are identical respectively with 34, 42 and 44, except that additional assignments may be required in the Honors courses.

348. Comparative Foreign Governments: A study of the governmental institutions and political processes of leading Western European, British Commonwealth and Communist countries. 3 hours a week.
Prerequisite: Permission of the instructor.

351a. International Relations: A study of the nature and course of modern and contemporary international relations. 3 hours a week.

351b. International Politics: An examination of the factors affecting contemporary foreign policies, of the methods of pursuing national interest in foreign affairs and of the attempts at achieving and maintaining international order. 3 hours a week.

452. Western Political Traditions: A theoretical analysis of three mainstreams of Western political thought: liberal democracy, idealized nationalism and communism. 3 hours a week.

462. Public Administration: A study of the theory of public administration and an analysis of the structure, management and control of modern national civil services. 2 hours a week.

480. Seminar: Research into contemporary political problems.
Prerequisite: Permission of the Department.

SOCIOLOGY COURSES

20. Introduction to Sociology: The study of human society as the interaction of persons in reciprocal relationships, involving a consideration of group interaction, social structures, institutions and social change. 3 hours a week.

30. Sociological Theory: The study of culture, personality and society, with emphasis on the development of a systematically related body of analytical concepts. 2 hours a week.

38. Social Development of Canada: An examination of processes, problems and theories of social change, using Canadian geographic, economic, religious and historical data for analysis. 2 hours a week.

40. Social Pathology: The study of personality disorganization and maladjustment from the point of view of sociology; the problems of poverty, physical and mental deficiency, alcoholism, insanity, delinquency and crime; social change and social disorganization, the pathology of social groups and classes, the pathology of economic and cultural relations. 2 hours a week.
Prerequisite: Sociology 20 or 30 or the consent of the instructor.

Honors Courses

Sociology 220, 330, 338 and 440 are identical respectively with 20, 30, 38 and 40, except that additional assignments will be required in Honors Courses.

478. Advanced Sociological Theories and Methods: The historical development of social thought; the application of scientific methods in social research; the analysis of social structures and social relations. 2 hours a week.

ENGINEERING SCIENCE

Professor:

Lyman Stuart Lauchland, B.A.Sc. and M.A.Sc. Toronto, Head of the Department

Associate Professors:

John Edward Kendall Foreman, B.A.Sc. Toronto, M.M.E. Cornell
John Leland Kearns, B.A.Sc. Toronto, Ph.D. Iowa State

Assistant Professors:

Allan Theodore Olson, B.Sc. Queen's, M.Sc. Birmingham
Mellor Procter Poucher, B.Sc.(Eng.) and M.Sc.(Eng.) London, D.I.C.

Lecturers:

Gordon Felix Hestrim Chess, B.A.Sc. Toronto, M.Eng. McGill
William Harry Davis, B.A.Sc. Toronto, O.L.S.

Lecturer (part-time):

Richard Charles Quittenton, B.A.Sc., M.A.Sc., Ph.D. Toronto

Demonstrators (part-time):

Allan Goudie Blair, B.Sc. Queen's
Michiel Rudolf Leenders, B.Sc. Alberta
Grant Raeburn Smith, B.A.Sc. Toronto
Joseph Edward Souccar, B.Sc. Leeds
Wesley Lawrence Weber, B.Sc. Saskatchewan
Paul Cameron White, B.Sc. Manitoba

Courses

20.	**Mechanics I.**	2 lectures a week.
21.	**Engineering Graphics I.**	1 lecture, 6 laboratory hours a week.
200.	**Mechanics of Materials I.**	2 lectures a week.
201.	**Electric Circuits I.**	2 lectures a week.
202.	**Mechanics II.**	2 lectures a week, first term.
203.	**Mechanical Analysis and Design I.**	2 lectures a week, second term.
204.	**Engineering Graphics.**	1 lecture a week.
205.	**Problems.**	4 laboratory hours a week.
300.	**Thermodynamics.**	2 lectures a week.
301.	**Fluid Mechanics.**	2 lectures a week.
302.	**Electric Circuits II.**	2 lectures a week.

303. Electric Machines I. 2 lectures a week.

304. Electric Machines and Electronics. 2 lectures a week.

305. Process Engineering Calculations.
3 lectures, 3 laboratory hours a week, first term.

306. Unit Operations I.
3 lectures, 3 laboratory hours a week, second term.

307. Mechanics of Materials II. 2 lectures a week.

308. Structural Analysis and Design I. 2 lectures a week.

309. Surveying I. 2 lectures a week.

310. Mechanical Analysis and Design II. 2 lectures a week.

311. Engineering Materials. 1 lecture a week.

313. Laboratories and Problems. Group B, 12 laboratory hours a week.
Group C and D, 9 laboratory hours a week.

314. Industrial Process Chemistry. 2 lectures a week.

400. Heat Engineering. 2 lectures a week.

401. Heat Engines I. 2 lectures a week.

402. Heat Engines II. 2 lectures a week.

403. Fluid Mechanics and Machines. 2 lectures a week.

404. Electric Machines II. 2 lectures a week.

405. Electric Power Systems. 2 lectures a week.

406. Electric Control Systems. 2 lectures a week.

407. Structural Analysis and Design II. 2 lectures a week.

408. Soil Mechanics. 2 lectures a week.

409. Municipal and Highway Engineering. 2 lectures a week.

410. Mechanical Analysis and Design III. 2 lectures a week.

411. Laboratories and Problems:
Groups B and D, 12 laboratory hours a week.
Group C, 6 laboratory hours a week.

412. Engineering Practice. 2 lectures a week.

413. Project and Seminar. 2 laboratory hours a week.

416. Surveying II. 2 laboratory hours a week.

ENGLISH

Professors:

Carl Frederick Klinck, B.A.; M.A. and Ph.D. Columbia, (Canadian Literature)
Alfred Brandon Conron, D.S.O., B.A. and M.A.; A.M. and Ph.D. Harvard; Chairman of the Department
Malcolm Hugh Murdoch MacKinnon, B.A., M.A. and Ph.D. Toronto

Associate Professor:

George E. Buckley, B.A. Mt. Allison, M.A. Columbia

Assistant Professors:

William Eric Duncan Atkinson, B.A. Cantab., Ph.D. Chicago
John Whichello Graham, B.A. Manitoba, M.A. and Ph.D. Toronto
John Reidy, M.A. and Ph.D. London
Philip Coate Stratford, B.A.; D. de l'U. de Paris
Ross Greig Woodman, B.A. British Columbia, M.A. Manitoba, Ph.D. Toronto

Lecturers:

Betty Bandeen, B.A.; A.M. and Ph.D. Radcliffe
Ronald Gordon Nudell Bates, B.A. and M.A. Toronto
Hugh Reid MacCallum, B.A. and M.A. Toronto
Ian Arnold McDonald, B.A. Sask., M.A. Northwestern
Clifford Earle Sanborn, B.A. and M.A. Toronto

Lecturers (part-time):

Frank Stiling, B.A. McMaster; M.A.; M.A. and Ph.D. Michigan; Dean of Arts and Science, Principal of University College
Elizabeth Hillman Waterston (Mrs. D. L.) B.A. Toronto, M.A. Bryn Mawr, Ph.D. Toronto
James R. Scott, B.A. Toronto; Visiting Lecturer

Instructors (part-time):

Philip Linden, B.A.

Graduate Assistants (part-time):

Carl Ballstadt, B.A.
Graeme Gibson, B.A.

Courses

Detailed descriptions of the following courses may be obtained from the office of the Department of English (Room 114A, Arts Bldg.) or from the Registrar's Office.

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

20. General Literature and Composition: Selections from the works of Chaucer, Shakespeare, Jonson, Donne, Milton, Dryden, Pope, Swift and Johnson. One hour a week will be allotted to the study of composition and the principles of public speaking; essays will be written and discussed with the instructor. 3 hours a week.

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; two novels are included. 3 hours a week.

33M. General Literature and Composition: For prospective medical students only. Novels, plays, poems, and prose readings. Essays will be required. 2 hours a week.

35. English Prose and Composition: Selected readings in expository, narrative, descriptive and persuasive prose from major English and American writers; essays and exercises in composition will be required. 3 hours a week.

36. Drama: A study of English and American dramatists against a background of Classical, Renaissance and Modern European drama. 3 hours a week.

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 a week.

39. Speech: The major forms of oral discourse. 3 hours a week.

This course may only be taken under special conditions.

41. Creative Writing: The use of language as art and communication in the recognized creative writing forms; emphasis is placed on analysis of work submitted during the course. Apply to the Department of English for admission to this course. 1 hour a week: half-course.

44. The English Novel: A survey of representative English and American novels from the eighteenth century to the present. 3 hours a week.

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 a week.

46. Dramatics: Play Direction: An introductory course, with instruction in directing and acting, and participation in acting exercises and a final production. 2 hours a week.

This course may only be taken under special conditions.

49. Literature of the Twentieth Century: Selected works by poets and novelists, chiefly British. 3 hours a week.

Honors Courses

254. Criticism: A survey of the major critics, and problems in terminology and practical criticism. 2 hours a week.

270. Literature of the Romantic Revival (1780-1832). 2 hours a week.

280. Renaissance Literature, Non-Dramatic (1500-1660). 3 hours a week.

356. English Drama: Shakespeare and his contemporaries. 3 hours a week.

360. Literature of the Victorian Period (1832-1900). 3 hours a week.

373. Old and Middle English and the History of the Language. 3 hours a week.

436. Modern British and American Drama. 3 hours a week.

438. American and Canadian Literature (English-Canadian). 3 hours a week.

441. Creative Writing. 1 hour a week: half-course.

459. Literature of the Twentieth Century: Selected works by poets and novelists, chiefly British. 3 hours a week.

463. Old and Middle English Literature: with special emphasis on Beowulf and Chaucer. 3 hours a week.

470. English Tutorial: Methods of research in English; advanced bibliography. Prescribed for final year students in all Honors English courses. 1 hour a week: half-course.

480. Restoration and Eighteenth Century Literature (1660-1780). 2 hours a week.

GEOGRAPHY

Professor:
Edward Gustav Pleva, B.A., M.A. and Ph.D. Minnesota, Head of the Department

Associate Professor:
Robert Wilfred Packer, B.A. and M.A. Cantab., F.R.G.S.

Assistant Professor:
Osmund Per Langtvet, C. Phil. Oslo

Lecturers:
Paul Martin Louis Bruer, B.A., M.A. Illinois (part-time)
Leonard N. Johnson, B.S.A. Toronto (part-time)
Charles Frederick John Whebell, B.A., M.Sc.

Preceptor:
Stephen Roussel Byles, B.A. Toronto

Graduate Assistants:
Robert G. Bean, B.A., Donald L. Lloyd, B.A., William A. Ferguson, B.A.

Courses

20. Elements of Geography: The earth as the home of man; the elements of the physical and cultural landscape with special reference to man's adjustment to them. 2 lectures and 2 hours practical work a week.

30. Advanced Physical Geography: Studies of the environmental factors, meteorology, climatology, geomorphology, hydrology, vegetation and soils; their inter-relationships; techniques of measurement and classification, including air photographs and map projections.

Prerequisite: Geography 20. 2 lectures and 2 hours practical work a week

32. Cultural Geography: Principles of the study of man-made aspects of the total human environment; an introduction to the techniques of investigation and analysis. 2 lectures and 2 hours practical work a week.

Prerequisite: Geography 20, or 39, or equivalent.

36. World Regional Geography: A systematic survey of the major natural and political regions of the world.
2 lectures and 2 hours practical work a week.

Prerequisite: Geography 20, or 39, or equivalent.

39. Geography of World Resources and Industries: Trade Routes and Centres: The world's physical resources; their nature, utilization, and transportation. 3 lectures a week.

Prerequisite: Geography 20 or Economics 20 (may be taken concurrently with Geography 39).

40. 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 (given in 1959-60). 2 lectures and 2 hours practical work a week.

Prerequisite: Geography 20 and one other Geography course.

41. Cartography: Scales and projections, map making, surveying on the ground and from the air, official and professional maps, cartographic specialties (given in 1960-61). 2 lectures and 2 hours practical work a week.

Prerequisite: Geography 30.

43. Field Methods and Practices: Standard techniques, special applications, the report (given in 1959-60). 2 lectures and 2 hours practical work a week.

Prerequisite: Geography 30.

45. Geography of Canada: The Natural Wealth of Canada and its Conservation: The geographic basis of human occupance in Canada. Conservation of natural resources. 3 lectures a week.

Prerequisite: Two courses in Geography, or equivalent.

46. Advanced Area Studies in Regional Geography. Section 2 will be given in 1959-60.

Section 1. U.S.S.R. and Eastern Europe
2. Europe
3. Middle East
4. India, China, Japan
5. Africa
6. Latin America
7. Southeast Asia, Australia, New Zealand
8. U.S.A.

Prerequisite: Geography 36. 2 lectures and 2 hours practical work a week.

47. Historical Geography: A survey of the geographical factors in changing distributions of populations and political structures, with emphasis on Europe and North America (given in 1960-61).
2 lectures and 2 hours practical work a week.

Prerequisite: Geography 20 and one other Geography course.

Honors Courses

Geography 239, 330, 332, 336, 440, 441, 443, 445, 456, and 447 are identical with 39, 30, 32, 36, 40, 41, 43, 45, 46, and 47 respectively. Students in the Honors courses will cover additional material including advanced practical work.

450. Senior Research and Report in Geography: A report on a geographical problem including the results of field work, cartographical representation, and a study of the basic literature of the problem.

Prerequisite: Four courses in Geography. One course: Hours by arrangement.

GEOLOGY

Professor:
George Harold Reavely, B.A. and M.A., D.I.C., London, Head of the Department

Associate Professors:
George Gordon Suffel, B.Sc. and M.Sc. Queen's, Ph.D. Stanford
Aleksis Dreimanis, N.Nat.Sc. Riga

Assistant Professor:
Charles Gordon Winder, B.Sc.; M.Sc. and Ph.D. Cornell

Lecturer:
Gary McGregor Boone, B.A. Bowdoin, M.A. Brown

Preceptor:
A. M. Reid, B.Sc. St. Andrews

Graduate Demonstrators:
J. C. Cowan, B.Sc. McMaster
J. F. Lintott, B.A.Sc. British Columbia

National Research Council Postdoctorate Fellow:
James Richard Kramer, B.S., M.I.T., M.S. Michigan, Ph.D. Michigan

Courses

20. Introductory Course in Geology: Minerals and rocks; geological processes and their results; structure of the earth; practical application of geology; fossils and their use; an outline of the earth's history. Laboratory work will consist of the study of specimens of the more common rocks and minerals, typical fossil specimens the interpretation of geological maps, sections and topographical maps. Field Trips. 2 lectures, 2 laboratory hours a week.

21. Geological Science: A survey of the Geological Sciences; the relation of Geology to the other sciences, and its economic significance, with emphasis on topics of local interest. 2 lectures, 2 laboratory hours a week.

Honors Courses

251. Mineralogy and Elementary Petrology:

First part: the cystallo-chemical basis of mineral formation reached through a survey of the principles of crystallography and a study of the physical and chemical properties of minerals. The laboratory consists of practice in mineral identification.

Second part: a brief introduction to the basic principles and hypotheses of origin of igneous, sedimentary, and metamorphic rocks. Megascopic description, classification, and identification of important rock types of the earth's crust. 2 lectures and 4 laboratory hours a week.

256. Drafting and Surveying: The principles and techniques of surface and mine surveying with stress on the use of the plane table; precision of measurements and theory of errors; practice on surface and underground surveying. The principles of lettering and drafting and the preparation of simple geologic plans and mine sections. 1 lecture, 5 laboratory hours a week.

261. Mineralogy: The crystallo-chemical basis of mineral formation, as in Geology 251, but offered for Honors science students not enrolled in Honors Geology. Individual problems in crystal chemistry and geochemistry.
5 hours a week.

263. Historical Geology: The significant events in the geologic history of the earth and its inhabitants, combined with a general discussion of the geology of Canada. Laboratory periods will include map work, examination of fossils, and field trips.

Prerequisite: Geology 20 or 21. 2 lectures, 2 laboratory hours a week.

351. Optical and Descriptive Mineralogy: The principles of optics as applied to the identification of minerals; the study of about 150 rock-forming mineral species, with practice in their identification in hand specimen and in thin section.
2 lectures, 3 laboratory hours a week.

354. Origin and Formation of Mineral Deposits: The origin of mineral deposits and a study of the principal processes involved in their formation, with a brief mention of prominent examples. Laboratory time will be devoted to readings on the theory of ore deposition as well as to the acquisition of the technique of polished section preparation and examination.
1 lecture, 2 laboratory hours a week.

355. Structural Geology: Primary and induced structures in igneous, sedimentary and metmorphic 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 a week.

363. Invertebrate Paleontology: First half—the study of fossils in biological succession with concentration on classification, morphology and ecology; second half—index fossile and their geologic ranges.

2 lectures, 3 laboratory hours a week.

365. Precambrian Geology of the Canadian Shield: General geology of the Shield, with studies of type areas and some of the principal mining districts. Particular attention is paid to current problems and controversies.

1 lecture, 1 hour class-study a week: half-course.

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, and the development of Glacial Lakes; economic aspect of Pleistocene deposits. Laboratory work will consist of field trips, studies of collected materials, map exercises, readings and discussion of reference papers. 4 hours a week.

452. Petrography and Petrology: The principles and theories of igneous and metamorphic rock genesis; stress is laid on diversification in igneous magmas; the classification of rocks is discussed, with practice in rock identification, particularly in thin section. 2 lectures, 3 laboratory hours a week.

454. Economic Mineral Deposits: The occurrence and production of ores of the principal metals, with a study of outstanding examples, especially in Canada. Laboratory work consists of (a) a series of reports based on selected reading from original sources and (b) studies of specific ore deposits or problems, with emphasis on the examination of ores under the microscope.

1 lecture, 5 laboratory hours a week.

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; information discussion of topics of current geological interest.

2 hours a week: half course.

463. Sedimentation and Stratigraphy: The derivation, transport, deposition and lithification of sediments; the environment, in particular shallow marine conditions; the principles of correlation and the facies concept applied to important Paleozoic and Mesozoic sections in Canada. Laboratories include a problem in stratigraphic paleontology, the analyses of sediments, and map interpretations. 2 lectures, 2 laboratory hours a week.

GEOPHYSICS

Professor:

Robert James Uffen, B.A.Sc. and M.A. Toronto; Ph.D.; P.Eng. Head of the Department

Assistant Professor:

Alan Edward Beck, B.Sc. London, Ph.D. Australian National University, A.Inst.P.

Senior Demonstrator:

Alvin John Surkan, B.Sc. Alberta, M.A. Toronto

Research Associates:

Charles Murray Carmichael, B.Sc. and M.Sc.
Rama Chandra Murty, B.Sc. Andhra, M.Sc. Bombay

Graduate Assistant:

Clive Steventon Mason, B.Sc.

Course

465. Geophysics: An introductory course in the various geological problems associated with gravity, magnetism, seismology, radioactivity, and the internal constitution of the earth, with applications to geophysical exploration.

2 lectures, 2 laboratory hours a week.

GERMAN

Professor:

Herbert Karl Kalbfleisch, B.A.; M.A. New York, M.A. and Ph.D. Michigan; Head of the Department

Assistant Professor:

Shalom Weyl, Staats-examen, Cologne, M.A. McGill, Ph.D. Toronto

Lecturers:

Ronald Alexander Allen, B.A. and M.A. Toronto, Ph.D. Chicago, (part-time); Dean of Graduate Studies; Vice-President of the University

Instructor (part-time):

Ted E. Frank, B.A., M.A.

Graduate Assistant:

Bruce Tuck, B.A.

Courses

1. **Elementary German**: The work of Grade XII or its equivalent is covered.

3 hours a week.

5. Elementary Scientific German: The elements of German grammar with the reading of easy scientific German. Prescribed for second year Honors science students. 3 hours a week.

5M. Elementary Scientific German: The elements of German grammar with the reading of easy medical German. Offered for medical students.
1 hour a week: half course.

10. Intermediate German: The work of Grade XIII or its equivalent is covered. Prerequisite: Grade XII German or German 1. 3 hours a week.

15. Intermediate Scientific German: The reading of scientific works in German and a review of basic grammatical constructions as an aid to reading. Prescribed for third year Honors science students.
Prerequisite: German 5 or Grade XII German. 2 hours a week.

20. Advanced German: Translation from modern literary German, grammar, dictation, conversation. 3 hours a week.
Prerequisite: Grade XIII German or German 10.

22. Conversation: Systematic oral practice for students who wish to develop fluency in speaking German. 2 hours a week: half course.
Prerequisite: German 10 or German 20 or permission of the Department.

30. Outline of Modern German Literature: From Romanticism to the present.
Prerequisite: German 20. 3 hours a week.

40. Outline of Classical German Literature. 3 hours a week.
Prerequisite: German 30.

45. Advanced Scientific German: The reading of scientific works in German from textbooks and journals, supplemented by individual reading in the special field of study of each student. Prescribed for fourth year Honors science students. 1 hour a week: half couse.
Prerequisite: German 15 or Grade XIII German.

Honors Course

290. German Romanticism. Prerequisite: German 20. 3 hours a week.

291. Grammar, Conversation, Composition, Phonetics.
Prerequisite: German 20. 2 hours a week.

333. Middle High German Language and Literature: An introduction to Germanic philosophy. 2 hours a week.

390. German Realism. 3 hours a week.

391. Grammar, Conversation, Composition.
Prerequisite: German 291. 2 hours a week.

420. Contemporary German Literature. 2 hours a week.

480. German Classicism. 3 hours a week.

481. Grammar, Conversation, Composition. 2 hours a week.
Prerequisite: German 391.

HEALTH

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

Course

General Medical Knowledge: Lectures on mental health, communicable diseases and immunization, essential anatomy, physiology, minor and common diseases of the respiratory, cardio-vascular, alimentary, urino-genital and nervous systems; First Aid. Prescribed for all students in their first intramural year. One hour a week for nine weeks.

HEBREW

Professor:
Roland Kenneth Harrison, B.A., M.Th. and Ph.D. London

Courses

These courses are given by Professor Harrison of Huron College on behalf of University College and Huron College. For courses in Hebrew given by Waterloo College, see the affiliated colleges section.

1-10. Grammar: Text of Genesis 1-3, I Kings 17. 5 hours a week.

20. Grammar and Syntax: Text of Obahiah, Jonah, Amos, Isaiah 1-6, Haggai. 3 hours a week.
Prerequisite: Hebrew 1-10.

30. Principles of Hebrew Poetry: Psalms 1, 16, 23-28, 80-84, 90-95, 121-134, Proverbs 1-5, Job 38-41; Old Testament archaeology.
Prerequisite: Hebrew 20. 3 hours a week.

40. Aramaic: Brown, Aramaic Methods, parts I and II; exercises, grammar, syntax, pointing; translation of Old Testament Aramaic sections; Old Testament history and religion. 3 hours a week.
Prerequisite: Hebrew 30.

HISTORY

Professors:

Wallace Klippert Ferguson, B.A.; M.A. and Ph.D. Cornell; Litt.D.; F.R.S.C., J. B. Smallman Professor of History, Head of the Department
Hartley Munro Thomas, B.A. Queen's; M.A. and Ph. D. Harvard
Donald Gordon Grady Kerr, B.A. McGill; Ph.D. London

Associate Professor:

Walter Balderston, B.A. and Ph.D. Cornell

Assistant Professors:

John Rowland William Gwynne-Timothy, B.A. and M.A. Toronto; D.Phil. Oxon.
William Herbert Stockdale, A.B. and M.A. Alabama; Ph.D. New York

Lecturers (part-time):

Star Floyd Maine, B.A.,; B.D. Victoria; M.A. and Ph.D. Chicago, Director of Extension and Summer School Department.
James John Talman, B.A. and M.A.; Ph.D. Toronto; F.R.S.C., University Librarian
Alfred Ernest Raymond, B.A.; M.A. Toronto; Ph.D. Chicago
John Purves McLaughlin, B.A. Queen's; Ph.D. London, Assistant Librarian

Courses

20. Medieval, Renaissance and Reformation History: Europe from the founding of the Roman Empire to the middle of the sixteenth century. 3 hours a week.

31. History of Canada: From the beginning of the French Regime, with emphasis on the nineteenth century. 2 hours a week.

33. The British Empire and Commonwealth: From the beginning of overseas expansion to the contemporary Commonwealth. 2 hours a week.

35. History of England: English History from the Anglo-Saxons to the present. 3 hours a week.

36. Modern European History: From the middle of the sixteenth century to the Second World War. 3 hours a week.

44. History of the United States: The colonial period (general survey only), the Revolution and political and social history to the present. 3 hours a week.

Honors Courses

236. Modern History: For details see History 36. 3 lectures and a seminar a week.

257. Ancient Civilization: The Near East, Greece and Rome. Identical with Latin 257 and Greek 257. 3 hours a week.

331. History of Canada: From the beginning of the French Regime, with emphasis on selected periods. 3 hours a week, lectures and seminars.

333. The British Empire and Commonwealth: For details see History 33. 2 lectures and a seminar a week.

356. History of International Relations: 1918 to the present. Prerequisite: History 236. 2 hours a week, lectures and seminars.

444. History of the United States: With emphasis on selected periods. 4 hours a week, lectures and seminars.

452. English Constitutional History: A study of the development of the English constitution from the Anglo-Saxon monarchy to the present. 3 hours a week.

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 a week.

HOME ECONOMICS

For faculty and courses offered in Home Economics, see the Ursuline College section.

JOURNALISM

Professor:

John Leslie Wild, B.A., M.A., Michigan, Head of the Department

Associate Professors:

Isabel Turnbull Dingman (Mrs. J. J.), B.A. and M.A. Manitoba
Earle Beattie, B.A. Manitoba

Lecturers (part-time):

Thomas Hugh Bremner
John K. Elliott, B.A.
Arthur Rutherford Ford, B.A. and LL.D. Toronto
Earl Hubert Slater, Q.C., B.A. Toronto, Barrister-at-Law, Osgoode
James John Talman, B.A. and M.A.; Ph.D. Toronto; F.R.S.C.; University Librarian
C. Robert Turnbull

Courses

Students should be proficient in typewriting by the beginning of the second year.

20. Introduction to Journalism: A survey of mass communication media, forms and styles of journalistic prose, reporting methods. 3 hours a week.

Honors Courses

250. Interpretive News Writing and Reporting: Reporting specialized fields, public affairs, social, economic and political news. 6 hours a week.

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 a week: half course.

270. Pictorial Journalism: Principles of news photography; picture editing; the photo-story; magazine illustration; layout; engraving process. Not a course in photography. 2 hours a week: half course.

351. Newspaper Production: Newsroom organization; copy editing; page makeup; survey of the mechanical phases of newspaper production. 3 hours a week.

355. History of Journalism: A survey of the development of journalism in the British Isles, United States and Canada. 2 hours a week.

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 a week: half course.

375. Feature and Magazine Article Writing: Feature writing for newspapers; magazine article writing, including a study of marketing and manuscript preparation. 2 hours a week.

400. Newswriting and Reporting: For students registered in the Diploma course in Journalism. Writing for mass communication; the forms and style of journalistic prose; reporting methods; news evaluation; interpretive reporting. 9 hours a week.

451. Communication Problems: Semantics, propaganda, seminars on problems in special fields. 3 hours a week.

455. Radio News and Documentary Writing: Comparative study of newspaper and radio writing and news treatment; preparation of newscasts; documentary news broadcasts; radio interviewing; the actuality broadcast. 3 hours a week.

460. Foreign News Editing and Reporting: An intensive study of dispatches and background material from areas prominent in the news. 2 hours a week.

LIBRARY SCIENCE

Lecturers (part-time):

Olga Bishop, B.A. and M.A. Mt. Allison, B.Pub. Admin. Carleton, A.M.L.C. Michigan
Madeleine Joan De La Haye, A.L.A.
Barbara Gene Luce, B.A.; B.L.S. McGill
John Purves McLaughlin, B.A. Queen's, Ph.D. London; Assistant Librarian
James John Talman, B.A. and M.A.; Ph.D. Toronto; F.R.S.C.; University Librarian

Course

The Use of Books and Libraries: Lectures and exercises on the use and arrangement of the card catalogue, standard reference books, bibliography, periodicals and periodical indexes. Prescribed for all students in the first year. 1 hour a week: half course.

Textbook: Campbell and Welling "Library Science for Canadians".

PURE AND APPLIED MATHEMATICS AND ASTRONOMY

Professors:

Gordon Richey Magee, B.A.; M.S. and Ph.D. Chicago, Head of the Dept.
Randal Hudie Cole, B.A.; M.A. and Ph.D. Wisconsin
Arthur Woods, B.A. and M.A. Queen's

Assistant Professors:

Harvey Arnold, B.A. and M.A. Queen's; Ph.D. Princeton
Barron Brainerd, S.B. Mass. Inst. of Tech., M.S. and Ph.D. Michigan
Arwel Evans, B.Sc. Swansea, M.Sc. Wales, Ph.D. Cantab.
William Wehlau, A.B. and Ph.D. California
William Anthony O'Neill Waugh, M.A. and D.Phil. Oxon.

Lecturer (part-time):

John A. Mereu, B.A.; F.S.A. Society of Actuaries

Instructor:

William Herbert Adamson, B.A. and M.A. Queen's

Mathematics Courses

20. Introductory College Mathematics: A study of some concepts in modern mathematics; introduction to calculus. 3 hours a week.

Prerequisite: Grade XIII Mathematics (any two papers), or equivalent mathematics.

23. Mathematics of Investment: Not offered in 1959-60. 2 hours a week.

24. Introductory Calculus: 3 lectures and 1 tutorial hour a week.

Prerequisite: Grade XIII Mathematics (three papers), or equivalent.

27. Calculus: For first year Engineering Science. 4 hours a week.

Prerequisite: Grade XIII Mathematics (three papers), or equivalent.

30. Algebra: Matrix algebra, determinant theory, applications to systems of linear equations; theory of polynomials.

Prerequisite: Mathematics 20 or 24. 2 hours a week.

32. Analytic Geometry: The general conic and pencils of conics; geometry of three dimensional space. 3 hours a week.

Prerequisite: Mathematics 20 or 24.

35. Statistics: *Fundamental concepts of statistics with applications; nature* and scope of statistical methods. 2 hours a week.

Prerequisite: Grade XIII Mathematics (any two papers), or equivalent.

Honors Courses

250. Algebra and Geometry: A course in linear algebra, with applications to analytic geometry. 4 hours a week.

Prerequisites: Mathematics 20 or 24.

256. Calculus and Differential Equations: An extension of introductory calculus; ordinary differential equations. 4 hours a week.

Prerequisites: Mathematics 20 or 24. (Note: A student who has Mathematics 20 as a prerequisite will be required to take one additional tutorial hour per week.)

277. Calculus and Differential Equations: For second year Engineering Science and for the Natural Sciences. 3 hours a week.

Prerequisites: Mathematics 24 or 27.

Note: All 300 and 400 mathematics courses are 3 hour per week courses. For each 300 course, the prerequisites are Mathematics 250 and 256, or consent of instructor. For each 400 course, consent of the instructor is required.

350. Algebra I.

351. Geometry I.

353. Investment and Finite Differences.

355. Statistics I.

356. Analysis I.

363. Numerical Analysis.

364. Introduction to Partial Differential Equations.

377. Engineering Mathematics: For third year Engineering Science students.

378. Applied Mathematics I.

445. Theory of Probability.

450. Algebra II.

452. Geometry II.

455. Statistics II.

456. Analysis II.

460. Introductory Topology.

463. Life Contingencies.

468. Tensor Calculus.

470. Foundations of Mathematics.

478. Applied Mathematics II.

Astronomy Courses

29. Descriptive Astronomy: Systems of coordinates; identification of stars and constellations; the solar system; normal, variable and binary stars; structure of our galaxy; other galaxies; observations with the 10-inch refractor of the Hume Cronyn Observatory. 2 hours a week.

Honors Courses

229. Introduction to Astronomy: Coordinate systems; the solar system; motions and physical properties of the planets; normal, variable, and binary stars; stellar motions; nebulae; structure of our galaxy; other galaxies. Occasional evening meetings. 2 hours a week.

359. Spherical and Practical Astronomy: A treatment of the determination of the positions of astronomical bodies, parallax, precession and nutation, and proper motion. An introduction to orbit determination. 2 hours a week.

459. Astrophysics: An introduction to the study of binary stars, stellar atmospheres, stellar structure and interstellar matter. Practical problems in the analysis of astronomical data relating to these topics will be included. 2 hours a week.

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. See also page 12.

MUSIC

The subjects are history of music, theory, and practical. To obtain credit, two of the three must be chosen. If private lessons are involved, tuition fees are the student's responsibility.

10. **History of Music:** From the earliest times to Handel.
Theory, first course: Elementary studies. 2 hours a week.

20s. **Music Education:** Summer School only. 10 hours a week.

20. **History of Music:** Haydn to Wagner.
Theory: second course: Intermediate studies. 2 hours a week.

30. **History of Music:** Brahms to modern composers.
Theory, third course: Advanced studies. 2 hours a week.

PHILOSOPHY

Professor:
Allison Heartz Johnson, B.A. Mt. Alllison, M.A. and Ph.D. Toronto, F.R.S.C.; Head of the Department

Associate Professor:
John Andrew Bruce, B.A. and M.A., Ph.D. London

Assistant Professors:
Harold Joseph Johnson, B.A. Alfred, Ph.D. Chicago
Perry Ronald Robinson, B.A. and M.A., Ph.D. London

Lecturers:
John Whitney Davis, B.A., A.M., Ph.D. Boston
Wilbert Cameron Henry, B.A. and M.A., Ph.D. Toronto

Instructor:
Peter Adam Angeles, B.A., M.A., and Ph.D. Columbia

Lecturer (part-time):
D. L. C. Maclachlan, B.A. and M.A. Glasgow, M.A. Yale

Teaching Fellows:
R. W. B. Dingle, B.A., and R. A. Imlay, B.A.

Courses

A student who has not chosen Philosophy 20 as a Junior Group option is required to take Philosophy 30 or 32 (for Science students) for a General Program degree. Philosophy 20 is not a prerequisite for 30, although 20 followed by 30 is a suitable sequence.

20. Philosophy and Human Problems: This course is concerned with ethical, logical, aesthetic, religious, educational and political types of 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. This course is for freshmen. 3 hours a week.

30. Basic Philosophical Literature: A critical survey of a selected group of Philosophical classics, ancient and modern. 3 hours a week.

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 a week.

32. Philosophical Theory: Readings in selected philosophical classics, with an emphasis on those which form the background of scientific theory. (This course should not be selected by those who are taking or have taken Philosophy 20 or 30.) 2 hours a week.

35. Aesthetics: A study of aesthetic theory, criticism, and general theory of value. 2 hours a week.

36. Ancient Philosophy: A survey of the principal developments from the Presocratics (600 B.C.) to Plotinus (250 A.D.) and of their contributions to our cultural heritage. Primary emphasis will be placed on the critical reading of selected original sources. 2 hours a week.

42. Introductory Ethics: A critical inquiry into the possibility and nature of ethical standards, the methods by which they may be known, and their applications to concrete problems of personal and social morality. 2 hours a week.

43. Philosophy of Religion: The nature of religion; the growth of religious experience; important types of religious philosophy. 2 hours a week.

44. Principles and Problems of Philosophy: Philosophical problems, related to the special interests of members of the class, will be discussed. 2 hours a week.

Prerequisites: Two courses in Philosophy and the consent of the Head of the Department.

47. Early Modern Philosophy: A critical examination of basic philosophical literature from the 16th, 17th and 18th centuries. 2 hours a week.

48. Contemporary Philosophy: A critical study of the following 20th century philosophers: Dewey, Bergson, Whitehead. There will also be an examination of logical positivism and existentialism. 2 hours a week.

Honors Courses

The following courses are identical with the Pass courses indicated, except that additional assignments will be required: 231 (31), 335 (35), 336 (36), 347 (47), 443 (43), 444 (44), 448 (48).

230. Basic Philosophical Literature: An examination of the principal problems and issues, methods and attitudes, theories and solutions, terms and concepts, of philosophy, as exemplified in selected philosophical classics. For Honors students in any department. 3 hours a week.

350. Philosophical Texts: An examination of specified source materials in Greek and Modern Philosophy; critical works will also be studied. 2 hours a week.

456. Seminar in Plato and Aristotle.
Prerequisite: Philosophy 336. 2 hours a week.

457. Modern Philosophy: Later modern philosophy with particular emphasis on the philosophy of the 19th century. 2 hours a week.
Prerequisite: Philosophy 347.

462. Ethics: A critical study of moral problems and theories. The course will be based on readings selected from the classics of ethical literature from Aristotle to the present. 2 hours a week.

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. Prerequisite: Philosophy 336. 2 hours a week.

PHYSICAL AND HEALTH EDUCATION

Professor:
Willard Joseph L'Heureux, B.A.; M.A. Michigan, Head of the Department

Associate Professor:
John Russell Fairs, B.Sc.; M.A. Columbia

Assistant Professors:
Elfrida M. Berzins (Mrs.), M.M. Riga
John Arthur Faulkner, B.A. and B.P.H.E. Queen's, M.S. Michigan
Michael Yuhasz, B.A.; M.S. Illinois

Lecturers:
Edgar DeArmon, B.Sc. Northeastern State Teachers'
John Pius Metras, Director of Intercollegiate Athletics, (Special Lecturer)

Lecturers (part-time):
Theodore Henry Coffey, D.P.E. Harvard, M.D., C.M. Queen's
William John Pillsworth, B.A.; M.A. New York

Instructors:
Helen Vieno Kunkel (Mrs.), B.A.
Patricia Laing (Mrs.), B.A.
Murray McNie

Courses

10. Prescribed Program: The instructional year is divided into two sessions (fall and winter). Each undergraduate entering the University will, if medically fit, be tested in aquatics and motor fitness. Attainment of a satisfactory standard in both these areas may enable a student to be exempted from class instruction.

Non-swimmers and beginning swimmers will enrol in the beginning swim classes in the fall session.

Activities Available:

(1) Aquatics: Beginning swimming, aquatic fitness; Red Cross Water Safety Instructor's Course, Royal Life Saving Courses.

(2) Recreational: Badminton, tennis, golf, squash, handball, archery.

(3) Team: Volleyball, soccer, basketball.

(4) Combative: Personal defense, wrestling, (men only).

(5) Gymnastic: Apparatus, trampoline.

(6) Fitness and developmental: Physical fitness, prescribed exercises.

Honors Courses

251. Team Games, Individual and Dual Activities: for men—football, group games, basketball, aquatics, track and field, officiating, volleyball, gymnastics, badminton; for women—archery, track and field, group games, volleyball or basketball, badminton, folk dancing, square and ballroom dancing, swimming, gymnastics. 2 lectures and 4 laboratory hours a week.

253. School Health Education (Methods and Materials): An approach to intelligent planning for healthful living; the study of personal health from the standpoint of Biology and Psychology; community and institutional public health; methods and materials needed to teach school health.

2 lectures a week.

258. History of (and Introduction to) Physical, Health and Recreation Education: Development of these three sections of education; their interrelationship in modern society; their connection with learning; the social significance of competitive games and sports; contemporary developments through public and private agencies. 3 lectures a week.

351. Team Games, Individual and Dual Activities: for men—football, track and field, hockey, folk and square dancing, soccer, basketball, aquatics, gymnastics; for women—tennis, golf, group games, volleyball or basketball, folk dancing, modern dancing, swimming.

1 lecture and 4 laboratory hours a week.

352. Organization and Administration of Physical and Health Education including Athletics: Staff, curriculum, budget, finance and purchasing, care of equipment, class organization, records, reports and facilities; the scheduling and management of athletic contests. 2 lectures a week.

354. Functional Human Anatomy:

1 lecture and 1 laboratory hour a week: half course.

366. Methods and Materials: A theory and laboratory course designed to acquaint the student with the program of physical education, selection of activities, planning, sources of materials and evaluation; analysis of materials in fundamental, individual and dual games, rhythmics, gymnastics, and team games. 3 lectures a week (laboratory as required).

451. Team Games, Individual and Dual Activities: for men—football, track and field, sports development exercises, gymnastics, aquatics, basketball, wrestling, baseball, stunts and tumbling; for women—two team sports, specialized training and experience in coaching, two individual or dual sports, and electives. 1 lecture and 4 laboratory hours a week.

453. Corrective Physical Education (including Care and Prevention of Athletic Injuries): Essential facts of human anatomy and physiology, as they pertain to corrective exercise; the under-developed or handicapped child; the care and prevention of athletic injuries; practical laboratory experience in clinical centres. 1 lecture, 2 laboratory hours a week.

454. Physiology of Exercise and Kinesiology: Trends of investigations of the physiology of physical activity, with implications for physical and health education; the science of bodily movements; the principal types of muscular exercise; analysis of complex movements into their simplest elements.

2 lectures a week (laboratory as necessary).

456. Seminar: Presentation, discussion and analysis of current physical education problems; the aims, objectives, and scope of the physical education program; supervised observation. 3 hours a week.

457. Tests and Measurements in Physical and Health Education: The techniques of evaluation in health and physical education and the use of tests to aid in program and student evaluation. Motor Fitness tests; tests of body weight, composition, proportions, and body mechanics; tests of cardiovascular condition; sports skill and knowledge testing; construction and administration of test batteries; the use of descriptive statistics in the handling of data for evaluation, grading and classification.

2 lectures and 2 laboratory hours a week.

(Open only to 4th year students on consent of instructor.)

PHYSICS

Professors:

Austin Donald Misener, B.A. and M.A. Toronto, Ph.D. Cantab.; F.R.S.C.; Head of the Department
Ray Leroi Allen, B.A. and M.A. Mt. Allison
Ralph William Nicholls, B.Sc. and Ph.D. London, A.R.C.S.

Associate Professors:

A. M. I. A. W. Durnford, B.A. and M.A.; Ph.D. Toronto
John Henry Blackwell, B.Sc. Melbourne, M.Sc. and Ph.D.
Eric Brannen, BA. and M.A. Toronto, Ph.D. McGill

Assistant Professors:

Peter Arthur Fraser, B.Sc., M.Sc. Wisconsin; Ph.D.
Eric Harold Tull, B.A.Sc. British Columbia; M.Sc., P. Eng.

Lecturers:

Charles Murray Carmichael, B.Sc. and M.Sc.
James Arthur Fulford, B.Sc.
Donald Ross Hay, B.Sc. and M.Sc., Ph.D. McGill
John Campbell Forrester MacDonald, B.A. and M.A. British Columbia, Ph.D. Toronto, (Honorary)
Donald Richard Stevenson, B.A.Sc. Toronto, M.S.E. Michigan, Mech. E. and Sc.D. Mass. Inst. of Technology, P.Eng.

Research Associates:

John Cecil Breeze, B.Sc. and Ph.D. Wales
Thomas William Wallace Stewart, B.Sc. and M.Sc.

Demonstrators:

Merrill Arthur Edwards, B.Sc. New Brunswick, M.Sc.
James Philip Fallona, B.Sc.
Reginald Charles Greenwood, B.Sc. Manchester, M.A. Western Reserve
Raffi-Uddeen Khan, B.Sc. and M.Sc. Punjab
Rama Chandra Murty, B.Sc. Andhra, M.Sc. and Dip. Lib. Bombay
Jacob Sosniak, B.Sc. and M.Sc. McGill
John Harvey Stockhausen, B.Sc. and M.Sc. University College of the West Indies
Roy Albert Wentzell, B.Sc. Acadia

Research Fellows and Scholars:

Heinrich Roman Froelich, B.Sc. Berlin, M.Sc.
Gerard Rosaire Hebert, B.Sc. Ottawa, M.Sc. British Columbia, M.Sc. Catholic U. of America
Faruq Aziz Khan, B.Sc. and M.Sc. Dacca
Peter William Manuel, B.Sc. and M.Sc.
Clive Steventon Mason, B.Sc.
Robert P. McEachran, B.Sc.
Garth Lloyd Olde, B.Sc. and M.Sc.
William Hambleton Parkinson, B.Sc. and M.Sc.
Edmond Morden Reeves, B.Sc. and M.Sc.
Alvin John Surkan, B.Sc. Alberta, M.A. Toronto
Michael Douglas Watson, B.S.

Courses

20. Mechanics and Heat: Demonstrations and laboratory exercises covering a selection of topics. 2 lectures, 3 laboratory hours a week.

21. Physical Science: Lectures and lecture demonstrations designed (1) to present an historical review of the development of the physical sciences, (2) to develop some of the practical applications of physical science in the modern world; (3) to outline the present trends in science
2 lectures, 2 laboratory hours a week.

31. General Physics: An extension of Physics 20 and 21; the laws and principles of light, sound, electricity, magnetism and thermionics.
2 lectures a week, both terms; 3 laboratory hours a week, first term.

41. Modern Physics: (i) a review of the laws and theories of classical physics; (ii) the development of physical science from the late 19th century to the present. 3 lecture hours a week.
Prerequisites: Physics 20 or 21 and Mathematics 24 (this may be taken contemporaneously).

Honors Courses

204. General Physics: Elementary Electricity and Optics including elementary geometrical and physical optics, current electricity, static electricity, and magnetism and electro magnetism. 2 lectures, 3 laboratory hours a week.

204M. General Physics: An extension of Physics 20, for second year Pre-Medical students; the laws and principles of light, sound, electricity, magnetism and thermionics. 2 lectures, 3 laboratory hours a week, first term.
2 lectures a week, second term.

250. Mechanics: An introduction to vector calculus, with applications to mechanics; the theory of vibrations and waves; dimensional analysis.
2 lectures a week.

251. Theory of Measurements: Lectures and practical work on the presentation and treatment of experimental data by graphical and numerical methods.
3 lecture and laboratory hours a week.

254. Elementary Optics and Acoustics: Historical development of optical theories including an introduction to quantum optics; wave motion and elementary acoustics; photometry; plane reflection and refraction; spherical reflection and refraction; optical instruments; interference; diffraction; polarisation.
2 lectures per week, 3 hours laboratory per week.

255. Electricity and Magnetism: An introductory course in the laws and principles, including practical electrical measurements. Prescribed for second year students in Honors Chemistry, Chemistry and Physics, and Physics students.
2 lectures, 3 laboratory hours a week.

350. Dynamics and Properties of Matter:

Part A (Dynamics): Vector analysis including integral theorems and their application, virtual work and generalized coordinates formulation for statics and dynamics, Lagrange's and Hamilton's equations of motion and their application, normal mode analysis,

(Part B (Properties of Matter): Theoretical and mathematical derivations of concepts of fluids and solids. 3 lectures a week.

356. Electronics: A treatment of the underlying principles of electronic conduction in vacuum tubes, gaseous tubes and semi-conductor devices; an analysis of rectifying circuits and of amplifiers. 2 lectures a week.

359. Laboratory: Designed to give training in the techniques of advanced physics. 9 laboratory hours a week: double course.
For Engineering students, 3 laboratory hours a week: half course.

366. Electronics: *Similar to 356 but with the addition of one term of* laboratory work in the use of electronics instruments.
2 lectures a week, both terms,
3 laboratory hours a week, one term.

370. Vector Analysis and Dynamics: This consists of the first term of Part A of Physics 350 up to the derivation of Lagrange's equations.
3 lectures a week, first term: half course.

376. Electronics: An introduction to physical electronics, including the treatment of charged particles moving in electric and magnetic fields, thermionic emission, conduction in metals and semiconductors, photoelectricity, vacuum tubes and transistors, electrical discharge in gases, rectifier circuits and amplifier circuits. 2 lectures a week.

377. Circuit Analysis: An introduction to electric circuit analysis commencing with simple transient problems but chiefly concerned with the steady-state A.C. method. 3 lectures a week.

379. Laboratory: Designed to accompany the lecture work of the third year Radio-Physics option. 9 laboratory hours a week: double course.

454. Advanced Optics and Spectroscopy: The principle of superposition of amplitudes; Huygens' Principle; wave packets and line profile; advanced aspects of interference, diffraction and polarisation; introduction to atomic and molecular spectroscopy. 2 lectures a week.

455. Electromagnetic Theory: A vector treatment of the theory of the static and dynamic electromagnetic fields, based on the fundamental experiments. 2 lectures a week

456. Atomic and Nuclear Physics: A course designed to give a thorough knowledge of the fundamental particles and of the experimental basis for modern concepts of atomic and nuclear structure. 2 lectures a week.

457. Introductory Quantum Mechanics: The course stresses the physical ideas behind wave-particle duality and operational definitions, de Broglie wave packets, leading to the postulation of Schroedinger's equation and its application to barrier problems, tunnelling phenomenon, etc. The second term considers the operator formalism and the rigorous development of non-relativistic quantum mechanics including Hermetian operators, expectation values and distribution calculations, etc. 2 lectures a week.

458. Seminar: Preparation of papers and reports: reading of historical essays and of articles from current magazines. Prescribed for fourth year students and optional for all students in the Mathematics and Physics course.
1 hour a week: half course.

459. Laboratory: Designed as an accompaniment to the lecture work of the fourth year. Emphasis is laid upon individuality of work and resourcefulness. As far as possible, training is given in research methods.

476. Methods of Mathematical Physics II: A continuation of Physics 351 with particular emphasis on the application of integral transform methods and the theory of the complex variable to the differential, integral, partial differential, and difference equations of the physical sciences. 2 lectures a week.

477. Communication Circuits: A presentation of various selected topics
2 lectures a week.

477E. Communication Circuits: A study of high-frequency transmission line theory, Maxwell's equation and their application to antennas and wave guiding systems, radio signal modulation and detection, power amplifiers and an introduction to radio noise and to semiconductors.
For Engineering students, 2 lectures a week.

479. Laboratory: Designed to accompany the lecture work of the fourth year Radio Physics option. The course consists of several experiments illustrating various aspects of electronics. As well each student is required to complete the design and construction of at least one project of his own.
12 hours a week: double course.
For Engineering students, 6 hours a week: full course.

PSYCHOLOGY

Professor:

Gordon Haslam Turner, B.A., M.A., and Ph.D. Toronto, Head of the Dept.

Associate Professors:

Leola Ellen Neal, B.A.; M.A. and Ph.D. Toronto; Dean of Women; (part-time)
Mary Jean Wright, B.A.; M.A. and Ph.D. Toronto

Assistant Professors:

John Paul, B.A., M.A. and Ph.D. Toronto
Jaroslav Havelka, M.A. Masaryk, Ph.D. Milan, M.Sc. McGill

Lecturers:

Charles Hart Aharan, B.A. and M.A., (Honorary part-time)
Harold Neil Blackwell, B.A. and M.A.; Ph.D. Toronto (part-time)
Kingsley George Ferguson, B.A.; M.A. and Ph.D. Toronto (part-time)
Morris Modris Schnore, B.A. and M.A.; Ph.D. McGill
Richard Gene Stennett, B.A. and M.A.; Ph.D. McGill (part-time)
Frank William Ralph Taylor, B.A. and M.A. Toronto

Graduate Assistant:
Reinhold Riese, M.A.

Courses

In University College, Psychology 20 or 30 is ordinarily prerequisite to all other courses in psychology.

20. Introduction to Psychology: Problems and Methods; individual differences and their assessment; learning; memory; thinking; sensation and perception; motivation; emotion; personality. 3 hours a week.

30. 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 Science and Premedical students who have neither had nor are taking Psychology 20. 3 hours a week.

35. Experimental Psychology I: Basic research techniques in psychology, including an introduction to statistical methods. 2 lectures, 2 laboratory hours a week.

36. Child Psychology: Child development; native equipment; learning; character and personality development; child management and family relationships. 2 hours a week.

38. Experimental Psychology II: Critical examination of research techniques in psychology with special emphasis on the control, manipulation and measurement of psychological variables. 2 lectures, 2 laboratory hours a week.
Prerequisite: Psychology 35.

39. Problems in Clinical Psychology: A clinical approach to behaviour problems including a discussion of the historical development of clinical psychology; current problems and the role of research; theoretical frames of reference; diagnostic and psychotherapeutic methods. 2 hours a week.

48. Abnormal Psychology: A consideration of abnormal activities in sensation, perception, memory, emotion, thought and behavior; mental deficiency; the causes and symptoms of the psychoneurotic disorders; some reference to major mental disorders; psychotherapeutic techniques including hypnosis and psychoanalysis; spiritism and extrasensory perception. 2 hours a week.

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; propaganda; public opinion. 2 hours a week.

Honors Courses

Offered in University College only.

The following courses are identical with the Pass courses indicated, except that additional assignments will be required: 235 (35), 236 (36), 338 (38), 339 (39), 349 (49), 446 (46), 448 (48).

24. Historical Introduction to Psychology: 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 a week.

337. Theory and Construction of Mental Tests: Discussion of basic considerations in mental measurement; description and evaluation of typical measuring instruments and their uses; consideration of persistent problems in the field of mental measurement. 2 hours a week.

355. Statistics: The application of common statistical procedures to psychological data. 2 hours a week.

444. Contemporary Psychology: A critical examination of the theories of representative modern and contemporary psychologists. 2 hours a week.

459. Research Problems: A seminar course in which students will select topics for special investigation. 3 hours a week.

RELIGIOUS KNOWLEDGE

See the affiliated colleges section.

ROMANCE LANGUAGES

Professors:
Robert Warren Torrens, B.S. Dartmouth, M.A. Harvard, Ph.D. Cornell, Head of the Department
Herbert Edward Jenkin, B.A. London, D.ès L. Laval, F.R.S.A., Director of the French Summer School
William Edwin Collin, L. ès L. Toulouse, M.A.

Associate Professor:
Frances Kathleen Montgomery, B.A. and M.A., D. de l'U. de Paris

Assistant Professors:
Lionel Jacques Seymour Metford, B.A. and M.A., D. de l'U. de Paris
Robert Newton Shervill, B.A., M.A., Ph.D., North Carolina
Norman Adrian Bennetton, M.A. Southern California, Ph.D. Johns Hopkins

Lecturer:
Maximilian Alvarez, B.A. Valladolid (Spain)

Instructors:
Bruce Davies, B.A. McMaster, M.A. Harvard
Jean Cross Newman (Mrs. R.), B.A. McGill, A.M. Radcliffe, Dra. en Fa., Madrid (on leave)
Basil Peter Seymour, B.A. Oxon, M.A. Toronto

Graduate Assistant:
Donald Bruce Tuck, B.A.

French Courses

20. Advanced French: Introduction to French literature, grammar translation, oral practice. 3 hours a week.
Prerequisite: French 10 or Grade XIII French.

22. French Conversation: Systematic oral practice for those students who wish to develop fluency in speaking French. 2 hours a week: half couse.
Prerequisite: French 20.

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 a week.

31. Grammar, Composition, Oral Practice.
Prerequisite: French 20. 3 hours a week.

33. Commercial French: Business correspondence, simple transactions, selected reading. For students in Secretarial Science, optional in Business Administration. Prerequisite: French 20. 3 hours a week.

40. French Drama: Study of typical examples of drama taken from French literature of the seventeenth through the twentieth centuries.
Prerequisite: French 20. 3 hours a week.

41. Advanced Grammar: Composition and Oral Practice.
Prerequisite: French 31. 3 hours a week.

43. Commercial French: Advanced transactions, reading. For students in Secretarial Science. Prerequisite: French 33. 3 hours a week.

45. Scientific French: Reading of scientific French from textbooks and journals, supplemented by individual reading in the special field of study of each student. 1 hour a week: half course.
Prerequisite: French 10 or Grade XIII French.

48. 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 a week.

Honors Courses

All students in Honors 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: Junior Group 2. 3 hours a week.

271. Phonetics, Grammar, Composition and Oral Practice.
Prerequisite: Junior Group 2. 3 hours a week.

380. French Literature of the Eighteenth Century: Lectures, reading, discussion, reports. Prerequisite: French 270. 3 hours a week.

381. Grammar, Composition, Oral Practice.
Prerequisite: French 271. 3 hours a week.

450. Mediaeval French: Reading of Old French, historical grammar, history of mediaeval literature; reading, lectures. 1 hour a week: half course.
Prerequisite: French 380.

490. The Literature of the Nineteenth Century: Lectures, reading and reports. Prerequisite: French 380. 3 hours a week.

491. Advanced Composition and Oral Practice.
Prerequisite: French 381. 3 hours a week.

Italian Courses

1. Elementary Italian: Grammar, oral practice, reading of simple texts. 3 hours a week.

10. Intermediate Italian: Review of grammar, reading of contemporary Italian, oral practice. 3 hours a week.
Prerequisite: Italian 1 or its equivalent.

20. Outline of Italian Literature and Civilization: Composition, reading, history of literature. 3 hours a week.
Prerequisite: Italian 10 or Grade XIII Italian.

30. Study of the 'Trecento' in Italy: Readings in Dante, Petrarch and Boccaccio, history of literature. Prerequisite: Italian 20. 3 hours a week.

Spanish Courses

1. Elementary Spanish: Grammar, translation, dictation, oral practice. 3 hours a week.

10. Intermediate Spanish: Grammar, composition, translation, dictation, oral practice. Prerequisite: Spanish 1 or its equivalent. 3 hours a week.

20. Survey of Spanish Literature, Grammar Review, Translation, Oral Practice. Prerequisite: Spanish 10 or Grade XIII. 3 hours a week.

22. Conversation: Systematic oral practice for developing fluency in speaking Spanish. Prerequisite: Spanish 10. 2 hours a week: half course.

45. Scientific Spanish: Reading of Scientific Spanish from journals supplemented by individual reading in the special field of study of each student. 1 hour a week: half course.
Prerequisite: Spanish 10 or Grade XIII Spanish.

48. Latin-American Literature: Study of typical examples of modern prose and poetry. Prerequisite: Spanish 20. 2 hours a week.

Note: Spanish 30, 31, 35, 40 and 41 are Pass Courses identical with 230, 231, 260, 340 and 341 respectively.

Honors Courses

All students in Honors 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 a week.
(Not offered in 1959-60.)

231. Phonetics, Prose Composition, Conversation.
Prerequisite: Spanish 20. 2 hours a week.

250. Latin-American Civilization: An historical survey of Latin-American culture; the modern Spanish-American novel; lectures, reading, reports.
Prerequisite: Spanish 20. 2 hours a week.

260. Spanish Poetry of the Nineteenth and and Twentieth Centuries: Lectures, reading, discussion, reports. Prerequisite: Spanish 20. 2 hours a week.

340. Spanish Prose of the Nineteenth and Twentieth Centuries: Lectures, reading, discussion, reports. Prerequisite: Spanish 20. 2 hours a week.

341. Commercial Spanish, Composition, Oral Practice.
Prerequisite: Spanish 231. 2 hours a week.

365. Spanish Poetry: Garcilaso de la Vega to the end of the Golden Age.
Prerequisite: Spanish 260 2 hours a week.

455. Spanish Literature of the Mediaeval Period.
Prerequisite: Spanish 365. 2 hours a week.

460. Spanish Drama before Lope de Vega, and Spanish Drama of the Golden Age. Prerequisite: Spanish 365. 2 hours a week.

465. The Spanish Novel and Non-fictional Prose of the Golden Age.
Prerequisite: Spanish 365. 3 hours a week.

461. Advanced Composition and Oral Practice.
Prerequisite: Spanish 341. 1 hour a week.

RUSSIAN STUDIES

Instructor:
Helen Isyumov (Mrs. P. N.), B.A. Univ. of Moscow

Courses

1. Elementary Russian: A beginning course; pronunciation, grammar, dictation, translation, oral practice. 3 hours a week.

10. Intermediate Russian: Grammar, dictation, translation, composition and conversation. Prerequisite: Russian 1. 3 hours a week.

15. Elementary Scientific Russian: The elements of Russian grammar with the reading of easy scientific Russian. 3 hours a week.
Prerequisite: Russian 1.

20. Advanced Russian: Special problems of grammar, translations, conversation, composition. Prerequisite: Russian 10. 3 hours a week.

22. Conversation: Systematic oral practice developing fluency in speaking Russian. Prerequisite: Russian 1-10. 2 hours a week: half course.

30. A Survey of Russian Literature.
Prerequisite: Russian 20. 3 hours a week.

45. Scientific Russian: The reading of scientific texts and articles in Russian. For Honors Science students. 1 hour a week: half course.
Prerequisite: Russian 10.

SECRETARIAL SCIENCE

Professor:
Mary Hamilton Gillespie, B.A.; M.A. Columbia, Head of the Department

Assistant Professor:
Elaine Woodrow Chapman, (Mrs. C. B.), B.A.

Lecturer:
Roma Lucille Waller (Mrs.), B.A.; M.A. Columbia

Instructor:
Eleanor Gertrude Strang, B.A.

Assistant:
Janet Cramer Ward

Courses

Students are warned that 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 a week.

30. Accounting and Bookkeeping: Prescribed for Secretarial Science students. The course 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. 2 hours a week.

36. Business Mathematics: Prescribed for Honors students in Business Administration and Secretarial Science. It provides practical and basic applications of methods relating to such calculations as inventory and turnover, depreciation, distribution of overhead, taxes, insurance, annuities and many other kinds of typical business calculations. 2 hours a week.

37. Office Practice: The foundation of the work in Office Practice is laid in the third year. Lectures are given on office methods, and actual duties are undertaken in the Secretarial Science Office. 3 hours a week.
Prerequisites: Secretarial Science 28-29.

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. 12 hours a week.
Prerequisites: Secretarial Science 28-29.

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 fourth year students. Units of work are assigned in rotation. Lectures are given on secretarial duties, office organization, the administration of services, the problem of office personnel. 15 hours a week: double course.
Prerequisites: Secretarial Science 37, 38, 39.

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 a week.

ZOOLOGY

Professors:
Anthony William Aldridge Brown, B.Sc.F., M.A. and Ph.D., Toronto; M.B.E., Head of the Department
Helen Irene Battle, B.A. and M.A.; Ph.D. Toronto
William Alexander Kennedy, B.A. and Ph.D. Toronto; Honorary (part-time)

Associate Professors:
William Wallace Judd, B.A. McMaster; M.A., Ph.D. Toronto
David Maxwell Scott, B.Sc. and Ph.D. McGill

Assistant Professor:
Robert Harvey Stinson, B.A. McMaster, Ph.D. Toronto

Lecturer:
Thomas Kenneth Richard Bourns, B.A. and M.A. British Columbia, Ph.D. Rutgers

Honorary Lecturers (part-time):
William Chefurka, B.Sc. Manitoba, M.A. Montana State, Ph.D. Harvard (on leave)
Ernest Howard Colhoun, B.S.A. Toronto, Ph.D. Cantab., F.R.E.S.
Andrew Hampden Lawrie, B.A. and M.A. Toronto
Hector Alexander Urquhart Monro, B.Sc. (Agr.) and M.Sc. McGill
David Paul Scott, B.Sc. and M.Sc. McGill, Ph.D. British Columbia
John James Tibbles, B.S.A. Toronto, M.Sc. and Ph.D. Wisconsin

Instructor:
Donald Burley McMillan, B.Sc. and M.Sc., Ph.D. Toronto

Preceptor:
Barbara Louise Shaw, B.A. Mt. Allison; M.Sc.

Graduate Demonstrators:
Isabel McCracken Allin (Mrs.), B.A.
Kailash Narain Mehrotra, M.Sc. Banaras
Joan Mortimer, B.Sc.
Marvin Dale Beckman, B.Sc. Alberta; William Henry Boyd, M.Sc. McGill; Avid Gabriel Carmichael, B.A. Saskatchewan; Garnet Francis Mason, B.A.; Robert William McCauley, M.A. Toronto; Robert Spencer Oldham, B.Sc. Sheffield; Marjorie Eleanor Prouse, M.Sc.; Doreen Lewin Scott (Mrs.), M.A.; John Frederick Skidmore, B.Sc. McGill.

Postdoctorate Fellows:

National Research Council:
Lawrence Theodore Threadgold, B.A. and Ph.D. Dublin

National Institute of Health (U.S.):
Amar Nath Chattoraj, M.Sc. and D.Phil., Allahabad

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 Honors Courses in Biology a student must obtain at least 60% in this course.

2 lectures, 3 laboratory hours a week.

21. Biological Science: 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 illustrated by examples from the botanical as well as the zoological field.

Open to students in any year. Those who obtain 60 per cent. in this course may select options for further study in Botany and Zoology.

2 lectures and 2 laboratory hours a week.

23S. Biological Field-Studies: Ontario trees, shrubs, birds, water life, insects, from the point of view of economic importance, conservation, scientific identification. Summer School only. 11 hours a week: half course.

24. Mammalian Zoology: The anatomy (first term) and physiology (second term) of the mammals. For students in the Nursing, Home Economics (first term only), and Physical Education courses.

2 lectures and 3 laboratory hours a week.

Prerequisite: Zoology of Grade XIII or Zoology 21.

30. Senior Mammalian Goology: The anatomy and physiology of the mammals. Students who have received credit in Zoology 24 will not be permitted to take Zoology 30. 2 lectures and 3 laboratory hours a week.

Prerequisite: Zoology 20 or 21.

34. Vertebrate Histology: An introduction to the microscopic structure and development of tissues and organs.

Prerequisite: Zoology 24 or 30. 1 lecture, 3 laboratory hours a week.

37. History of Biology: The history of discoveries in biology and the development of biological thought. 2 lectures a week.

Prerequisite: Zoology 20 or 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 21 (60%).

2 lectures, 4 laboratory hours a week, one term.

43. Animal Ecology: Effects of environmental factors; distribution of animals; animal communities; population dynamics. Given in alternate years, next in 1960-61. Prerequisite: Zoology 24 or 30. 2 lectures a week.

45. Principles of Genetics: The principles of Mendelian genetics and the chromosome theory, illustrated by lectures and the practical performance of simple breeding experiments. 2 lectures a week.

Prerequisite: Zoology 20 or Zoology 21 (60%).

Honors Courses

200M. Comparative Vertebrate Zoology and Introductory Embryology: Comparative structure and function of vertebrate organ systems; introductory embryology. For prospective Medical students.
2 lectures, 3 laboratory hours a week.

250. Invertebrate Zoology: The anatomy and biology of representative invertebrate animals and the general classification of the group.
Prerequisite: Zoology 20. 1 lecture, 3 laboratory hours a week.

337. History of Biology: The history of discoveries in biology and the development of biological thought. 2 lectures a week.

350. Comparative Vertebrate Zoology: The biology, origin, and evolution of the classes of vertebrates; an introduction to some principles of evolution.
Prerequisite: Zoology 250. 2 lectures, 3 laboratory hours a week.

354. Vertebrate Histology: An introduction to the microscopic structure and development of vertebrate tissues and organs.
1 lecture and 3 laboratory hours a week.

360b. Entomology: The biology and economic importance of the insects, and in addition the spiders, mites, crustacea and other arthropods.
2 lectures and 4 laboratory hours a week: second term.

452. Comparative Physiology: A comparison of the function of the organs and organ systems in selected invertebrate and vertebrate types.
Prerequisite: Zoology 350. 1 lecture and 3 laboratory hours a week.

453. Animal Ecology: Effects of environmental factors; distribution of animals; animal communities; population dynamics. 2 lectures a week.

454. Embryology: Principles of development as illustrated by selected invertebrate and vertebrate types.
Prerequisite: Zoology 354. 1 lecture and 3 laboratory hours a week.

455. 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 350. 2 lectures a week.

456. Laboratory Technique: A practical course in standard laboratory procedures, including microtechnique, photomicography, and preparation of illustrations. 3 laboratory hours a week: 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 a week: half course.

462. Cellular Physiology: A study of general physical and chemical principles involved in the functioning of the animal cell.
Prerequisite: Zoology 354. 1 lecture and 3 laboratory hours a week.

463. Biological Field Studies: An obligatory course of study of living organisms in their field environment. The student should be prepared to report in September one week in advance of registration, and to meet part of his expenses for travel and subsistence. Prescribed but non-credit.

470. Vertebrate Taxonomy: Classification and distribution of vertebrates, and the study of Canadian vertebrates in the laboratory.
1 lecture and 3 laboratory hours a week.

THE SUMMER SCHOOL AND EXTENSION DEPARTMENT

Director:
Professor Star Floyd Maine, B.A., B.D. Victoria, M.A. and Ph.D. Chicago

Associate:
Angela Armitt, B.A.

Assistant:
Olive M. Hodgins

The Summer School and Extension Department offers four types of courses which count towards the Bachelor of Arts degree.

(1) **Lecture Courses.** In numerous centres in Southwestern Ontario courses are conducted by members of the University Faculty. Attendance at these satisfies part of the residence requirements.

(2) **Tutorial Courses.** In several centres in Northern Ontario there are tutorial classes planned and supervised by members of the University Faculty, but taught by local tutors, who are college graduates. These courses use the correspondence material, in part, and do not satisfy the residence requirements.

(3) **Correspondence Courses.** In some subjects (not including Science, Mathematics, Psychology, Business Administration and the elementary work in languages) correspondence courses are available.

Students in these classes write the regular examinations and their papers are marked by members of the University Faculty.

(4) **Summer School Courses.** On the campus in London there is a Summer School extending for six weeks from July 6th to August 15th. The credit subjects offered in the Summer School are mainly those listed in the announcement as belonging to the General Program. Some Honors courses in English, Geography and Mathematics are available each summer for graduate students who wish to earn Type A certificates for secondary school teaching.

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 for 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.

Complete information about the Summer School and about Extension work is contained in the Handbook of the Summer School and Extension Department. This may be obtained by applying to the Director of the Summer School and Extension Department or to the Registrar.

TROIS-PISTOLES SUMMER SCHOOL FOR FRENCH, ENGLISH AND PAINTING, TROIS-PISTOLES, PROVINCE OF QUEBEC

Director: Professor Herbert Edward Jenkin, B.A. London, D. ès L. Laval

In 1959 the School will operate from July 2nd to August 19th inclusive. Although formal instruction is given in Phonetics, Composition, etc., the emphasis is on the spoken language.

For the bulletin concerning the above and the Painting course apply to the Director of the Trois-Pistoles Summer School, McIntosh Building, or to the University Registrar, Stevenson Hall.

Music Teachers' College

(London, Ontario)

(Founded and affiliated in 1945; in 1956 it became a constituent college of Arts)

Principal — Clifford Poole

Professors:

Clifford Poole, Principal and Co-Head of the Piano Department
Margaret Parsons Poole, Co-Head of the Piano Department
John Cook, A.R.C.M., F.R.C.O.
Alfred Rosé, B.A., Head of the Voice Department

Assistant Professor:

Clifford von Kuster, Mus.Bac.

Lecturers:

Howard Munn
Donald McKellar, Mus.Bac. Toronto
Earle Terry, M.Mus.
Lillian Wilson

Courses

25T. All first year students will take Harmony, two hours per week; Music History, one hour per week; Solfege (as related to School Music), one hour per week; and will attend the Studio Club meetings.

In addition, each student will major in one of: Piano, Voice, Organ, or Composition, and will continue with this major in second and third years. Similar courses are available for Violin, Clarinet, and Trumpet.

Piano: One private lesson per week.
Pedagogy: One hour per week.
Teaching Materials: Grades I, III, V, VII, one hour per week.
Repertoire: One hour per week.

Voice: Two private lessons per week.
English Songs; beginning Italian repertoire.
Teaching Materials (Piano): Grades I, III, V, one hour per week.
Piano: One private lesson per week.

Organ: One private lesson per week.
Pedagogy: One hour per week.
Teaching Materials (Piano): Grades I, III, V, VII, one hour per week.
Piano: One private lesson per week.
Repertoire: One hour per week.

Composition: One private lesson per week.
Piano or Organ: One private lesson per week.
Teaching Materials (Piano): Grades I, III, V, VII, one hour per week.
Repertoire: One hour per week.

35T. All second year students will take Harmony, two hours per week; Music History, one hour per week; Solfege, one hour per week; and will attend Studio Club meetings.

Piano: One private lesson per week.
Teaching Materials: Grades II, IV, VI, VIII, one hour per week.
Repertoire: One hour per week.

Voice: Two private lessons per week.
Introduction to French repertoire; continuation of English and Italian.
Teaching Materials (Piano): Grades II, IV, VI.
Piano: One private lesson per week.

Organ: One private lesson per week.
Teaching Materials (Piano): Grades II, IV, VI, VIII, one hour per week.
One private piano lesson per week.
Repertoire: One hour per week.

Composition: One private lesson per week.
Teaching Materials (Piano): Grades II, IV, VI, VIII, one hour per week.
Repertoire: One hour per week.
Teaching Practice: Demonstration lessons in first year Harmony.

45T. All third year students will take Counterpoint, one hour per week; Form, one hour per week; Advanced Form (with the permission of the Principal), one hour per week; Solfege, one hour per week; School Music (Pedagogy and Conducting), one hour per week; and will attend Studio Club meetings.

Music Teachers' College Faculty and Courses

120

Piano: One private lesson per week.
Increased emphasis on public performance, including concerti.
Repertoire: One hour per week.

Voice: Two private lessons per week.
Concert repertoire in the original language by Schubert, Brahms, Debussy, etc.
Increased emphasis on public performance, including operatic arias, oratorio and ensemble work.
Piano: One private lesson per week.

Organ: One private lesson per week.
Repertoire: One hour per week.
Church choir training and repertoire (practical experience under supervision).

Composition: One private lesson per week. Composition assignment for public performance.
Piano or Organ: One private lesson per week.
Repertoire: One hour per week.
Teaching Practice: Demonstration lessons in Second Year Harmony, Counterpoint and Form.

Counterpoint: One hour per week.

Form: One hour per week.

Advanced Form: One hour per week. Prerequisite the permission of the Principal.

Solfege: One hour per week.

School Music: Pedagogy and conducting—one hour per week.

Studio Club.

The Affiliated Colleges Faculties and Courses

THE PRELIMINARY YEAR

The Preliminary Year in the affiliated colleges is designed for those who have completed Grade XII (Ontario) or equivalent standing, including Latin or Mathematics or Music and one language besides English. Students who have not passed in six papers of Grade XIII, including at least three complete subjects, must take the entire Preliminary Year, with advance credit only for Grade XIII subjects in which the papers average at least 66%.

Adult Special Students over 21 years of age and out of school for at least two years will be admitted to the Preliminary Year if they have creditable results in a college aptitude test. They will be required to take in the Preliminary Year: English 10, another language and at least one other subject.

There is no Preliminary Year program available in any college of this University to qualify a student for admission to Pre-Medicine or Engineering Science or Honors Science programs.

The Preliminary Year will consist of the following programs:

(i) For admission to Junior Group 2, Secretarial Science, Honors Philosophy:
English 10
Another language
Latin 10 or two Maths. or Music (Grade II Theory and Grade VIII Practical)
Three courses from:
History 14
Geography 20
Biological Science 21 or Physical Science 21
A third Mathematics
Music 10 (if Music is not selected above)
Religious Knowledge 10x
Another language 1, or 10, or 1-10
Physical Education and Health Lectures

(ii) For admission to Nursing and to the General Program: Home Economics Options:
English 10
Another language
Latin 10 or two Maths. or Music (Grade II Theory and Grade VIII Practical)
Zoology 21
Physical Science 21 (Chemistry section)
Religious Knowledge 10x (for Ursuline College students)
Physical Education and Health Lectures

(iii) For admission to the General Program: Music Options:
English 10
French 10
Latin 10 or two Maths.
History 14
Music 15
Physical Education and Health Lectures

(iv) For admission to the General Program: Pre-Theological Options:
English 10
Another language (Greek I acceptable)
History 14

Two other full subjects from:

Two Mathematics
Biological Science 21 or Physical Science 21
Another language
Religious Knowledge 10x
Physical Education and Health Lectures

SPECIAL COURSES

The following courses, equivalent to Grade XIII subjects, are not offered in University College but may be offered by the affiliated colleges as part of the Preliminary Year.

English 10: *Literature and Composition.* — *3 hours a week.*

French 10: Intermediate French.
Prerequisite: Grade XII French. — 3 hours a week.

History 14: History of the Americas. — 3 hours a week.

Mathematics 10: College Algebra. — 2 hours a week.

Mathematics 12: Analytic Plane Geometry. — 2 hours a week.

Mathematics 18: Plane Trigonometry.
3 hours a week, one term; half course.

The Affiliated Colleges

THE FACULTIES

Unless otherwise indicated, the degrees have been granted by this University. "H" designates Huron College, "P" St. Peter's and Christ the King Colleges, "U" Ursuline College, and "W" Waterloo College.

BUSINESS ADMINISTRATION

Associate Professor:

Herman Olaf Johan Overgaard (W), B.A. Manitoba, M.S. Columbia

Lecturers:

Jonas Bingman (W), B.A.
Ronald Buddell (W), B.A. Queen's, C.P.A. (part-time)
Hugh Blaikie Rooney (H), B.A. and M.S.A.
Alton Westwood Joseph Craig (P), B.Comm. St. Dunstan's; M.B.A.

CLASSICS

Associate Professors:

James Allan Stewart Evans (W), B.A. Toronto, M.A. and Ph.D. Yale
Arthur Bernard Little (W), B.A. and B.D.; M.A. Toronto, S.T.M. and S.T.D. Chicago Lutheran Seminary

Assistant Professor:

Frank Hartley Allen (H), M.A. and B.D. Oxon.

Lecturers:

Fergus Joseph Patrick Laverty (P), B.A.
Mother M. St. Catherine (U), B.A., M.A. Univ. of Detroit

Instructor:

Sean Finbarr Gallagher (P), B.A. National Univ. of Ireland

ECONOMIC AND POLITICAL SCIENCE

(Economics, Politics, and Sociology)

Professor:

Mother M. St. Michael (U), A.T.C.M.; B.A.; M.A. Catholic U of America, Ph.L. and Ph.D. Laval

Associate Professors:

Francis Geoffrey Waddington Adams (W), B.A. and M.A. Toronto, Ph.D. Chicago
George Frederick Durst (W), B.A. and B.D.; M.A. Toronto
Herman Olaf Johan Overgaard (W), B.A. Manitoba, M.S. Columbia

Assistant Professors:

Max D. Stewart (W), B.A. and B.Comm. Alberta, M.A. Toronto
Mother M. Rosanna (U), A.T.C.M.; B.A.; M.A. Catholic U. of America; Assistant Registrar, Ursuline College

Lecturers:

Ignatius John Adel-Czlowiekowski (P), LL.M. Lemberg (Poland), LL.D. Fribourg (Switzerland)
Reverend T. L. McManus (U), B.A.; J.C.L.
Hugh Blaikie Rooney (H), B.A. and M.B.A.
Harold Treen (W), B.A., B.S.W. and M.S.W. Toronto

Instructor:

Eleanor Graves Torrens (Mrs. R. W.) (U), A.B. and M.A. North Carolina

ENGLISH

Professors:

Eleanor Croysdale Jared (H), M.A. Toronto, Ph.D. Radcliffe
Flora Roy (W), B.A. and M.A. Sask.

Associate Professor:

James McNab Clark (W), B.A. and M.A. Manitoba

Lecturers:

Evelyn Albright (H), B.A. Toronto, M.A. Chicago
Mary Brown (H), B.A. and M.A.
Anna Margaret Evans (Mrs. W. D.) (W), B.A.; M.A. Toronto
Stanley Edward McGuire (P), B.A.; M.A. Toronto
John Nicol (W), B.A. and M.A. Toronto
James MacLeod Sandison (W), B.A. and M.A. British Columbia
William Francis Simpson (P), B.A. and M.A.
James Stuart Stone (W), B.A. and M.A. British Columbia
David George Taylor (H), B.A. and M.A. Toronto

Instructors:

Mother Mary Agnes (U), B.A.; M.A. Toronto
Mother M. Corona (U), B.A.; M.A. Notre Dame
Mother M. St. Catherine (U), B.A.; M.A. Detroit
Sean Finbarr Gallagher (P), B.A. National Univ. of Ireland
Fritz Maximilian Gerhard Wieden (P), B.A. (part-time)
Mark Joseph Wildgen (P), B.A., Ph.L. Laval, S.T.L. Angelicum (Rome)

GEOGRAPHY

Associate Professor:

Herman Olaf Johan Overgaard (W), B.A. Manitoba, M.S. Columbia

Assistant Professor:

George Frederick Durst (W), B.A. and B.D.; M.A. Toronto

Lecturer:

Allan Jones Barker (W), B.A., M.A. Wisconsin

GERMAN

Associate Professor:

J. Wilhelm Dyck (W), A.B. Bethel, M.A. Missouri, Ph.D. Michigan

Assistant Professor:

Kurt Nabert (W), B.A. and M.A. Toronto

Instructor:

Mother Mary Agnes (U), B.A.; M.A. Toronto
Kristina Suokaite (U), B.A.

HEALTH

Instructor:
John Stevenson Winder (H), M.D.

HEBREW

Professor:
Roland Kenneth Harrison (H), B.A.; M.Th. and Ph.D. London

Lecturer:
Ragnar C. Teigen (W), B.A. Concordia, B.Th. Luther Theological Seminary, M.Th. Princeton

HISTORY

Professors:
John Lanceley Henderson (H), B.A., B.D., D.D.
Mother M. Mercedes (U), B.A. and M.A.
John Gordon Rowe (H), B.A. and B.D. Harvard, M.A. and Ph.D. Toronto; Dean of Residence at Huron College

Associate Professor:
Francis Geoffrey Waddington Adams (W), B.A. and M.A. Toronto, Ph.D. Chicago

Assistant Professor:
George Frederick Durst (W), B.A. and B.D.; M.A. Toronto

Lecturers:
Paul Eugene Crunican (P), B.A.; M.A. Toronto
Anna Margaret Evans (Mrs. W. D.) (W), B.A.; M.A. Toronto
John Kevin Anthony Farrell (P) (U), B.A. and M.A.; Ph.D. Ottawa
Donald Cockfield Savage (W), B.A. McGill, Ph.D. London

Instructor:
James Patrick Ryan (P), B.A. Ottawa
Françoise le Roux (U), L. ès L. l'U. de Paris

HOME ECONOMICS

Professor:
Mother M. Dominica (U), B.A. and M.A. Toronto

Associate Professor:
Mother M. St. Dominic (U), B.Sc. Marywood

Instructors:
Mother M. Victoria (U), B.Sc. Chestnut Hill, M.Ed. Univ. of St. Louis
Isabel Park (U), B.A. and M.A. Toronto

LIBRARY SCIENCE

Lecturers:

Anthony Joseph Durand (P), B.A. and M.A.; Ph.L. and Ph.D. Laval
John Lanceley Henderson (H), B.A., B.D., D.D.
Doris Irene Lewis (Mrs. M. E.) (W), B.A. Toronto
Mother M. Rosanna (U), A.T.C.M., B.A.; M.A. Catholic U. of America

Instructors:

Eugene Philip LaRocque (P), B.A.; M.A. Laval
Eleanore Catherine Donnelly (U), B.A.; B.L.S. Toronto

MATHEMATICS

Professor:

Ralph Gordon Stanton (W), B.A., M.A., Ph.D. Toronto

Associate Professor:

David Sprott (W), B.A.; M.A., Ph.D. Toronto

Lecturers:

John Joseph Bensette (P), B.A.; M.A. Detroit
Anthony Crane (W), B.A.Sc. and M.A. Toronto
Angus Kerr-Lawson (W), B.A. Toronto, S.M. Chicago
Frank Schaffer (W), B.A.Sc. Toronto
Thomas Whitney Troughton (W), B.A.Sc. Toronto

Instructors:

Mother M. Carmelita (U), B.A., M.A. Notre Dame
Blair Gray (H), B.A. Queen's (part-time)

MUSIC

Lecturers:

George Alexander Black (H), B.A. and M.A. Toronto, Church Music
Ulrich Leupold (W), Ph.D. Berlin, Director of Music in Waterloo College

PHILOSOPHY

Professors:

Anthony Joseph Durand (P), B.A. and M.A.; Ph.L. and Ph.D. Laval
William Sparkes Morris (H), B.A. Bristol, Ph.D. Chicago
Lester Albert Wemple (P), B.A.; Ph.L. Angelicum (Rome); Dean of Christ the King College

Associate Professor:

Mother M. St. Michael (U), A.T.C.M., B.A.; M.A. Catholic U. of America, Ph.L. and Ph.D. Laval

Assistant Professor:

Robert Bruce Langen (W), B.A. and M.A. Toronto

Lecturers:

Otto William Heick (W), A.B. and D.D. Wittenburg, B.D. Hamma Divinity School, A.M. and Ph.D. Nebraska
Charles Hanly (H), B.A. Toronto
John Frederick Little (W), B.A., B.D., Th.M. Princeton Theological Seminary, M.A. Princeton

Instructors:

Joseph Peter Finn (P), B.A., Ph.D. Catholic U. of America
Leo James Flynn (U) (P), B.A.; S.T.D. Angelicum (Rome), S.S.L. Biblical Institute
Clifford John Girard (P), M.A. Ottawa, Ph.L. Catholic U. of America
Arnold Francis Loebach (U) (P), B.A.; J.C.L. Catholic U. of America
William Joseph Ring (P), B.A.; Ph.L. Laval
Mark Joseph Wildgen (U) (P), B.A.; Ph.L. Laval, S.T.L. Angelicum (Rome)

PHYSICAL EDUCATION

Lecturers:

Jean Grace Briggs (W), B.A. and M.A. Toronto
Carl Andrew Totzke (W), B.A.

Instructors:

Paul Eugene Crunican (P), B.A. and M.A. Toronto
Helen Vieno Korri (U), B.A.

PSYCHOLOGY

Associate Professors:

William Harold Bexton (W), B.A. McMaster, M.A. Sask., Ph.D. McGill
Mother M. St. Michael (U), A.T.C.M., B.A., M.A. Catholic U. of America

Assistant Professor:

Douglas Campbell Fraser (W), B.Sc. Glasgow, M.Sc. Cambridge, M.A. and Ph.D. Edinburgh

Lecturers:

Joseph Peter Finn (P), B.A.; Ph.D. Catholic U. of America
Thomas R. Harris (H), B.A. Toronto, B.D. Union Theological Seminary, M.A. Columbia
Henry Wilkes Wright (W), B.A. and Ph.D. Cornell, LL.D. Manitoba

Instructors:

Mother M. Carmelita (U), B.A.; M.A. Notre Dame
William Joseph Ring (P), B.A.; Ph.L. Laval
Mark Joseph Wildgen (P), B.A.; Ph.L. Laval, S.T.L. Angelicum (Rome)

RELIGIOUS KNOWLEDGE

Professors:

James Joseph Carrigan (U), B.A.; S.T.L. and S.T.D. Montreal
William Robert Coleman (H), B.A. and M.A. Toronto, B.D. and D.D. Wycliffe, S.T.M. Union Theological Seminary, F.R.S.A.; Principal of Huron College

Associate Professor:

Mother M. St. Michael (U), A.T.C.M., B.A.; M.A. Catholic U. of America, Ph.L. and Ph.D. Laval

Assistant Professors:

Frank Hartley Allen (H), M.A. and B.D. Oxon.
John Grant Morden (H), B.A. Toronto, B.D. Wycliffe, S.T.M. Union Theological Seminary.

Lecturers:

Alvin John Baetz (W), B.A.
Clifford John Girard (U), M.A. Ottawa, Ph.L. Catholic U. of America
Eugene Philip LaRocque (P), B.A.; M.A. Laval
Eric Reble (W), B.A.
Ragnar C. Teigen (W), B.A. Concordia, B.Th. Luther Theological Seminary, M.Th. Princeton

Instructors:

Mother M. Carmelita (U), B.A.; M.A. Notre Dame
Lester Albert Wemple (P), B.A., Ph.L. Angelicum (Rome), Dean of Christ the King College

ROMANCE LANGUAGES

Professors:

Mother Marie (U), B.A. and M.A., Ph.D. Toronto
William Francis Simpson (P), B.A. and M.A.

Associate Professors:

Mother M. Rosanna (U), A.T.C.M., B.A.; M.A. Catholic U. of America
James Bernard Sanders (W), B.A. and M.A. Manitoba, D. de l'U. de Paris

Assistant Professors:

Jean Grace Briggs (Mrs. T.) (W), B.A. and M.A. Toronto
James Cuthbert McKegney (W), B.A.; M.A. Oregon
Dorothea Walter (Mrs. C.) (W), B.A. and M.A. Queens

Lecturers:

George Alexander Black (H), B.A. and M.A. Toronto
Eugene Philip LaRocque (P), B.A., M.A. Laval
Dante Anthony Lenardon (P), B.A. and B.Ed. Alberta, M.A. Toronto
Françoise le Roux (U), L. ès L. l'U. de Paris
Ilse Stewart (Mrs. D.) (W), B.A. and M.A. Toronto

Instructors:

Jean-Jacques Mambourg (H), Ph.D. Fribourg (Switzerland)
Jack Warwick (H), B.A. Oxon.

SCIENCE

Professor:

Bruce Weyler Kelley (W), B.A. Queen's, M.Sc. Chicago

Assistant Professors:

Ronald Arthur Aziz (W), B.A., M.A. and Ph.D. Toronto
Harold Kenneth Ellenton (W), B.Sc., M.A. Toronto

Lecturers:

Donald MacKay (W), B.Sc., Ph.D. Aberdeen
Geoffrey Power (W), B.Sc. Durham
Horst Rosatzin (W), B.Sc. Peking, Ph.D. Zurich
Robert Andrew Snyder (W), B.Sc., Ph.D.

SECRETARIAL SCIENCE

Associate Professor:

Winnifred Elvy Beno (W), B.A.

Lecturers:

Esther Jane Brandon (W), B.A.
Joan Evelyn McGill (W), B.A.

Huron College

(London, Ontario)

(Founded in 1863)

Principal — The Reverend W. R. Coleman, M.A., D.D.

Registrar — The Reverend J. Grant Morden, B.A., B.D., S.T.M.

GENERAL PROGRAM: PRE-THEOLOGICAL OPTIONS

Requirements for Admission: The Secondary School Graduation Diploma (Grade XII) and Grade XIII standing in English, History and three others, including a language, from the following: Latin, French, German, Spanish, Mathematics (any two) and Science. The Pre-Theological Preliminary Year may be taken in lieu of the Grade XIII requirements by those students who qualify to take these special one-year courses.

This program leads to the degree of Bachelor of Arts and is the normal requirement for admission to the three-year program leading to the title of L.Th. from Huron College. If, however, a student wishes to take another program leading to a General or Honors degree, Huron College will give its consent. In such case, the student should include Greek 1x, 25x and 35x in his undergraduate program.

Course numbers followed by "x" indicate a subject approved by the University and taught by Huron College only.

First Year

English 20
Greek 1x
History 20
Mathematics 20 or a Natural Science at the 21-29 level
Philosophy 20
Psychology 20
Health Lectures, Library Science and Physical Education

Second Year

Economics 20
English 32
Greek 25x
Philosophy 30
Religious Knowledge 30x
One of: History 31, 36, 44
Psychology 36, 46, 48, 49

Third Year

English 38
Greek 35x
Religious Knowledge 40x
One of: Philosophy 31, 36, 42, 47
Two of: Hebrew 1-10x, History 31, 36, 44
Psychology 36, 46, 48, 49

For courses offered in both Huron College and University College, see the University College section.

The following courses are offered at Huron College only.

GREEK COURSES

1x. New Testament Greek for Beginners. 3 hours a week.

25x. Readings in Hellenistic Greek. 3 hours a week.

35x. Select Passages: in the New Testament, to be read; and studies in the Greek Text. 2 hours a week.

RELIGIOUS KNOWLEDGE COURSES

10x. Christian Behavior and Social Action: Introduction to the basic principles. 2 hours a week.

30x. The Religious Ideas of the Bible: This study will be divided equally between the Old and New Testaments and will aim at a deepened understanding of the fundamental principles of Biblical religion. 2 hours a week.

40x. An Introduction to the Philosophy of Religion: A study of the history of the major living world religions, as studied in their basic literature. General problems of philosophy of religion. The problem of revelation and of a philosophy of the Christian religion. 2 hours a week.

Ursuline College

(London, Ontario)

(Affiliated in 1919)

Dean — Mother Marie, M.A., Ph.D.

Registrar — Mother M. Marina, B.A.

The General Programs and some of the Honors Programs are available in Ursuline College. All laboratory courses in Science are taught entirely in University College.

For the outline of the program in Home Economics offered jointly by Ursuline and University Colleges, see page .

HOME ECONOMICS COURSES

23x. Applied Art: Fundamentals of design and color as applied to the home; modern handicraft suitable for use in home and school. 2 hours a week.

24x. Family Hygiene: Problems in caring for physical, emotional and mental health of family. Lectures and practical demonstrations in caring for minor and chronic illnesses in the home. 1 hour a week: half course.

25x. Household Administration: A study of general principles of home construction, choice of sites, house designs, cost of dwelling, selection of home equipment and planning the work in the home. 2 hours a week: half course.

26x. Physiology: A lecture course dealing with the structure and functions of the various parts of the human body. 2 hours a week: half course.

30x. Clothing: A study of textiles; problems in clothing construction.
1 lecture, 3 laboratory hours a week.

31x. Normal Nutrition: Normal requirements of the body; the optimum diet; food nutrients and their functions; deficiencies.
2 lectures a week, both terms; 2 laboratory hours a week, one term.
Prerequisite: Home Economics 26x.

32x. Foods: The principles of cookery and food preparation and the scientific theory underlying them. 1 lecture, 3 laboratory hours a week.

33x. Interior Decoration: Elements of interior decoration and design.
Prerequisite: Home Economics 23x. 1 hour a week: half course.

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 a week.
Prerequisite: Home Economics 30x.

41x. Advanced Nutrition: Nutritional needs during infancy; the pre-school child; the adolescent. Modifications of the normal diet to meet specific dietary needs during diseases. Preparation of foods for these diets.
2 lectures a week, both terms; 2 laboratory hours a week, one term.

42x. Foods: Food science and experimental cookery.
Prerequisite: Home Economics 32x. 1 lecture, 3 laboratory hours a week.

45bx. Family Economics: Marketing and consumer problems; family finance management; budgeting. 2 hours a week: half course.

PHILOSOPHY COURSES

Philosophy 20 or 30 or 36 is a prerequisite for all General courses in Philosophy, Philosophy 230 for all Honors courses in Philosophy. Students preparing for Social work or other professions may, with permission, select options to suit their needs. Courses scheduled for two hours a week may meet for additional seminars or discussions at the discretion of the instructor.

Ursuline College may cancel a Philosopsy course for a year, if the number of students who wish to take it is insufficient.

20x. Introduction to Philosophy: Problems, divisions and method of philosophy; the principles of natural philosophy, metaphysics, epistemology and moral philosophy. 3 hours a week.

30x. Basic Philosophical Literature: As in University College. 3 hours a week.

31x. Logic: The three operations of the intellect. Conception, Judgment, Reasoning. 2 hours a week.

32x. Introductory Ethics: General and individual. 2 hours a week.

33x. Introduction to Metaphysics, Epistemology, and Ontology: Problems of being, knowledge, causality and analogy. 2 hours a week.

34x. Political Philosophy: History of ancient, mediaeval and modern political philosophy. The second term's work will cover the philosophical implications of contemporary political movements and principles for world society. 2 hours a week.

35x. Aesthetics: Lectures and seminars on the history of the philosophy of art and the metaphysics of the beautiful; aesthetic problems; aesthetics as the foundation of criticism; art and prudence; the liberal and servile arts; the useful and fine arts. 2 hours a week.

36x. Ancient, Mediaeval and Scholastic Philosophy: with reading from selected texts. 2 hours a week.

42x. Social Ethics: Domestic society: the nature and conditions of marriage; function, rights and duties of family inmates; birth control and population problems. Civil society: the philosophy of the state; the relations between church and state; the community of nations; labor problems. 2 hours a week.

43x. Advanced Metaphysics: Natural theology; comparative religious philosophy. 2 hours a week.

44x. Social Philosophy: The relationship of philosophy to the social sciences: the nature and function of society; freedom, authority, government, the family and the state; historical development of social economy from primitive to modern times; individual and social character of property, capital and labor. 2 hours a week.

47x. History of Modern Philosophy: The transition from Mediaeval to Modern Philosophy; Modern Philosophy; readings from selected basic texts. 2 hours a week.

Honours Courses

The following courses are identical with the Pass courses indicated, except that additional assignments will be required or seminars added: 231 (31), 335 (35), 336 (36), 347 (47), 443 (43).

Because a reading knowledge of Mediaeval Latin will facilitate the reading of Thomistic texts, an intensive course in Elementary Latin will be offered when there is sufficient demand.

When the number of applicants is insufficient to warrant a class, the college reserves the right to cancel the class for the current year.

230x. Basic Philosophical Literature: An examination of the principal problems and issues, methods and attitudes, theories and solutions, terms and concepts of philosophy in the light of Scholastic principles; a critical reading of selected philosophical classics is required. 2 hours a week.

350x. Philosophical Texts: An examination of specified source materials in Greek, Mediaeval and Modern Philosophy, as well as pertinent critical texts. 2 hours a week.

448x. Seminar in Contemporary Philosophy. 2 hours a week.

454x. Principles and Problems of Philosophy: Philosophical problems of special interest to the class, evaluated according to pragmatic, idealist and neo-Thomist principles. 2 hours a week.

456x. Seminar in Plato and Aristotle. 2 hours a week.
Prerequisite: Philosopsy 336.

457x. Seminar in Modern Philosophy. 2 hours a week.
Prerequisite: Philosophy 347.

462x. Ethics: A critical study of moral problems and theories; a comparative study of conflicting approaches to ethical problems found in the classics of ethical literature from Aristotle to the present, including Thomistic and neo-Thomist texts. 2 hours a week.

466x. Seminar in Post-Aristotelian and Mediaeval Philosophy.
Prerequisite: Philosophy 336. 2 hours a week.

RELIGIOUS KNOWLEDGE COURSES

10x. Motives and Means of Christian Life: Fundamental dogmas of Christianity, grace, prayer and the sacraments. Lectures, essays, readings. 2 hours a week.

20x. Christian Ideals of Life: Charity, personal, social and civic; justice and the commandments; citizenship. Lectures, essays, readings. 2 hours a week

30x. Theology of Christ and the Church: The governing function of the Church; the teaching and sanctifying functions of the Church; Christian apologetics. 2 hours a week.

31x. History of Liturgy: Survey of expressions of social consciousness in worship from Apostolic to modern times. Lectures, readings, seminars on the Encyclicals. 1 hour a week: half course.

32x. Moral Theology. 2 hours a week.

40x. Dogmatic Theology: Introduction to Theology. Study of revealed truths. 2 hours a week.

41x. Scripture: Introduction to the Old and New Testaments. 1 hour a week: half course.

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. 2 hours a week.

St. Peter's and Christ the King Colleges

(London, Ontario)

(Founded in 1912; affiliated in 1923)

Rector — Rt. Rev. A. P. Mahoney, P.A., V.G., LL.D.

Dean of Arts — The Reverend L. A. Wemple, B.A., Ph.L.

Registrars: The Reverend W. F. Simpson, M.A. and the Reverend E. P. LaRocque, M.A.

St. Peter's College consists of the Philosophy division of St. Peter's Seminary, for candidates for the priesthood, and Christ the King College, an Arts College for lay students.

In addition to the program in Honors Philosophy shown below, taught mainly in St. Peter's College, the General program and some Honors programs are available at the College of Christ the King. All laboratory courses in Science are taught entirely in University College.

HONORS PROGRAM IN PHILOSOPHY

Requirements for Admission: The Secondary School Graduation Diploma and Grade XIII standing with an average of 60% in English, another language, Latin or two Mathematics, and three other papers; or the Preliminary Year.

This program leads to the 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 250x, 251x, 257x, 260x
A second year foreign language

At least one course of options approved by the Registrar and the Dept. of Philosophy
Library Science and Physical Education

Second Year

English 32 or 36 or 38
Philosophy 351x, 352x, 357x, 358x

At least one course of options approved by the Registrar and the Dept. of Philosophy

Third Year

English 32 or 36 or 38 or 49 (one not previously chosen)
Philosophy 450x, 451x, 452x, 457x

At least one course of options approved by the Registrar and the Dept. of Philosophy

LATIN COURSES

25x. *Introduction to Mediaeval Latin:* *Cicero, De Amicitia; St. Ambrose,* Hymns and Homilies; St. Augustine, Confession; a comparative study of the thought and style of Cicero and St. Augustine; syntax and composition. 3 hours a week.

35x. Survey of Mediaeval Latin: From the death of St. Augustine to the 12th Century; lectures on Latin style and culture of the period; syntax and composition. 3 hours a week.

PHILOSOPHY COURSES

20x. An Introduction to Philosophical Problems: Along with an historical approach, the solutions to various philosophers are assessed at their true value. 3 hours a week.

30x. A Critical Reading of some of St. Thomas' Writings: concerning Metaphysics, Ethics and Rational Psychology. 3 hours a week.

44. Social Philosophy: the philosophy of marriage or the philosophy of education. 2 hours a week.

250x. Psychology: 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 a week.

251x. Formal Logic: The operations of intellect. Conception; Judgment; Reasoning. 2 hours a week.

257x. The History of Pre-Christian Philosophy: A survey of philosophy in the Orient and in the Graeco-Roman world from its beginnings to the neo-Platonism of the early Christian period. 2 hours a week.

260x. Natural Philosophy: An introduction to Aristotelian philosophy by a close study of the De Principiis Naturae of St. Thomas. 2 hours a week.

351x. Metaphysics: An introduction to metaphysics as the science of the first causes of all being. 3 hours a week.

352x. General Ethics: The last end of man. The norm of morality; law; reason and conscience. Habits and virtues; the role of passion. Right and duty. 3 hours a week.

357x. History of Philosophy from the time of Christ to 1600 A.D. 3 hours a week.

358x. Social Philosophy: Capitalism, individualism, collectivism; authoritarian and corporative state: civil organization and administration; social functioning of modern economic society. 2 hours a week.

450x. Psychology: 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. 2 hours a week.

451x. Metaphysics: God, the First Cause: The demonstration by reason of the existence of an uncaused cause of all being; an examination of athetism, agnosticism and pantheism. 3 hours a week.

452x. Politics: A study of the political philosophy of Aristotle and St. Thomas, together with a survey of the dominant political theories of our own day. 3 hours a week.

457x. Modern Philosophy: The history of philosophy from the Renaissance to the present day. 3 hours a week.

RELIGIOUS KNOWLEDGE

10x. The Life of Christ: as found in the Gospels. 2 hours a week.

30x. Theology: Rational defence of Christian revelation; the existence of God; the fact of revelation; the Church of Christ; the sources of revelation.

37x. Church History: Christian antiquity and mediaeval church history from the birth of Christ to the year 1500 A.D. 2 hours a week.

40x. Theology: A study of revealed truths; God and creation; sin and redemption; supernatural life; the channels of supernatural life. 2 hours a week.

47x. Church History: The Reformation and modern church history from 1500 A.D. to the present day. 2 hours a week.

Waterloo College

(Waterloo, Ontario)

(Affiliated in 1925)

President — J. Gerald Hagey, B.A., LL.D.

Dean and Registrar — The Reverend Lloyd H. Schaus, M.A., B.D.

In 1925 the Faculty of Arts of Waterloo College became an affiliated collegt of the University of Western Ontario. In January, 1930, the right of Waterloo College to proceed with programs leading to the Honors B.A. degree was officially recognized. For information about the General and Honors programs offered by the college, and the fees for the courses, consult the Registrar. The following program is taught in Waterloo College only. It has been approved by the Evangelical Lutheran Seminary of Canada as a prerequisite for the theological course. Pre-theological students are encouraged to substitute Honors Programs, if they desire to do so.

GENERAL PROGRAM: PRE-THEOLOGICAL OPTIONS

Requirements for Admission: Secondary School Graduation Diploma in required subjects and approval of application by the Dean of the Seminary and the Dean of the College.

For the credits to be allowed for certificates in Grade XIII subjects, consult your Registrar.

Junior Program

English 10, 20
Library Science
Physical Education
Latin 10 or Math. 11 or Music 10
Math. 20 or Physics 21 or Zoology 21
Economics 20
History 14 or Geography 20
Psychology 20
History 20

One of: Greek 1x or 10, Geography 20, History 14 or 20, Music 10 or 20, Philosophy 20, a foreign language 10 or 20, Religious Knowledge 10x
Two years of work in one of the following languages:
German 1 and 10, or 10 and 20
French 10 and 20
Latin 10 and 20

At least one foreign language must be completed at the 20 level.

Senior Program

Philosophy 30
Geology 20 or 21 or Physics 21 or Zoology 21 (one not taken previously)
Two of: English 32, 36, 38, 49
Two of: History 31, 36, 44
Greek 25x or Politics 32 or 42

Greek 35x or Psychology 36 or 48 or 49
At least three full courses (or the equivalent in half-courses) from: English 39, Geography 20, Hebrew 1x, 10x, Philosophy 31, 42, 43, Psychology 36, 46 48, 49, Religious Knowledge 31x, 32x, 43x, 44x, Sociology 20

For those courses which University College and Waterloo College offer in common, see the University College section. The following courses are offered in Waterloo College only:

BUSINESS COURSE

47b. Introduction to Insurance, Estates, and Trusts.
2 hours a week: half course.

CHEMISTRY COURSE

11xN. Basic inorganic and organic chemistry, with stress placed on application to physiology and pharmacology. Lectures and laboratory exercises.
3 hours a week.

GREEK COURSES

For Biblical Greek 25x and 35x, see the Huron College section.

HEBREW COURSES

1x. A study of the grammatical forms of Hebrew, and the elements of syntax; written exercises; practice in reading easy Bible passages.
3 hours a week.

10x. Grammar and Syntax: Text of I Kings, 17-19, 21-22, Obadiah, Jonah.
Prerequisite: Hebrew 1x. 3 hours a week.

RELIGIOUS KNOWLEDGE COURSES

10x. Introduction to Biblical Literature. 2 hours a week

31x. Biblical Literature: A study of the times, life, and teachings of Jesus based on the Gospels. 1 hour a week: half course

32x. Biblical Literature: A study of the foundation and work of the early Christian Church, with special attention to the Acts and the life and letters of Paul. 1 hour a week: half course

43x. Biblical Literature: A study of Old Testament history.
1 hour a week: half course.

44x. Biblical Literature: A study of the lives and teachings of the Hebrew Prophets. 1 hour a week: half course.

SUMMARY OF REGISTRATION IN THE FACULTY OF ARTS AND SCIENCE, 1958-59

Year in Course		University College	Huron College	Ursuline College	Waterloo College	College of Christ the King	St. Peter's College	Music Teachers' College	Totals	
Full-time Students:										
Preliminary (without Senior Matriculation)		.....	35	23	67	24	11	....	160	
First		675	131	52	192	83	30	9	1172	
Second		564	76	28	138	43	17	12	878	
Third		448	39	27	66	31	18	10	639	
Fourth		129	1	3	9	4	....	....	146	
Graduate		96	.....	.....	....	....	....	....	96	
										3091
Part-time Students:										
Undergraduate		45	13	31	75	12	2	3	181	
Graduate		96	.....	.....	....	....	....	....	33	214
										3305
Correspondence	497	.....	.....	.....	....	....	....	....	497	
Summer School	1090	.....	.....	.....	....	....	....	....	1090	
Extension	895	.....	.....	.....	....	....	....	....	895	2482
TOTALS	2482	1990	295	164	547	197	78	34		5787
Duplicates										731
										5056

SUMMARY OF REGISTRATION IN THE WHOLE UNIVERSITY, 1958-59

		Totals	
Faculty of Arts and Science:	University College intramural and Music Teachers' College	2024	
	Summer School, Correspondence, Extension, less duplicates	1751	
	Affiliated Colleges	1281	
			5056
Faculty of Medicine:	Undergraduates (all full-time)	228	
	Graduates (18 full-time, 2 part-time)	20	
			248
School of Nursing:	Graduate Nurses (135 full-time, 1 part-time)	136	
			136
School of Business Administration:	Juniors (third year Honors) (all full-time)	67	
	Seniors (fourth year Honors) (all full-time)	87	
	Graduates (all full-time)	169	
			323
UNIVERSITY TOTAL ENROLMENT:	(4032 men, 1731 women) (4482 in the constituent University, 1281 in the affiliated colleges)		5763

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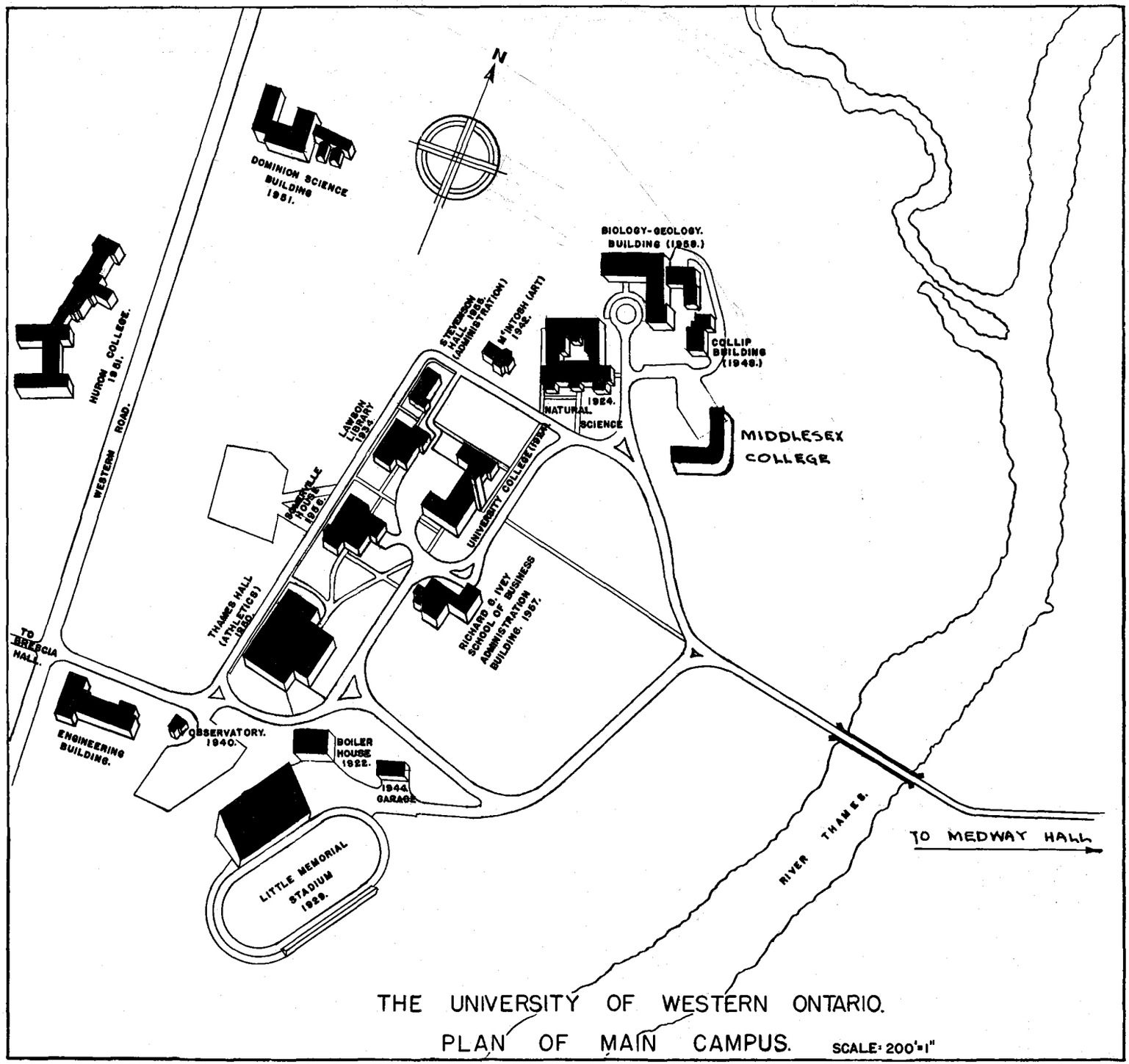
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THE UNIVERSITY OF WESTERN ONTARIO.

PLAN OF MAIN CAMPUS. SCALE: 200'=1"