



**Trent University
Peterborough, Ontario
Canada**

**Calendar 1970-1971
The Seventh Academic Year**

Nunc cognosco ex parte



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Notice:

Changes in some areas including new faculty appointments, courses, regulations and fees may occur. The University reserves the right to make such changes subsequent to publication of the Calendar.



University Diary

Autumn Term

Aug. 31	Monday	Final date for payment of first instalment of tuition fees
Sept. 7	Monday	Labour Day
Sept. 13	Sunday	Arrival of new students
Sept. 14	Monday	Introductory seminar begins and
Sept. 20	Sunday	Arrival of returning students
Sept. 21	Monday	Classes begin
Sept. 24	Thursday	Meeting of the Senate
Oct. 9	Friday	Final date for changes in registration
Oct. 12	Monday	Thanksgiving Day
Oct. 15	Thursday	Meeting of the Senate
Oct. 31	Saturday	Classes end
Nov. 2	Monday	Residential Reading and Laboratory Week begins
Nov. 9	Monday	Classes begin
Nov. 19	Thursday	Meeting of the Senate
Dec. 19	Saturday	Classes end
Dec. 20	Sunday	Christmas vacation and Reading Period begins

Winter Term

Jan. 1	Friday	New Year's Day
Jan. 4	Monday	Classes begin
Jan. 21	Thursday	Meeting of the Senate
Jan. 30	Saturday	Classes end
Feb. 1	Monday	Residential Reading and Laboratory Week begins
		Final date for payment of second instalment of tuition fees
Feb. 8	Monday	Classes begin
Feb. 18	Thursday	Meeting of the Senate
Mar. 1	Monday	Final date for withdrawal without penalty
		Classes end
Mar. 13	Saturday	
Mar. 14	Sunday to	
Mar. 28	Sunday	March vacation and Reading Period



Spring Term

Mar. 18	Thursday	Meeting of the Senate
Mar. 29	Monday	Classes begin
Apr. 9	Friday	Good Friday
Apr. 15	Thursday	Meeting of the Senate
Apr. 24	Saturday	Classes end
Apr. 26	Monday	Examinations begin
May 1	Saturday	Final date for receipt of applications for admission to the Summer Session
May 8	Saturday	Examinations end
May 9	Sunday	Summer vacation and Reading Period begins
May 28	Friday	Convocation
June 30	Wednesday	Final date for receipt of applications from mature applicants
July 1	Thursday	Dominion Day
July 5	Monday	Summer Session classes begin
July 15	Wednesday	Normal closing date for appeals
July 30	Friday	Final date for payment of deposit against tuition fees
Aug. 2	Monday	Civic Holiday
Aug. 14	Saturday	Summer Session classes end
Aug. 16	Monday	Summer Session examinations begin and continue until August 19



Academic Staff

W.P. Adams, B.A. (SHEFFIELD), M.SC., PH.D. (MCGILL)
Associate Professor of Geography and Chairman of the Department

R.G. Annett, B.SC., PH.D. (WINDSOR)
Assistant Professor of Chemistry

G.O. Aspinall, B.SC., PH.D. (BRISTOL), D.SC. (EDINBURGH),
F.R.I.C., F.R.S.E.
Professor of Chemistry and Chairman of the Department

Gilbert Bagnani, D.LITT. (ROME), F.R.S.C.
Professor in Ancient History

Mrs. Stewart Bagnani
Special Lecturer in Art

Pradeep Bandyopadhyay, B.A. (CALCUTTA, OXON.),
M.A. (OXON., MANCHESTER)
Assistant Professor of Political Sociology

P.F. Barrett, M.SC. (QUEEN'S), PH.D. (TORONTO)
Assistant Professor of Chemistry

B.L. Beach, B.A. (ACADIA), M.A. (DALHOUSIE),
PH.D. (MCGILL)
Associate Professor of Psychology

M.S. Berkowitz, B.A. (NEW YORK), M.A. (MASSACHUSETTS).
Assistant Professor of English Literature

Michael Berrill, B.SC. (MCGILL), M.SC. (HAWAII),
PH.D. (PRINCETON)
Assistant Professor of Biology

Miss Janet P. Bews, B.A. (QUEEN'S), M.A., PH.D. (LONDON)
Assistant Professor of Classics

J.M. Blackburn, B.SC. (LONDON), PH.D. (CANTAB.)
Professor of Psychology

B.R. Blishen, M.A. (MCGILL)
Professor of Sociology

Stephen Bonnycastle, B.A. (QUEEN'S)
Lecturer in English Literature

M.J. Boote, B.A. (WALES), PH.D. (MCGILL)
Professor of Economics and Chairman of the Department

R.T. Bowles, B.SC. (BRIGHAM YOUNG), PH.D. (OREGON)
Associate Professor of Sociology

S.A. Brown, B.S.A. (TORONTO), M.S., PH.D. (MICHIGAN
STATE), F.C.I.C.
Professor of Chemistry

A.G. Brunger, B.SC. (SOUTHAMPTON), M.SC. (ALBERTA)
Assistant Professor of Geography

J.W. Burbidge, M.A. (YALE), B.D. (TORONTO)
Assistant Professor of Philosophy

D.R. Cameron, B.A. (BRITISH COLUMBIA), M.SC., PH.D.
(LONDON)
Assistant Professor of Politics

David B. Carlisle, M.A., D.PHIL., D.SC. (OXON.), F.L.S.,
F.Z.S., F.I.BIOL. (LONDON)
Professor of Biology and Chairman of the Department

Ian Carruthers, B.A. (TORONTO)
Lecturer in English Literature

Cyril Carter, B.SC., PH.D. (LONDON)
Associate Professor of Mathematics

I.C. Chakravartty, M.SC. (GAUHATI),
PH.D. (SASKATCHEWAN)
Assistant Professor of Mathematics

R.D. Chambers, B.A. (MCGILL), B.LITT. (OXON.)
Associate Professor of English Literature

I.D. Chapman, B.SC. (LIVERPOOL), M.A. (TORONTO)
Associate Professor of Chemistry

Georges Cohen, L.-ES-L., D.E.S. (SORBONNE)
Assistant Professor of French

A.O.C. Cole, M.A. (TORONTO)
Lecturer in History

Roger Crowhurst, B.A., PH.D. (LONDON)
Associate Professor of Classical Studies

D.C.A. Curtis, M.A. (QUEEN'S), PH.D. (MCGILL)
Assistant Professor of Economics

Mrs. Margaret P. Doxey, B.SC. (LONDON)
Assistant Professor of Politics

W.H. Dray, B.A. (TORONTO), M.A., D.PHIL. (OXON.),
F.R.S.C.
Professor of Philosophy and Chairman of the Department

J.W. Earnshaw, B.A.SC. (TORONTO), PH.D. (CANTAB.)
Assistant Professor of Physics

G.D. Eathorne, B.A. (NEW ZEALAND), M.A. (CANTERBURY)
Assistant Professor of English Literature

R.L. Edwards, M.A., D.PHIL. (OXON.), F.R.E.S.
Professor of Biology

W.D.R. Eldon, B.A. (WESTERN ONTARIO), A.M., PH.D.
(HARVARD)
Professor of Economics

William van Weezel Errens, B.A., DOCTORANDUS
(UTRECHT)
Assistant Professor of Sociology

J.C. Fewster, M.A. (MANCHESTER)
Assistant Professor of German

A.G. Fisher, M.A. (SASKATCHEWAN)
Assistant Professor of English Literature

A.E. Franklin, M.A. (CANTAB.)
Lecturer in French

Miss M.G. Fry, M.A. (DALHOUSIE), B.LITT. (OXON.)
Associate Professor of Philosophy

S.F. Gallagher, B.A. (IRELAND), M.A. (WESTERN ONTARIO),
PH.D. (IRELAND)
Associate Professor of English Literature

David Gallop, M.A. (OXON.)
Professor of Philosophy

E. Gáston, LIC.DER., LIC.FIL.Y LET. (ZARAGOZA),
D.E.S. (NANCY)
Assistant Professor of Spanish

Mrs. Lorna A. Gendreau, M.A., (QUEEN'S)
Assistant Professor of Psychology

Paul Gendreau, M.A. (OTTAWA), PH.D. (QUEEN'S)
Assistant Professor of Psychology

John Gilchrist, B.A., PH.D. (LEEDS)
Professor of History

J.P. González-Martín, LIC.DER. (OVIEDO), DR.DER.
(ZARAGOZA)
Associate Professor of Spanish

Mrs. Rosa Mariá Garrido de González, LIC.DER.,
DR.DER. (SEVILLA), M.A. (TORONTO)
Assistant Professor of Spanish

C.M. Greene, A.B. (AMHERST), A.M. (COLUMBIA),
PH.D. (HARVARD)
Associate Professor of History

B.C. Gregory, B.A.SC. (TORONTO), PH.D. (CANTAB.)
Associate Professor of Physics

A.P. Guinand, B.SC. (ADELAIDE), D.PHIL. (OXON.)
*Professor of Mathematics and Chairman of the
Department*

F.A. Hagar, A.B. (HARVARD), M.A., PH.D. (CALIFORNIA),
M.LITT. (CANTAB.)
Associate Professor of History

G.F. Hamilton, B.A.SC., M.A. (TORONTO)
Assistant Professor of Mathematics

P.D. Harrison, M.A. (TORONTO)
Assistant Professor of Anthropology

F.M. Helleiner, M.A. (WESTERN ONTARIO)
Assistant Professor of Geography

Hermann Helmuth, D.SC. (KIEL)
Assistant Professor of Anthropology

J.P. Henniger, M.SC., PH.D. (MCGILL)
Assistant Professor of Mathematics

Mrs. Dorothy M. Hepworth, M.A. (BRITISH COLUMBIA)
Assistant Professor of Sociology

John Hillman, M.A. (OXON.)
Assistant Professor of Sociology

B.W. Hodgins, B.A. (WESTERN ONTARIO), M.A. (QUEEN'S),
PH.D. (DUKE)
Associate Professor of History

John B. Hudson, B.A. (OREGON), M.A. (WASHINGTON),
PH.D. (CORNELL)
Professor of Sociology

W.T. Hunter, B.COM. (TORONTO), M.A. (TORONTO, OXON.)
Assistant Professor of Economics

E.H. Jones, B.A. (SASKATCHEWAN), M.A. (WESTERN
ONTARIO)
Assistant Professor of History

Roger Jones, B.SC. (WALES), M.SC. (KANSAS),
PH.D. (WALES)
Assistant Professor of Biology

R.G. Johnson, M.SC. (QUEEN'S), PH.D. (LIVERPOOL)
Assistant Professor of Physics

K.E. Kidd, M.A. (TORONTO), F.R.A.I.
*Professor of Anthropology and Chairman of the
Indian-Eskimo Studies Program*

H.M. Kitchen, M.A. (MCMASTER)
Assistant Professor of Economics

A.A. Krueger, STAATSEXAMEN (MUNICH)
Lecturer in German

J.M.A. LeDreff, M.A. (BRITISH COLUMBIA)
Assistant Professor of French

J.I. Lodge, M.A. (QUEEN'S), PH.D. (VIRGINIA)
Professor of Physics and Chairman of the Department

K.R.V. Lyon, B.A. (BRITISH COLUMBIA)
Assistant Professor of Politics

R.E. March, B.SC. (LEEDS), PH.D. (TORONTO)
Associate Professor of Chemistry

J.D.P. Martin, B.A. (QUEEN'S), B.L.S. (MCGILL)
Lecturer in History

J.I. MacAdam, B.A. (NEW BRUNSWICK), M.A. (QUEEN'S),
PH.D. (LONDON)
Associate Professor of Philosophy

David S. Macmillan, M.A. (GLASGOW), PH.D. (SYDNEY),
F.R.A.H.S.
Associate Professor of History

E.A. Maxwell, M.SC., PH.D. (TORONTO)
Assistant Professor of Mathematics

Douglas McCalla, B.A. (QUEEN'S), M.A. (TORONTO)
Assistant Professor of History

J.C. McDonald, B.A. (TORONTO), M.SOC.SC., PH.D.
(BIRMINGHAM)
Professor of Sociology

Ian McLachlan, M.A. (OXON.)
Associate Professor of English Literature

W.A. McMullen, M.A. (CANTAB.)
Assistant Professor of Philosophy

Terence Mellors, M.A. (OXON.)
Assistant Professor of French

R.B. Morris, B.A. (REDLANDS), M.SC. (WASHINGTON),
PH.D. (ALBERTA)
Assistant Professor of Psychology

David R. Morrison, M.A. (SASKATCHEWAN)
Assistant Professor of Politics

W.L. Morton, S.M., B.A. (MANITOBA), M.A., B.LITT.
(OXON.), LL.D. (TORONTO), D.LITT. (NEW BRUNSWICK,
MCGILL, MANITOBA), F.R.S.C., F.R.HIST.S.
Vanier Professor of Canadian History

T.N. Murphy, B.SC. (LIVERPOOL)
Assistant Professor of Mathematics

W.F.W. Neville, B.A. (MANITOBA, OXON.)
Assistant Professor of Politics

J.E. Nighswander, B.SC.F. (TORONTO), PH.D. (WISCONSIN)
Associate Professor of Biology

T.E.W. Nind, M.A. (CANTAB.)
Professor of Mathematics

J.P. O'Flinn, M.A., B.LITT. (OXON.)
Assistant Professor of English Literature

Miss Elisabeth M. Orsten, M.A. (OXON.), PH.D. (TORONTO)
Associate Professor of English Literature

David R.F. Page, B.A. (SHEFFIELD)
Assistant Professor of Classics

R.J.D. Page, M.A. (QUEEN'S)
Assistant Professor of History

J.S. Pettigrew, M.A. (TORONTO, CANTAB.)
Associate Professor of English Literature

W.G. Pitman, M.A. (TORONTO)
Assistant Professor of History

P.M. Powles, B.A., M.SC. (WESTERN ONTARIO),
PH.D. (MCGILL)
Associate Professor of Biology

Karl Rautenkranz, B.A. (OREGON STATE), M.A. (ILLINOIS)
Assistant Professor of Philosophy

B.P. Reardon, M.A. (GLASGOW), B.A. (CANTAB.),
D.U. (NANTES)
*Associate Professor of Classics and Chairman of the
Department*

Mrs. J. Reardon, L.-ES-L. (PARIS), B.A. (MEMORIAL)
Assistant Professor of French

A.H. Rees, M.A., PH.D. (CANTAB.), M.A. (OXON.), PH.D.
(LONDON), F.R.I.C.
Associate Professor of Chemistry

J.P.S. Robertson, M.A. (NEW ZEALAND), B.A., PH.D.
(LONDON)
Professor of Psychology

S.T. Robson, B.A. (BRITISH COLUMBIA), D.PHIL. (OXON.)
Assistant Professor of History

Miss B.E. Rooke, M.A. (QUEEN'S), PH.D. (LONDON)
*Professor of English Literature and Chairman of the
Department*

Gordon Roper, A.M., PH.D. (CHICAGO)
Professor of English Literature

Peter Royle, M.A. (OXON.), PH.D. (NATAL)
Associate Professor of French

R.H. Sadleir, B.A. (TORONTO), M.A. (CANTAB.)
Assistant Professor of English Literature

I.M. Sandeman, B.SC. (ST. ANDREWS)
Associate Professor of Biology

Deryck M. Schreuder, B.A. (RHODES), D.PHIL. (OXON.)
Assistant Professor of History

Mrs. Marjory P. Seeley, B.A. (MANITOBA), A.M. (CHICAGO)
Special Lecturer in Sociology

R.G. Settingington, M.A., PH.D. (TORONTO)
Assistant Professor of Psychology

Mrs. Dawn L. Smith, M.A. (OXON.)
Assistant Professor of Spanish

S.G.D. Smith, B.A. (MCGILL), M.A., B.LITT. (OXON.)
Professor of Politics and Chairman of the Department

Mrs. Catherine Sproule, B.A. (TORONTO)
Lecturer in Psychology

R.A. Stairs, B.SC. (MCGILL), M.SC. (WESTERN ONTARIO),
PH.D. (CORNELL)
Associate Professor of Chemistry

H.J. Stanford, M.A., PH.D. (QUEEN'S)
Assistant Professor of Psychology

D.D. Stewart, M.A., PH.D. (TORONTO)
Associate Professor of German and Chairman of the Department

T.H.B. Symons, B.A. (TORONTO), M.A. (OXON.)
Associate Professor of History

Miss E.M. Todd, B.A. (TORONTO)
Associate Professor of Anthropology

C.H. Torok, M.A. (BRITISH COLUMBIA), PH.D. (TORONTO)
Assistant Professor of Anthropology

Robert W. Torrens, B.A. (DARTMOUTH), M.A. (HARVARD),
PH.D. (CORNELL)
Professor of French and Chairman of the Department

K.A. Tracey, B.SC. (HOWARD), D.SC. (KIEL)
Associate Professor of Anthropology

J.M. Treadwell, B.A. (TORONTO, CANTAB.)
Lecturer in English Literature

F.B. Tromly, B.A. (GRINNELL), M.A. (CHICAGO)
Assistant Professor of English Literature

W.R. Tyson, B.A.SC. (TORONTO), PH.D. (CANTAB.)
Assistant Professor of Physics

J.M. Valverde, LIC.FIL.Y LET., DR.FIL.Y LET. (MADRID),
EX-CATEDRATICO (BARCELONA)
Professor of Spanish and Chairman of the Department

Mrs. Joan M. Vastokas, M.A. (TORONTO),
PH.D. (COLUMBIA), F.R.A.I.
Assistant Professor of Anthropology

Romas Vastokas, M.A. (TORONTO)
Assistant Professor of Anthropology and Chairman of the Department

Peter Watson, M.A., PH.D. (WESTERN ONTARIO)
Assistant Professor of Psychology

Joseph Wearing, B.A. (WESTERN ONTARIO),
M.A. (TORONTO, OXON.), D.PHIL. (OXON.)
Associate Professor of Politics

P.A. Weinzwieg, M.A. (TORONTO)
Assistant Professor of Sociology

Alan Wilson, M.A. (DALHOUSIE), PH.D. (TORONTO)
Professor of History and Chairman of the Department

R.F. White, B.A., B.A.SC., M.COM. (TORONTO),
PH.D. (CHICAGO)
Professor of Sociology and Chairman of the Department

Alan G. Worthington, B.COM. (QUEENSLAND),
PH.D. (LONDON), M.A.P.S.
Associate Professor of Psychology and Chairman of the Department

A.M. Young, M.A. (MELBOURNE, TORONTO),
PHIL.M. (TORONTO)
Assistant Professor of Classics

Officers of the University

Chancellor

The Honourable Leslie M. Frost, P.C., Q.C., LL.D.,
(ASSUMPTION, LAURENTIAN, MCMASTER, OTTAWA,
QUEEN'S, ROYAL MILITARY COLLEGE, TORONTO),
D.C.L. (WESTERN ONTARIO)

President and Vice-Chancellor

T.H.B. Symons, B.A. (TORONTO), M.A. (OXON.)

Vice-President

R.H. Sadleir, B.A. (TORONTO), M.A. (CANTAB.)

Dean of Arts and Science

T.E.W. Nind, M.A. (CANTAB.)

Associate Dean of Arts and Science

J.M. Blackburn, B.SC. (LONDON), PH.D. (CANTAB.)

Dean of Graduate Studies

B.R. Blishen, M.A. (MCGILL)

Master of Peter Robinson College

I.D. Chapman, B.SC. (LIVERPOOL), M.A. (TORONTO)

Principal of Catharine Parr Traill College

Mrs. Nancy Sherouse, B.A. (TORONTO)

Master of Champlain College

S.G.D. Smith, B.A. (MCGILL), M.A., B.LITT. (OXON.)

Principal of Lady Eaton College

Mrs. Marjory Seeley, B.A. (MANITOBA), A.M. (CHICAGO)

Registrar and Secretary of the Senate

A.O.C. Cole, M.A. (TORONTO)

Director of Admissions

Gordon D. Pollock, M.A. (TORONTO)

Director of Student Aid and Placement

Richard J. Bowman, B.A. (CARLETON)

Director of Part-Time Studies

H.G. Hooke, B.SC.F. (TORONTO)

Librarian

J.D.P. Martin, B.A. (QUEEN'S), B.L.S. (MCGILL)

Comptroller and Secretary to the Board of Governors

J.E. Leishman, B.COM. (TORONTO), C.A.

Assistant to the Comptroller

P.J. Lewis, B.A. (TORONTO), C.A.

Financial Planning Officer

J.M. Kennaley, B.A. (TORONTO), C.A.

Director of Information

J.G. English, B.A. (WESTERN ONTARIO)

University Engineer

A.E. Parker, P.ENG.

Operations Engineer

M.J. O'Brien, B.A.SC. (TORONTO), P.ENG.

Planning and Development Engineer

George Ross, P.ENG.

Administrative Officer (Engineering)

G.A. Macdonald, B.A. (DUNELM)

Supervisor of Auxiliary Services

R.C. Johnston

Supervisor of Grounds, H.N. Darling

Purchasing Officer, A.F. Wells

Director of Athletics

P.S.B. Wilson, B.A. (TORONTO)

Administrative Assistant in the Office of the President

G.T. Weeks, B.A. (TRENT)

Director of the Health Service

M.F. Clarkson, M.D. (TORONTO)

Master Planning Architect

R.J. Thom, F.R.A.I.C.

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Vice-Chairman

B.D. Sandwell, B.A.

Chancellor

The Honourable L.M. Frost, P.C., Q.C., LL.D.

(ASSUMPTION, LAURENTIAN, MCMASTER, OTTAWA, ROYAL
MILITARY COLLEGE, TORONTO, QUEEN'S), D.C.L.

(WESTERN ONTARIO)

President and Vice-Chancellor

T.H.B. Symons, B.A., M.A.

S.R. Adamson, C.G.A.

T.J. Bata, ESQ.

J.J. Behan, ESQ.

J.M. Blackburn, B.SC., PH.D.

G.D.W. Cameron, M.D., C.M., D.P.H., F.R.C.P., F.A.P.H.A.,

LL.D., K.G.S.J.

Judge H.R. Deyman, B.A.

H.A. Dyde, O.B.E., M.C., C.C., Q.C., B.A., LL.B.,

B.C.L., LL.D.

J.A. Edmison, Q.C., B.A.

E.A. Forsey, M.A., PH.D. M.A., LL.D., (MCGILL, NEW
BRUNSWICK), D.LITT., F.R.S.C.

C.K. Fraser, B.SC., P.ENG., LL.D.

R.M. Grills, B.A.

E.W.I. Keenleyside, ESQ.

T.P. McMillan, ESQ.

G.C. Monture, S.M., O.B.E., B.SC., D.SC.

J.J. Robinette, Q.C., D.C.L., LL.D.

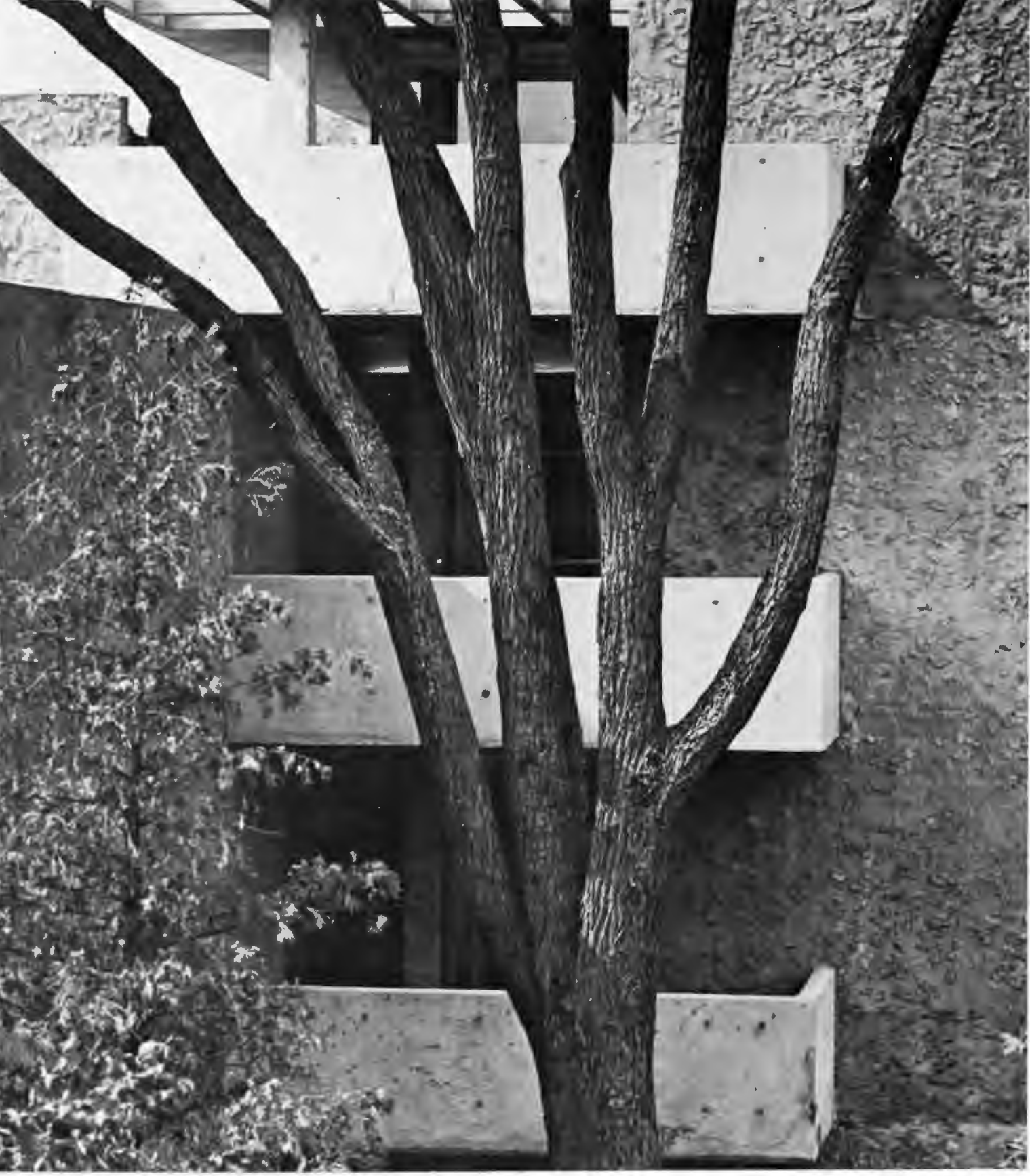
S.T. Robson, B.A., D.PHIL.

H.B. Style, B.A.

J.G. Wharry, B.S.A.

J.E. Leishman, B.COM., C.A., *Secretary*





General Information

History

Trent University was formally created as an independent university with full degree-granting powers by an Act of Ontario Legislature in April, 1963, and accepted its first undergraduate class in September, 1964. The creation of the University was the culmination of several years of preparation and planning, both by public-spirited citizens of the City of Peterborough and by a group of academic advisers who made up the University's Academic Planning Committee, created in 1961 under the chairmanship of the President-designate, T.H.B. Symons. On July, 1963, more than a year before the University accepted its first class, a nucleus of faculty members and senior administrative staff assumed full-time duties.

During the early years, the Academic Planning Committee initiated the broad academic preparation for the University, and made proposals for the curriculum, library arrangements, teaching methods, admissions and scholarship policy, and the general concepts of the University. A Campus Planning Committee, consisting also of experienced academic persons, undertook planning for the site and architecture. The proposals of these two planning committees were accepted in full as the basic policies of the University.

Early in 1963, the University launched an appeal for \$1,520,000 to assist in the first five-year capital and operating program. The Trent University Founding Fund was generously oversubscribed at both the local and national levels.

An academic staff of 24, in 16 fields of study, took up duties at the University on July 1, 1964, for the first academic year. They were joined that September by a first-year class of 102 undergraduates, and by three students pursuing postgraduate degrees. The first convocation held in June, 1967, saw the awarding of one Master of Science degree, 51 Bachelor of Arts degrees and 21 Bachelor of Science degrees, as well as five honorary degrees. In the sixth academic year, 1969-70, there were 130 members of the faculty, 1321 undergraduates, 5 graduate students, 423 part-time students and 279 students in the summer session.

The University was elected to provisional membership in the Association of Universities and Colleges of Canada in 1965 and full membership in 1968. In the spring of 1966 Trent was elected to membership in the Association of Commonwealth Universities.

Aims

Trent University stresses the importance of a liberal undergraduate education. In spite of the complexities of the modern university — the need for increasingly specialized fields of enquiry and for complex material and scientific facilities, the University believes that a liberal education is still basic. A liberal education is fundamentally an education for the intelligent use of freedom in society. Students at Trent are given a wide freedom to choose, to make their own decision about courses, fields of concentration, extracurricular activities and the organization of their time.

The University seeks to ensure, through a general emphasis on small group teaching, that each student is encouraged to pursue intensively his fields of interest in close association with his academic seniors. The University insists upon a good level of scholarship. The University is building and growing on a residential collegiate system because it believes that the full values of a liberal education both for residents and non-residents can best be realized through the corporate life of the colleges.



Site and Buildings

The University site is a rolling, wooded property located on both sides of the Otonabee River at the northern edge of Peterborough. The core of the site was the gift of the Canadian General Electric Company, and additional land, totalling more than 1,400 acres, has been acquired to meet the needs of the University. The Nassau campus is an area of outstanding beauty, providing the environment in which to create a university of special character and unique architectural appeal.

The master planning architect, Ronald J. Thom of Vancouver and Toronto, has created a development plan which has and will provide for a number of colleges, a library, science laboratories and other facilities for a university community of more than 3,500 students and academic staff.

The University also occupies premises within the City of Peterborough. The Rubidge Hall complex contains reading rooms, lecture and tutorial rooms, geography and anthropology laboratories, faculty and administrative offices, and a snack bar. Two residential colleges are also located in the city – Catharine Parr Traill College and Peter Robinson College, both of which are co-educational – offering residential accommodation and dining, common room, and teaching facilities for their members. Champlain College, the first college for men on the main campus, opened in 1967, and Lady Eaton College, the first college for women on the main site, opened in 1968. A science building, housing all Biology and some Psychology laboratories, opened in September, 1967 on the Nassau site. A new Science Complex housing the departments of Chemistry and Physics was opened in the Autumn of 1968, and the new Thomas J. Bata Library opened its doors in the Spring of 1969. In addition to tennis courts, a squash court, a track and playing fields, and many natural facilities for sport provided by the University's 1,400 acre campus on the river, temporary indoor athletic facilities, in the form of an air hall, are now in use on the Nassau site.

Tutorial and Seminar Teaching

It is the conviction of Trent University that a university education should engage each student in the exploration of ideas with members of the faculty and with fellow students. To achieve this, a variety of small teaching groups have been established according to the requirements of the given discipline. Students are required by directed reading, the preparation of essays and other assignments and laboratory work in the sciences, to take an active part in regular academic discussions in small groups in most courses.

At registration each student is assigned to a supervisor of studies who is responsible for advising him on his choice of courses and for reviewing with him his progress at regular intervals throughout the academic year. Students intending to return in the next academic year are counselled on their programs in the spring to enable them to pursue a program of summer reading. In most subjects the student is assigned to a tutor who is responsible, where applicable, for directing his reading, writing and small group participation.

In the section on Courses of Study in this Calendar may be found the teaching method employed in each



Academic year

course offered. Each student will be provided with a course outline in September which may be a detailed week-by-week summary or only a more general outline of aims and teaching methods. It should state the frequency of class meetings, attendance requirements (if any) and the principles of the grading system which will be used. Generally speaking, lectures are less central in the teaching program at Trent than in many universities. In most courses some lectures are offered to guide, to clarify and to emphasize, rather than to cover prescribed material in detail. Lectures are normally open to any student wishing to attend and are not restricted to persons enrolled in that particular course. Regular attendance and satisfactory participation are required in the laboratory and in tutorials or seminars, but the student may find that lectures are a useful complement to formal discussions in these smaller groups.

Small group meetings may consist of a seminar, of about fifteen members, or a tutorial, of about six or seven students. The tutorial and seminar system assumes that the University is a place of liberal education and of learning, rather than of training and instruction. It therefore places a special responsibility on students to discipline their own work and to express themselves frequently and well in written and oral work, and to have their work constructively criticized by fellow students and teachers.

Undergraduates at the University are expected to devote a larger part of the whole year to their academic studies than is customary. The formal academic year at Trent is somewhat longer than at most Canadian universities, but there are significant pauses during the year from formal class studies for reading and assimilation. The tutorial and seminar system demands that a student distribute his work more evenly throughout the academic year. To facilitate this, the academic year is divided in a distinctive way, with a three-week recess in December, two weeks in March, and one-week reading and laboratory recesses in both November and February.

Undergraduates are expected to do considerable academic work outside term. Reading programs, which do not preclude summer employment, but which are of considerable value to the student, are suggested for most courses over the longer summer vacation. Such programs offer both an introduction and a background to work that will be undertaken in the following year.



Colleges

The college system is designed to offer genuine and constant opportunities to cross those boundaries between different subjects and fields of study which so often hinder liberal discussion in a university. The isolation of universities, can be avoided in one based on the college system by bringing together, within each college, students and faculty from all disciplines of the University.

Much formal academic work particularly in the Arts is done in the colleges and various social and athletic organizations also exist within them. In the college communities, undergraduates may find both formal academic guidance and the fellowship of other students and members of the academic staff.

Enrolment in each of the colleges includes representation from all disciplines and all years of study, and each college has both resident members and members who live at home or in lodgings in the Peterborough area. Non-resident members of the colleges enjoy full use of the college facilities and are encouraged to take an active part in college life.

Four colleges, two in the city and two on the Nassau site, are now open and linked by a regular bus service. The master plan of the University provides for the establishment over the years of about twelve colleges.

University Lodging Service

Students coming to Trent University who are not resident in the Colleges may obtain addresses of accommodation known to be available in Peterborough from the University's lodging service. Normally, the University will not arrange accommodation for non-resident students. Those students wishing to make use of this service should write to The Secretary, Committee on Colleges, Trent University, in advance of the autumn term.

All non-resident students of Trent University are members of a college and enjoy full use of its facilities, including its dining hall. The University maintains a frequent bus service which connects between centres of the University in the city of Peterborough and the Nassau Campus to the north of the city.

Peter Robinson College

Master

I.D. Chapman, B.Sc., M.A.

Senior Don W.F.W. Neville, B.A.; *Senior Tutor* A.M. Young, M.A., PHIL.M.; *Assistant to the Master* R.F. Johnston, B.A.

Peter Robinson College was named to honour the founder of Peterborough, who played a major part in the development of this region. In the pioneering tradition of its namesake, Peter Robinson College was the first college at Trent, opening in September 1964 as a men's college, and in 1967 pioneering a new development in the University by becoming the first coeducational college. This change has produced a relaxed atmosphere and informal way of life in the College, and has left its members firmly committed to continuing as a coeducational community. The smallest college in the University, it looks forward to a continuing pioneer role.

One of two colleges actually in the town itself, the College prides itself on an informal manner expressed by the adaptation of older houses which contain residences for students and faculty, and dining and recreational facilities. It tends to attract those students who prefer to live in town either in residence or as non-residents living close by the College, and who can therefore make the College a centre for academic, social and cultural events.

Besides the formal teaching which takes place in faculty offices and seminar rooms in the College, faculty and students meet together in many less formal gatherings — arranged by both, or spontaneous 'happenings' — in Dons' apartments, common rooms, or in the Dining Hall (originally a hay loft!) The College has particularly attracted those students concerned with involving themselves in the wider community of the town through such means as the Community Action Program or a Social Action Committee concerned with the Nigeria-Biafra war.

Catharine Parr Traill College

Principal

Mrs. Nancy Sherouse, B.A.

Senior Tutor David R. Cameron, M.Sc., Ph.D.

Senior Don Miss Janet P. Bews, M.A., Ph.D.

Catharine Parr Traill College, named in honour of a noted botanist, author and early settler in the Peterborough area, is the second of the town colleges. Formerly a women's college, Traill adopted a coeducational composition in September 1969; and now both the student and faculty members of the college enthusiastically affirm that it should continue as a coeducational body.

Traill College, situated in the middle of Peterborough in a quiet residential area overlooking the city, enjoys all the advantages of a central town location. The College has a self-contained campus with a number of fine old homes remodelled for college purposes, as well as a modern residential and teaching wing. Each building

accommodates resident students in study bedrooms while also offering academic and recreational facilities. In nearly all the buildings, accommodation is provided for members of faculty, both single and married, who act as resident dons. Many members of the academic staff who are Fellows of the College teach in tutorial offices and seminar rooms located in the Traill complex.

Non-resident students, many of whom are associated with the college because they prefer the convenience of city living, are active contributors to all aspects of college life. They use the college dining room, the Trend (snack bar) and the various common rooms, all of which have proved to be excellent settings for stimulating, informal discussions and debates. The College library collection is available to all members of Traill. The tennis court, which doubles as a skating rink in the winter, also receives considerable use.



Champlain College

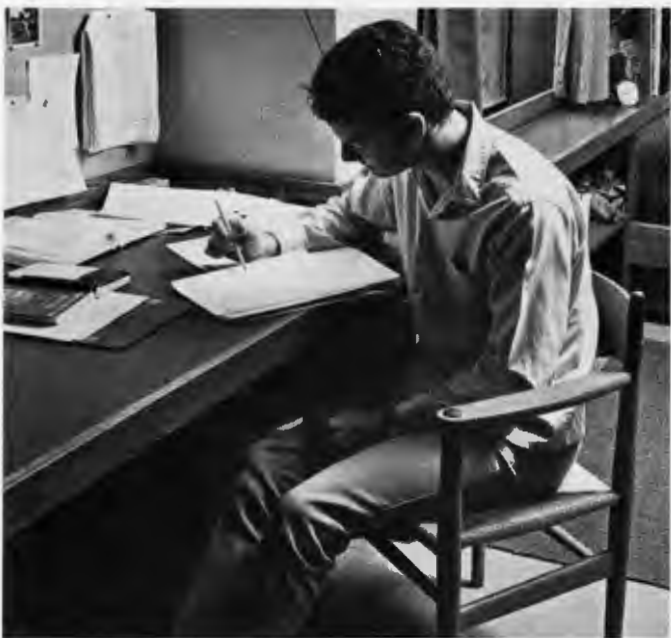
Master
Denis Smith, M.A., B.LITT.

Senior Tutor B.L. Beach, M.A., PH.D.; *Senior Don* D.R. Morrison, M.A.; *Assistant to the Master* S.T. Butts, B.A.

Champlain College, the name of which honours the great explorer and founder of New France, lies on the banks of the Otonabee River near the heart of the Nassau campus. The College was founded in 1966, and has a membership of more than 400 undergraduates and 40 faculty Fellows. It has residential accommodation for 215 persons, and dining library, common room and recreation facilities for all its members. The College undertakes an active program each year of visits from leading scholars and public figures, who take part in classes and informal discussion with students of the College beyond the regular curriculum. There is, in addition, a growing program of other College activities of many kinds.

The College buildings, designed by the Master Architect of the University, Ronald J. Thom, are distinguished both in style and utility, and seek to enhance the experience of university life. The staircase plan in the two residential courts and the single study bedrooms give ample opportunity both for study and a full college life. Tutorial offices for many of the Fellows of the College, accommodation for both single and married dons, and seminar rooms are interspersed through the residential courts.





Lady Eaton College

Principal

Mrs. Marjory Seeley, B.A., A.M.

Senior Tutor R.E. March, B.Sc., Ph.D.; Senior Dons Pradeep Bandyopadhyay, M.A.; Gordon Macdonald, B.A.; Assistant to the Principal Miss Kathryn Gist, B.A.

Lady Eaton College is the fourth college within the University and the second college on the Nassau site. Named in honour of Flora McCrea Eaton, a native of Omeme and one of the original sponsors of the University, the College provides a range of attractive facilities designed to encourage academic and social interchange for a community of 350 within the context of a residential teaching college.

The College buildings have attractive study bedrooms for 240 students, as well as apartments for a number of faculty members who live in college as residential dons. Many Fellows have their tutorial offices in the College. Non-resident members of the College living at home or in lodgings in Peterborough are encouraged to participate in college activities and to use common rooms, music listening and music practice rooms, snack bar and browsing and reading rooms. The dining hall, a spacious and colourful room with small tables, has a warm and friendly atmosphere. Special meetings, concerts and dances are frequently held in the dining hall. The College also provides a permanent home for a distinctive collection of Eskimo art donated by Lady Eaton.

The student government invites students and faculty to participate in college and university-sponsored events. The college student newspaper, *Eaton's Catalogue*, keeps members informed on the activities of the student government, as well as inviting students and faculty to express opinions on topics relevant to the College.

Library

Librarian and Associate Professor of Bibliography
J.D.P. Martin, B.A., B.L.S.

Assistant Librarian (Admin.) Bruce Cossar, B.A., B.L.S.;
Consultant to the Librarian on Canadiana E.C. Guillet,
B.A., M.A., LL.D.; *Principal Cataloguer* Miss H.E. Kelley,
B.A., B.L.S.; *Reference and Circulation Librarian* Miss
M.E. Hargrove, B.H.Sc., B.L.S.; *Acquisitions Librarian*
J.A. Wiseman, A.L.A.; *Assistant Acquisitions Librarian*
Miss Anna Skorski, B.A., B.L.S.; *Assistant Circulation*
Librarian Mrs. D.A. McNeil, B.A., B.L.S.; *Assistant*
Reference Librarian W.D.M. Robinson, B.A., B.L.S.;
Junior Cataloguer Miss M.E. Patton, B.A., B.L.S.; *Map*
Librarian D.R. Weismiller, B.A., B.L.S.; *Junior Archivist*
Miss Patricia Johnston, B.A.

The University's new Thomas J. Bata Library is adjacent to the University Court and is the focal point of the Nassau campus. Four storeys high, there is room for more than 370,000 volumes and 800 readers. Bright, spacious and air-conditioned, it provides ideal study and research facilities for all student and staff requirements. The building also houses the Audio-Visual Centre and, until the space is required for library purposes, a number of administrative and faculty offices.

By September 1970 the Library will contain a collection of some 150,000 volumes, 5,000 microforms, and more than 1,500 periodical subscriptions. Approximately 24,000 volumes are added each year. Nearly all the material is available on open shelves and all members of the University are free to browse through the entire collection. Student use of the Library has been very extensive, with one of the highest per capita circulation rates in Canada.

A number of special collections have been formed and, to support the University's interest in Canadian studies, the Library has concentrated on the acquisition of Canadiana. This development has been augmented by such gifts as the G. M. Douglas Arctic collection, the Perkins Bull collection of prints, the Racey collection of newspaper cartoons, and the Floyd Chalmers collection of Canadian Explorations. The local collection of materials relating to the Trent Valley has been enriched by the acquisition of family and institutional papers and a wide variety of other archival materials.

The Trent University Library of Religion, incorporating the Bishop Webster Collection, provides printed source material for scholars in religion, philosophy, history and related subjects. In support of the fine arts, the Robert Markon Foundation has established an art book collection. An extensive map library is being developed at Rubidge Hall which is the centre for the University's Geography and Anthropology Departments. The Library supports university research activities through its Inter-Library Loans system, through which materials can be borrowed from North American and European sources. The Inter-University Transit System, combining telex communications and a daily courier service, expedites the delivery of materials among university libraries of Ontario and Quebec.

The Bata Library is approved by the federal government as a selective depository for Canadian Government documents, and a considerable number of United States, United Nations and British documents are received by subscription. The development of a Government Documents Room is one of the major features of the new library.



Admission and Registration

Admission Requirements

1. Normal requirements

To be considered for admission to Trent University, a candidate should normally have Ontario Grade 13 (or equivalent) standing in at least seven Grade 13 credits with an average of at least 60 per cent.

For applicants who wish to pursue a Bachelor of Arts program the University recommends but does not require standing in English and another language.

Applicants wishing to pursue a Bachelor of Science program should normally submit standing in Grade 13 Mathematics A and two of Biology, Chemistry or Physics. In some specialized areas of Science, standing in Mathematics B is desirable. Applicants should consult the course of study of the particular discipline in which they are interested to find the specific Grade 13 requirements. Mathematics A and B are considered to be three credits.

The following Ontario Grade 13 subjects (or their equivalent) are approved subjects for the purpose of admission to Trent University:

One credit: Biology, Chemistry, Mathematics B, Physics, Geography, History, Home Economics, Music or Art. A candidate may not offer both Music and Art.

Two credits: English, French, German, Greek, Italian, Latin, Russian, Spanish or Mathematics A.

In lieu of Ontario Grade 13 Music, standing in one of the following examinations of the Royal Conservatory of Music of Toronto or equivalent is accepted: 1) Grade 8 Practical with Grade 2 Theory; 2) Grade 4 Theory. If the R.C.M.T. or equivalent examinations are offered, candidates must have the required overall average for the course sought on the academic credits offered. R.C.M.T. or equivalent examination marks are not included in the calculation of the overall average.

Preference will be given those students completing Grade 13 (or equivalent) in one year. *Possession of the minimum admission requirements does not in itself guarantee admission.*

Early application to the University is encouraged as residential accommodation is limited.

2. Admission of Current Grade 13 Applicants

Ontario candidates who are currently enrolled in Grade 13 will be offered admission to the University on June 11, 1970. The offer of admission will be based upon the

candidate's secondary school record and the Principal's Confidential Report. In order to be considered for early admission, applications should normally be received by April 1. Offers of admission, scholarships and residence accommodation will be mailed on June 11. Candidates accepting these offers are expected to notify the University of their decision no later than June 26.

3. Equivalents to Ontario Grade 13

Alberta, Manitoba, Nova Scotia, Saskatchewan – Grade 12

British Columbia, New Brunswick – Grade 13

Newfoundland – First year, Memorial University

Prince Edward Island – Third year Certificate of Prince of Wales College

Quebec – Senior High School Leaving Certificate, English Catholic Senior High School Leaving Certificate (Fifth Year High School – Grade 12)

England and Wales, West Indies, East and West Africa, Hong Kong – General Certificate of Education (or University of Hong Kong Matriculation Certificate), with a) passes in at least five subjects, two of which must be at Advanced Level; or b) passes in four subjects of which three must be at Advanced Level; or School and Higher School Certificate. (Credits on the School Certificate, and subsidiary passes on the High School Certificate are equated with ordinary level passes on the General Certificate of Education; principal or main subject, passes on the High School Certificate are equated with advanced level passes on the General Certificate of Education.)

Scotland – The Scottish Leaving Certificate.

USA – First year university credits (a minimum of 30 semester hours) from accredited institutions or successful completion of at least three courses of the Advanced Placement Program. Normally, a United States High School Graduation Diploma is not sufficient for admission, but the University invites applications from superior students who have graduated from schools of recognized excellence. Applicants are required to submit College Entrance Examination Board scores.

Students from areas other than those listed above should submit full details and available certificates to the Registrar for evaluation.

4. Exceptions to normal requirements

The University is prepared to consider applications from the following:

a) Candidates who, while failing to meet the regular requirements, can satisfy the University that they are likely to be successful in university work. Such candidates will be considered for admission only if exceptional ability or circumstances are involved, and should attach to their application a letter giving details that might be helpful to the Admissions Committee. Applications from such candidates cannot normally be considered unless submitted before June 30 of the year in which the applicant seeks admission.

b) Candidates at least 25 years old on January 1 of the year in which they make application, whose academic record shows no major weaknesses, and whose maturity may well compensate for deficiencies in the formal requirements. Such candidates should attach to their applications a letter giving details that might be helpful to the Admissions Committee. Applications from such candidates cannot normally be considered unless submitted before June 30 of the year in which the applicant seeks admission.

5. Special requirements

a) Candidates from areas where English is not a common language will be required to provide evidence of a knowledge of English sufficient to enable them to profit from their university studies.

b) Candidates wishing to study Chemistry, French, Latin, Mathematics or Physics at the University should have Ontario Grade 13, or equivalent standing in that subject.

c) Candidates who propose to proceed to another university for studies in Medicine or Dentistry should consult the calendar of the university in which they are interested, and this calendar's section on Pre-Professional Studies for details about the entrance requirements for faculties of Medicine and Dentistry in Ontario.

6. Admission with advanced standing:

The University will consider applications from students from other universities for admission with advanced standing. Applicants for advanced standing must send with the application their secondary school Principal's Confidential Report showing the grades achieved in

Grade 13 and must arrange for the forwarding of official transcripts of their university record direct to the Registrar of Trent University.

7. Part-time credit studies:

Candidates considering a program of part-time credit studies should consult the Academic Program and Academic Standing section of this Calendar and the Part-Time studies section.

8. Debarment

The University reserves the right to refuse admission to any candidate and to refuse re-admission if it becomes apparent that a student is not profiting from University studies. A student who has twice failed to qualify for standing for a year's work, at Trent or another university, will be debarred from the University and will not be eligible for re-admission for a minimum of three years.

9. Application fee

Applicants for admission to this University who are not residents of Canada or who have obtained standing in educational jurisdictions beyond Canada are required to pay a fee of \$10 upon filing an application.

Admission Procedures

Students from the Ontario school system should apply to Trent University on the forms developed by the Ontario Universities' Council on Admissions for General Application for Admission to University. These forms are available through the secondary schools and should be filled out after mid-year Grade 13 marks are available.

By agreement between the universities, candidates notified of acceptance by a university may not be required to make formal acceptance until June 26, 1970. At this time Trent University will require a \$50 deposit against tuition fees. Such deposits will not normally be refundable, but the University will consider requests for refunds made by accepted candidates who present a valid petition to the Registrar.

Because all full-time students in the University are members of a college, every applicant to the University should complete a college application form which may be obtained from the Registrar's Office.

Candidates for admission from outside Ontario, or who are not currently in Grade 13 or are recent graduates, may obtain application forms from the Registrar. Such candidates, including those from Ontario who wrote Grade 13 examinations before 1964, must submit Grade 13, or equivalent, certificates or certified copies of these, showing their standing in each subject. Certificates are not required for the Ontario Grade 13 examinations of 1964 and later years.

Candidates for admission may be asked to attend an interview with the Admissions Committee. Each admitted candidate will receive a medical form from the University which should be completed, preferably by the candidate's regular physician, and sent to the University Health Service before registration. Each candidate for admission will be notified of the University's decision concerning his or her application as early as possible, within the limits of the inter-university agreements cited above.

Registration

Entering students who have been offered and have accepted admission to the University will register in person during the Introductory Seminar. The College Admissions Committee will make every effort to meet the wishes of students for particular college affiliation but cannot guarantee to meet all requests.

Registration is complete when an undergraduate has been informed of his admission by the University, has met with the Head of his college, has paid at least the first instalment of his fees, has visited the Health Service, and has completed registration in consultation with his supervisor of studies in an approved program of studies. During the Introductory Seminar, first-year students have the opportunity to sample all first-year courses before selecting the five they will pursue.

Returning students are also required to place a \$50 deposit against tuition fees before August 15 in order to guarantee a place in the University.

A fee of \$10 per course may be charged to students altering courses after confirmation of registration. Any change in registration must be completed not later than the Friday before Thanksgiving in consultation with the student's supervisor of studies.

Scholarships, Prizes and Student Awards

Scholarships

Trent University has a generous scholarship program designed to reflect its insistence on high standards and to reward and encourage its leading students.

Through the generosity of private donors, about 25 scholarships have been endowed; these scholarships will be awarded to students entering the University and during the course of their studies. In addition, the University awards a generous number of scholarships to students entering the University with high standing.

Since all students with high standing will automatically be considered, no separate application for scholarships awarded by the University is necessary.

All University scholarships may be held in conjunction with other scholarships awarded by external agencies when their conditions permit, up to a normal maximum of \$1,500 in 1970–1971. In order to be considered for scholarships, a student entering first year normally must have undertaken at least five of the seven credits required for admission during the current academic year. No student applying for admission to the University after August 1 will normally be considered for a scholarship.

The University endeavours to guarantee all scholarship holders, including those from the Peterborough area, places in residence if they wish them.

The Champlain Scholarships

Champlain Scholarships are available for students of exceptionally high academic achievement and promise, whether entering the University or in course. Each scholarship has an annual value of \$1,500 for students living in residence and of \$1,000 for non-residents, and will be renewed each year at full value so long as the holder's work is of high standard.

Ten Champlain Scholarships are available in the academic year 1970–71. Five are open to all students. In addition, one Champlain Scholarship is available to students in each of the following categories:

- a) students normally resident in British Columbia, Alberta, Saskatchewan or Manitoba;
 - b) students normally resident in Ontario;
 - c) French-speaking Canadians;
 - d) students normally resident in Quebec or one of the four Atlantic Provinces;
 - e) students normally resident in another country.
- Holders are given the title of Champlain Scholar.

The Peterborough Examiner Scholarship

The scholarship, the gift of Peterborough Examiner Co. Ltd., of the value of \$1,200 for one year, is available to an outstanding student entering first or a higher year and living in residence. The holder is given the title of Peterborough Examiner Scholar.

The Trent University Scholarships

Trent University Scholarships of the normal maximum value of \$150 for one year are available to students of high academic achievement entering first or higher years in the University.

The Bata Scholarship

The scholarship, the gift of Thomas J. Bata of Batawa, Ont., one of the original honorary sponsors of the University and a member of the Board of Governors, is of the value of \$550 for one year. The holder is given the title of Bata Scholar.

The Roscoe F. Downey Scholarships

Two scholarships, the gift of the late Roscoe F. Downey of Peterborough, each of the value of \$100 for one year, are available to entering students, one from Peterborough County and one from Victoria County. Holders are given the title of Roscoe F. Downey Scholar.

The Faculty Scholarship

A scholarship, the gift of a member of the academic staff of Trent University, of the value of \$500 for one year, is available to an entering student living in residence. The holder is given the title of Faculty Scholar.

The Reginald R. Faryon Scholarships

These scholarships, the gift of the Quaker Oats Company of Canada, are named in memory of the late Reginald R. Faryon an active member of the founding board of Trent University and a former president of the company. Each Faryon Scholarship is of the value of \$400 for one year. Holders are given the title of Faryon Scholar.

The Rufus Gibbs Scholarships

These scholarships, the gift of the late Rufus C. Gibbs, each of the value of \$500 for one year, are available for annual award to students in all years, on the basis of

academic standing, all-round achievement and character. Holders are given the title of Rufus Gibbs Scholar.

The Howson Scholarship

The George Henry and Jane Laing Howson Scholarship. The scholarship, the gift of Miss A. Howson and Mrs. M.H. Simpson, is named in memory of their late parents. Of the value of \$350 for one year, the scholarship is available to a student with high academic standing who is proceeding to the degree of Bachelor of Arts. The holder is given the title of Howson Scholar.

The Francis Dean Kerr Scholarship

The scholarship, the gift of Mrs. F.D. Kerr of Peterborough, is named in honour of her late husband who was one of the original honorary sponsors of the University, and is of the value of \$550 for one year. The holder is given the title of Francis Dean Kerr Scholar.

The William Allan Newell Scholarship

The scholarship, the gift of Judson Newell of Prescott, Ont., is named in honour of his father, the chairman and founder of the Newell Manufacturing Co. Ltd. Of the value of \$550 for one year, it is available to an entering student proceeding to the degree of Bachelor of Science. The holder is given the title of William Allan Newell Scholar.

The Katherine E. Scott Scholarships

Two scholarships, the gift of Dr. C.M. Scott of Peterborough, are named in honour of his late wife. Each scholarship is of the value of \$550 for one year. Holders are given the title of Katherine E. Scott Scholar.

The H. Clare Sootheran Scholarship

The gift of the late H. Clare Sootheran, a citizen of Peterborough, this \$250 annual scholarship is awarded for excellence in the Faculty of Arts. The holder is given the title of Sootheran Scholar.

Externally awarded scholarships

A number of scholarships (and bursaries) are awarded by bodies outside the University. A number of corporations, for instance, have special programs for dependents of

their employees. Students should consult their guidance counsellors concerning these awards.

Particular attention is drawn to the Ontario Scholarships, which are awarded by the Province of Ontario to outstanding Ontario students. Information and application forms may be obtained from school principals.



Scholars 1969-70

Champlain Scholars

Miss S.J. Atwood, Camp Petawawa
J.F. Butler, Peterborough
Miss J.E. Craven, Ottawa
M.J. Evans, Guelph
Miss B.J. Finlayson, Ottawa
Miss J.F.A. Henderson, London
Miss M.R. King, Guelph
J.D. Poff, Huntsville
Miss T.A. Reilly, Toronto
Mrs. C.H.M. Rutherford, Peterborough

University Scholars

J.D. Allan, Chesterville
L.L. Annett, Brampton
Miss D.M. Arkles, Cobourg
Miss B.K. Baker, Maple
Miss J.I. Barnes, Islington
K.J. Burton, Cornwall
Miss S.C. Burton, Richmond Hill
Miss R.E. Churcher, Bancroft
P.J. Clancy, Peterborough
Miss N.D. Day, Creemore
Miss L.S. Dayman, Port Hope
Miss S.C.M. Drain, Pointe Claire, Que.
R.O. Drake, Victoria, B.C.
Miss E.M. Ferguson, Peterborough
Miss L.C. Fox, Camp Petawawa
Miss P.M. Frair, Picton
Miss P.D. Gamble, Peterborough
D. Garrick, Peterborough
N.S. Gibson, Peterborough
R.G. Glossop, Toronto
Miss A.L. Godden, Beaconsfield, Que.
Miss S. Goldfarb, Toronto
Miss C.J. Harper, Reaboro
Miss C.F. Harris, Sarnia
Miss K.E. Jamieson, Ottawa
Miss H.L.M. Knezevich, Port Arthur
Miss J.G. Koeslag, Barrie
Miss G.E.M. Koivukoski, Sioux Lookout
F.A. Londry, Peterborough
H.B. MacPherson, Argyle

Miss C.H.C. Mak, Hong Kong
Miss D.J. Matthews, London
Miss G.H. McLaren, Peterborough
Miss M.A. McLellan, Peterborough
M.D. Mitchell, Brooklin
Miss J.A. Moore, Espanola
Miss C.A. Newman, Halifax, N.S.
B.P.J. O'Reilly, Peterborough
D.W.D. Owen, Toronto
Miss R.A. Read, Dunrobin
Mrs. S.L. Rexe, Peterborough
J.M. Rosenes, Ottawa
Miss E.G. Skinner, Bracebridge
J.G. Slater, Belleville
Miss J.W. Smith, Barrie
Miss L.J. Smith, Haileybury
Miss S.A. Smith, Toronto
Miss S.W. Stuart, Toronto
M.P.R. Tenniswood, Guelph
H.C.G. Underwood, Toronto
Miss K.J. Walmark, Claremont
Miss R.E. Wild, Renfrew
Miss K. Wilson, Toronto
Miss S.A. Zajac, Brantford

Peterborough Examiner Scholars

R.B. Joyce, Deep River
C.L. Taylor, Williamstown, Mass.

Faryon Scholars

R.S. Archibald, Scarborough
Miss S.C. Cole, Peterborough
Miss P.L. Congdon, Sarnia
Miss D.L. Crowther, Peterborough
D.R. Delahaye, Peterborough
Miss C.J. Good, Kingston
G.W. Hay, Campbellford
K.B. McLeod, Peterborough
J.R. Salmon, Ottawa
G.W. Sheppard, Port Hope
N.J. Spence, Kingston
Mrs. S.J. Sutherland, Norwood

Rufus Gibbs Scholars

Mrs J.M. Cook, Burleigh Falls
G.H. Cubitt, Oshawa
P.G. Hartwick, Ottawa
Miss N.L. Holts, Pembroke
D.C. Korth, Peterborough
Miss H.G. Rosevear, Smiths Falls
Miss B.E. Ward, Ottawa

Bata Scholars

Miss J.S. Couch, Pointe Claire, Que.
N.A. Ebrahim, Mtwara, Tanzania

Sootheran Scholar

Mrs. R.S. Schram, Claremont

Faculty Scholar

J.H. Last, Richmond Hill

Katherine E. Scott Scholars

B.E. Gale, Ottawa
Miss S.M. McGill, Amherstburg
Miss M.A. Molson, Eganville

Roscoe F. Downey Scholars

Miss S.C. Cole, Peterborough
H.B. MacPherson, Argyle

Howson Scholar

Miss J.B. Woolley, Toronto

Prizes

Consul General's Prizes in French

These prizes, the gift of the Consul General of France, are awarded annually to the leading undergraduates in French studies within the University.

Ambassador of Switzerland Prizes in French and German

The prizes, the gift of the Ambassador of Switzerland, are awarded annually to the undergraduates who have obtained the highest standings in the French and German languages in their graduating year.

Department of English Literature Prize

This prize, the gift of the Department of English Literature, is awarded to the best students entering the Honours Program in English Literature at the end of the second year of studies in the University.

Don's Award

This award, the gift of the dons of Peter Robinson College, is given in the Winter Term to a student of Peter Robinson College in any year who has contributed significantly to the life of the College and whose academic performance in relation to his ability is clearly satisfactory.

Fellow's Prize

This prize, the gift of the Fellows of Catharine Parr Traill College, is awarded annually to the student of that College who shows the greatest improvement in academic work in the year.

Gadfly Prize

This prize, the gift of the academic staff in Philosophy, is available for award annually to the leading undergraduate in Philosophy entering his or her graduating year. The prize commemorates Socrates' description of himself as one who rouses and reproves the society in which he lives just as a gadfly awakens a sluggish horse.

Honourable Leslie Frost Prize

This prize, the gift of the Chancellor of the University, the Hon. Leslie M. Frost, P.C., Prime Minister of Ontario from 1949 to 1962 and Member of the Legislative Assembly of Ontario for Victoria from 1937 to 1963, is awarded annually to the leading undergraduate in the first-year course in History.

Honourable George S. Henry Prize

This prize, in memory of the Hon. George S. Henry, Prime Minister of Ontario from 1930 to 1934, and Member of the Legislative Assembly of Ontario for East York from 1913 to 1943, is awarded annually to the leading undergraduate in the first year course in Politics.

Midwives' Prize

This prize is the gift of the three members of the Universities Liaison Committee who assisted at the birth of Trent University, and who did so much to make the birth a happy one: Professor J.M. Blackburn, then of Queen's University; Dean Frank Stiling, of the University of Western Ontario; and Dr. M.St.A. Woodside, former vice-president of the University of Toronto. Professor Blackburn, Dean Stiling and Dr. Woodside were named by the heads of their universities and the Founding Board of Trent University in its early years. The prize is awarded annually to the undergraduate with the highest overall standing in the first year.

Peterborough Professional Engineers Wives' Association Prize

This prize, the gift of the association, is awarded to an undergraduate who shows excellence in the second year courses in Physics or Chemistry.

Victor T. Ridley Memorial Prize

This prize, the gift of Mrs. F. Millard in memory of the late Victor T. Ridley of Peterborough, is awarded annually to the leading undergraduate in the first year in Mathematics.

Honourable Sidney Smith Prize

This prize is named in honour of the Hon. Sidney Smith, Member of the Legislative Assembly of the United Province of Canada for the West Riding of Northumberland from 1854 to 1861, Postmaster General of the United Province of Canada from 1858 to 1862, and elected Member of the Legislative Council for the United Province of Canada for the Trent Division from 1861 to 1863. It is the gift of the Hon. S. Bruce Smith, Chief Justice of Alberta, and of Muriel Turner and H.G.H. Smith, Q.C., of Winnipeg, and is awarded an-

nually to the leading undergraduate majoring in Politics and History in the second year.

University Writing Prize

This prize is awarded annually to an undergraduate who shows excellence in writing submitted as part of the regular assignments.

Recipients of University Prizes 1968-69

Consul General's Prizes in French

Sister Joyce Murray, Peterborough
Miss M.A. Molson, Eganville

Ambassador of Switzerland Prizes in French and German

S.W. Book, Ancaster
Miss P.L. Congdon, Sarnia
Miss S.C.M. Drain, Pointe Claire, Que.
Miss J.F.A. Henderson, London
Miss M. McIlroy, Peterborough
J.D. Poff, Huntsville
Mrs. F. Stevenson, Peterborough
Miss J.K. Vinden, Timmins

Department of English Literature Prize

Miss J.B. Woolley, Toronto

Don's Award

R.J. Butcher, Toronto

Fellow's Prize

Miss J.M. Guerin, Peterborough

Gadfly Prize

D.C. Korth, Peterborough
D.W.D. Owen, Toronto

Honourable Leslie Frost Prize

Miss B.K. Baker, Maple

Honourable George S. Henry Prize

Miss S.C. Brown, Thornhill
M.J. Evans, Guelph

Midwives' Prize

C.L. Taylor, Williamstown, Mass.

Peterborough Professional Engineers Wives' Association Prize

N.A. Ebrahim, Mtwara, Tanzania

Victor T. Ridley Memorial Prize

Miss T. Cheng, Hong Kong

Honourable Sidney Smith Prize

G.W. Sheppard, Port Hope

University Writing Prize

W.J. Perry, Thornhill

*Chemical Institute of Canada
(Peterborough Branch) Prize*

C.L. Taylor, Williamstown, Mass.



Bursaries

Each year a sum of money is available for bursary assistance to students who are currently enrolled at Trent University. Information is available from the Director of Student Aid.

Philip Black Award

The award is the gift of Isadore and Morris Black of Peterborough in memory of their father, Philip Black — the first Rabbi in Peterborough. Value: \$50.

Reginald R. Faryon Bursary

The award is the gift of the Peterborough Branch of B'nai B'rith in memory of Reginald R. Faryon. Value: \$50.

Peterborough Chapter of Hadassah Bursary

The award is the gift of the Peterborough Chapter of Hadassah. Value: \$100.

Agneta Holt Award

The award is the gift of the University Women's Club of Peterborough as a memorial to the late Mrs. Agneta Holt.

Women's Auxiliary Branch No. 575 of Royal Canadian Legion, Bridgenorth, Bursary

The award is the gift of the Women's Auxiliary Branch No. 575 of the Royal Canadian Legion, Bridgenorth, and is for award to a son or daughter of a veteran residing in Smith Township.

Robert F. Kennedy Bursary

The award is the gift of Howard Meredith of Otonabee Township, in memory of Senator Robert F. Kennedy and the ideals of justice, humanitarianism, and excellence which he cherished and exemplified. Value: \$50.

'In-course' Bursaries of the Atkinson Charitable Foundation

These bursaries may be awarded to meritorious Ontario undergraduates in second and higher years. Information is available from the Director of Student Aid.

Ontario Student Awards

The Province of Ontario and the Government of Canada provide a program of grants and loans to university students through the Province of Ontario Student Awards Program. This program is not based on academic standing but is related to the established need of the student in the individual year of the University. Awards are made by the Department of University Affairs, after assessment of need, and are divided between provincial grants and Canada Student Loans according to a formula established by the government. Students may obtain details of this program through school officials or from the Director of Student Aid, Trent University, Peterborough.

Students from outside Ontario who need financial assistance in university are strongly urged to consult with officials in their schools about available Provincial loan and bursary assistance. The University has limited bursary funds to assist needy students not eligible for government assistance.

Academic Programs and Standings Required

The Faculty of Arts and Science of the University offers at the undergraduate level both an Ordinary program leading in three years to the degrees of Bachelor of Arts and Bachelor of Science, and an Honours program leading in four years to these same degrees with Honours. The degree programs are designed to be flexible so that the particular needs and interests of individual students may be satisfied. Each student chooses his program in consultation with his supervisor of studies, who seeks to ensure that the program is coherent and well-ordered. In first year of both the Ordinary and Honours programs, all students take five courses. Normally all such courses will be selected from courses numbered 100 to 199. Students presenting evidence of preparation judged by the relevant department(s) to be the equivalent of the first-year course offerings may be permitted to take second-year course(s) as part of their first-year program, but will normally be required to take courses in five different subjects.

Vacation Reading and Study

The value of the academic program depends to some extent on reading and study done during the vacations, especially during the summer, which is considered an integral part of most courses.

Residential Reading and Laboratory Weeks

During residential reading and laboratory weeks no formal class meetings or examinations are held, but students continue their studies at the University, under the guidance of their tutors. The library and laboratories are open to students during these periods.

Assessment of Performance

Work done during term and in the reading periods, any mid-year or other examinations, and any final examinations will be considered in determining an undergraduate's final standing in each course. As a norm, term tests and final examinations, together do not constitute more than half of the marks used in determining final standing. Some disciplines find it necessary to depart from this standard for all or some of the courses offered. In each case such exceptions are reviewed by the Academic Development Committee. At the beginning of each year students will be informed of the method of assessment of achievement

in each course. Students will also be informed of the provisional syllabus at the start of each year. This syllabus may be subject to some modification as the work of the year progresses.

Grades

The passing grades in all courses in all academic years are:

I — 100–85 (I* — exceptional performance)

II* — 84–82

II — 81–70

III — 69–60

IV — 59–50

F — 49–0

The failing grade is F. There are no supplemental examinations. In each academic year, undergraduates are informed of their standing in each course and their overall standing in both major subject(s) and year.

Aegrotat Standing

Petitions for special consideration because of sickness or misfortune should be sent to the Registrar within forty-eight hours of the close of the examination period, together with medical certificates and other material. The University may grant aegrotat standing, or permission to write special examinations.

Unsatisfactory Work

The University may, at any time, ask any student whose work is unsatisfactory to withdraw from the University.

Withdrawal

A student who withdraws from the University before March 1 of any academic year shall not be granted any academic standing nor suffer any academic penalty. A student who withdraws on March 1 or thereafter shall be deemed to have failed his year.

A student wishing to withdraw from the University should first consult with his supervisor of studies and then see the Head of his college in order that he may obtain the full rebate of fees due to him.

Debarment

A student who has twice failed to qualify for standing for a year's work, at Trent or another university, will be debarred from the University and will not be eligible for re-admission for a minimum of three years.

Ordinary Program

Appeals

Final grades in individual courses will be reviewed by the department concerned and submitted to the Registrar, countersigned by the department chairman. Before final release, the grades of each undergraduate will be reviewed by a committee of the senate. Every student has the right to appeal against the grade assigned on any course, regardless of grade. A fee of \$15 will be charged for the handling of an appeal, but the fee will be refunded if a grade is raised. All appeals should be made in writing to the Registrar.

Students who believe that the application of University regulations has worked undue hardship on them, may institute an appeal to the Special Appeals Committee. Such appeals should be made in writing to the Chairman of the Special Appeals Committee, normally before July 15.

Students wishing to take a program not provided for in this Calendar may, after consultation with their supervisor of studies, make an appeal to the Chairman of the Undergraduate Studies Committee.

In the Ordinary Program, undergraduates study five courses in each of the first two academic years. In the first year of the three-year program, undergraduates normally register in five subjects. In their second and third years, undergraduates may choose to pursue either a single-major or a joint-major program.

1. Single-Major Program

This program is designed for the student who wishes a broad general education, with concentrated work in a single subject to provide a focal point of study. In the second year, a single-major program consists of two or three courses in one subject (the major subject), and two or three courses in other subjects. In third year, a single-major program consists of from two to four courses in the major subject and one to three courses in other subjects. Thus, five to eight courses in the degree program are in the major subject.

In third year, some disciplines may permit some students to follow a four-course program. Students wishing to follow such a program should consult their supervisor of studies and the chairman of the department of their major subject. Students opting for four-course third-year programs must declare this option and have it approved not later than the Friday before Thanksgiving.

2. Joint-Major Program

This program is designed for students wishing to take a fairly specialized education in two subjects. In the second year, a joint-major program normally consists of two courses in each of two subjects (the major subject) and a fifth course in another subject.

Students in third year may take two courses in each major subject and a fifth course in either major subject or another subject. Thus, five or six courses are in each of the major subjects, in a degree program.

In third year, some disciplines may permit some students to follow a four course joint-major program. Students wishing to follow such a program should consult their supervisor of studies and the chairmen of the department of their major subjects. Students opting for four-course third-year programs must declare this option and have it approved not later than the Friday before Thanksgiving.

3. Out-of-Year Courses

In most disciplines, courses numbered in the 200's are normally intended to be taken by second-year students and courses numbered in the 300's are intended to be taken by third-year students. A normal program may include one course outside of the year. If this course is from a more senior year permission of the department is required.

4. Bachelor of Science in the Ordinary Program

Students proceeding to the degree of Bachelor of Science in the Ordinary Program are normally required to take at least 11 courses (of the 14 or 15 required for the degree) in science. All courses in Biology, Chemistry, Mathematics and Physics may be considered as science courses for the purpose of this regulation. In addition, certain courses in Anthropology, Economics, Geography and Psychology may be considered as science courses. Students should consult their Supervisors in this regard.

Standings Required

For successful completion of an academic year, the following standings are required:

First Year, Ordinary and Honours Programs

The Ordinary and Honours programs are identical in first year and the same standings are required. Overall standing of third class or better is required for promotion to second year. A student failing to obtain at least overall third class standing shall be deemed to have failed his year and shall not retain credit for passed courses in that year. Third class standing is required in subjects in which a student wishes to major. Students who obtain overall third class standing, including the marks from a failed course, may be promoted to second year but will not be permitted to do more advanced work in the subject of the failed course until the failure has been cleared. Such a deficiency may be made up in summer session or regular session.

Second Year, Ordinary Program

A minimum of third class standing overall and third class average in the courses of the major subject(s) is required. If the student has failed one course in first year, and one course in second year, he may be promoted to third year

if his overall average in second year including the marks from his failed course is third class or better.

A student who fails more than one course in his second year but who has maintained the required overall third class average, will be permitted to proceed when he has made up any deficiency (beyond the one allowed failed course). Such deficiency can be made up by passing failed course(s) or substitute course(s) in summer or regular session. A student who obtains fourth class standing in his proposed major but obtains the overall third class standing required to continue at the University, will be permitted to petition the department of his major to proceed in the major subject without repeating the year. Passing standing must be obtained in each course in a major subject.

Third Year, Ordinary Program

In the third year of the Ordinary Program, a minimum of third class standing overall and third class in the major subject(s) is required. A failed course (which is included in calculating the overall average) will be permitted provided it does not bring the total of failed courses over the three years to more than two. Failed course(s) beyond this number must be made up in the same manner as described under Second Year (above). A student who is carrying a failed course from his first two years is unlikely to be allowed to proceed with a four course program in his third year.

A student may graduate without making up two courses which he failed in different years.

A student in a joint-major program may fail one course in one of his majors in third year and still graduate as a single major, subject to the provisions regarding failed courses above.

A student in a single-major program who fails a course in his major, but maintains the overall third class average required, may make up this deficiency by successfully taking a course approved by the department of the major subject at summer or regular session.

Honours Program

1. Four year programs, leading to the Honours degrees of Bachelor of Arts and Bachelor of Science are available in a majority of disciplines. As the University expands and develops, additional honours programs will be offered. Honours programs will be offered in Anthropology, Biology, Chemistry, Classical Studies, Economics, English Literature, French Studies, Hispanic Studies, History, Mathematics, Philosophy, Physics, Politics, Psychology and Sociology. A joint-major honours program will be offered in Geography in 1970-71.

2. Both single-major and joint-major honours programs are available. A minimum of nine, and a maximum of 13 courses may be taken in the major subject in a single-major honours program. Joint-major honours programs are selected in consultation with both of the departments involved. Students intending to apply for admission to honours programs should consult the chairmen of the departments involved as early as possible.

3. Students should normally apply for admission to honours programs during the first two terms of their third year. Applications will also be considered from students who have completed the Ordinary Degree requirements, provided they have met the requirements of the honours program. At least upper third class average(s) in the proposed field(s) of honours study and similar overall standing will be required.

4. Students applying for honours shall do so on the prescribed form, obtainable from the chairman of the department of major study and in consultation with their supervisors of study. Acceptance will be on recommendation of the department(s) of the chosen major field(s) and in all cases shall be conditional upon completion of the third year with at least upper third class average in the major field(s).

Second class standing overall in the major subject and second class standing overall for the third year will entitle a student to enter the honours program automatically.

5. Overall standing in fourth year of third class honours or better, shall entitle a student to an honours degree.

6. Candidates for an honours degree will study five courses in each of their first three years. In a single-major program, after first year, not fewer than two courses are in the major subject.

In third year, some disciplines may permit some students to follow a four course program. Students wishing to follow such a program should consult their supervisor of studies and the chairman of the department of their major subject.

In the fourth year, four or five-course programs are worked out in consultation with the department of the major subject.

Students opting for four-course third-year programs must declare this option and have it approved not later than the Friday before Thanksgiving.

7. Bachelor of Science in the Honours Program

Candidates for the degree of Bachelor of Science with Honours shall normally present at least 15 successful courses in science. Courses in Biology, Chemistry, Mathematics and Physics may be considered as science courses for the purpose of this regulation. In addition, certain courses in Anthropology, Economics, Geography and Psychology may be considered as science courses. Students should consult their supervisors of study in this regard.

Explanation of New Course Identification

Persons familiar with past Trent University Calendars will note that the University has, with regret, been forced to establish new course numbering. The growth in number of course offerings, and the introduction of more half courses, has required the replacement of the two digit numbers with a three digit series.

Generally, the first digit indicates the year in which the course is normally taken, and the second digit indicates an area of study within a discipline.

Half courses are indicated by the suffix *a*, *b*, or *c*;

a) indicating a half course taught in the autumn term,

b) indicating a half course taught in the winter-spring terms,

c) indicating a half course taught throughout the year.



Courses of Study

Anthropology

*Assistant Professor of Anthropology and
Chairman of the Department*

R.K. Vastokas, M.A.

*Professor and Chairman of the Indian–Eskimo Studies
Program*

K.E. Kidd, M.A., F.R.A.I.

Associate Professors

K.A. Tracey, B.Sc., D.Sc.; Miss Evelyn M. Todd, B.A.

Assistant Professors

P.D. Harrison, M.A.; Hermann Helmuth, D.Sc.;
C.H. Torok, M.A., Ph.D.; Mrs. Joan M. Vastokas, M.A.,
Ph.D., F.R.A.I.

Special Lecturer in Indian–Eskimo Studies

H. A. McCue, B.A.

Anthropology may be studied as a minor subject or as a single-major or a joint-major in the ordinary and the honours programs. Details of prerequisites are given under the individual course listings, but it should be noted that *Anthropology 100* is a normal prerequisite for other courses in Anthropology.

Courses in Anthropology are numbered according to the year in which they will normally be taken by students majoring in Anthropology.

Some courses may not be taken out of year.

Anthropology 350, 410, 420, 421, and 440 are normally open only to students majoring in Anthropology in the honours program.

Under the conditions given below, certain courses may be taken out of year without petition, provided prerequisites are satisfied:

1. *Anthropology 200, 210, 230, 240* are open to students in second and third years.
2. *Anthropology 300, 301, 302, 331* are open to students in second, third and fourth years.
3. *Anthropology 430*, offered in alternate years, is open to students majoring in Anthropology whether in third or fourth year.

Students studying Anthropology as a single-major must take *Anthropology 100, 200, 210, 240*, and either *230* or

331. It is recommended that these courses be completed by the end of third year.

Students studying Anthropology as a joint-major must take *Anthropology 100* and two of *200, 210, 230, 240*.

It is recommended that these courses be completed by the end of third year.

Students studying Anthropology as a single-major in the honours program must also take *Anthropology 420* and two of *Anthropology 410, 421, 422, 430, 440*. Joint-majors must take *Anthropology 420*.

Anthropology 100

Introductory Anthropology: A survey of the four fields of anthropology: Physical Anthropology, Archaeology, Cultural Anthropology, and Linguistics. Major topics of discussion will be human development, Old World and New World archaeology, patterns of culture among pre-literate societies, and languages and communication. Two hours of instruction weekly including lectures, tutorials and demonstrations, occasional field trips.

Anthropology—Sociology 200

Cultural Anthropology: An analysis of the dimensions of culture in pre-literate societies, considered in terms of technology, social organization and ideology, including a survey of current approaches to the study of culture. Prerequisite: *Anthropology 100* or *Sociology 100* or *110* or the permission of the instructor. Lecture, seminar weekly.

Anthropology 210

Archaeological Methods and Techniques: A discussion of methods and techniques in theory, field, and laboratory drawing from Old World and New World sources. Includes practical instruction in the use of field instruments and laboratory techniques. Prerequisite: *Anthropology 100*. Lecture, seminars weekly, occasional field trips.

Anthropology 230

General Linguistics: Descriptive, historical and comparative linguistics; principles and methods of linguistic analysis; history of linguistic theory. Prerequisite: *Anthropology 100* or permission of instructor. Lecture, two-hour laboratory-seminar weekly.

Anthropology 240

Introduction to Physical Anthropology: A study of man's evolutionary development, the physical characteristics of the living races of mankind and an introduction to human genetics. Prerequisite: *Anthropology 100* or permission of the instructor. Two hours of instruction weekly, including lectures, demonstrations and tutorials, occasional field trips.

Anthropology 300

Indians of Canada: A study of the prehistoric background and modern groupings of Indians in Canada at the time of historical contact, including observations on physical, economic, cultural and linguistic aspects. Prerequisite: *Anthropology 100* or *Indian-Eskimo Studies 100* or permission of the instructor. Lecture, seminar weekly, occasional field trips.

Anthropology 301

Peoples and Cultures of Africa: This course will deal with the development of man in Africa, the background of early racial amalgamation, and the physical characteristics of the living races of Africa as well as a study of African culture and history before and after the era of European domination. Prerequisite: *Anthropology 100* or permission of instructor. (Not offered in 1970-71).

Anthropology 302

Cultures of the Pacific Basin. An introduction to the peoples, the cultures, and history of the Pacific Basin. Prerequisite: *Anthropology 100* or permission of the instructor. Lecture, seminar weekly.

Anthropology 310

Historical Archaeology of Canada: An examination of the results of excavation on sites of the historic period in Canada, both native and non-native, with a view to assessing their contribution to knowledge of the period. Underwater archaeology of the area to be included, as well as a study of methods of dating sites. Prerequisite: *Anthropology 100* or permission of the instructor. Seminar weekly, fortnightly lecture, occasional field trips.

Anthropology 320

Applied Anthropology: An appraisal of the resources of

anthropology in the study of cultural stability and change, and a critical survey of conscious use of anthropological information and theory in the introduction of new ideas and techniques. Prerequisite: *Anthropology 100* or permission of instructor. Two-hour seminar weekly.

Anthropology 321

Culture and Communication. Analysis of the effects of culture on patterns of non-verbal communication. Discussion of kinesics, proxemics, and choreometrics. Prerequisite: *Anthropology 200* or *230* or permission of instructor. One two-hour seminar weekly. (Offered in alternate years, not offered in 1970-71.)

Anthropology 330

Algonquian Linguistics: Principles of linguistic analysis and reconstruction applied to languages of the Algonquian family; detailed study of phonology, morphology and syntax of selected Algonquian languages spoken in Canada, especially Ojibway and Cree. Prerequisite: *Anthropology 230*. Seminar, two-hour laboratory weekly.

Anthropology 331

Languages of the World: Geographical and social variation in language; language contact and bilingualism; linguistic nationalism; standard and international languages; writing systems; language learning and literacy; the principles of language classification, both genealogical and typological; linguistics and archaeology; a survey of the languages of the world. Prerequisite: *Anthropology 100* or permission of the instructor. Two hours of lectures weekly, one tutorial fortnightly. Offered in 1970-71 and alternate years thereafter.

Anthropology 340

Primatology: General biology, systematics, anatomy, palaeontology and behaviour of non-human primates, including the importance of studying primates for the understanding of human evolution. Prerequisite: *Anthropology 240* or permission of instructor. Lecture, seminar weekly; occasional field trips.

Anthropology 350

The Arts of Africa, Oceania, and the Americas: An introduction to the visual arts of the traditional cultures of the above areas. Prerequisite: *Anthropology 100*. Two hours of seminars weekly, and occasional field trips.

Anthropology 410

Mesoamerican and Andean Prehistory: From Early Man to European conquest, with particular attention to agricultural development and to the growth of civilizations in the various culture regions of the two areas. Presented in two parts. Prerequisite: *Anthropology 210*. One two-hour seminar weekly.

Anthropology 420

The History and Theory of Anthropological Thought: A discussion of principal trends in anthropological thinking from the mid-nineteenth century to the present. "Schools" of cultural anthropology such as evolutionism, historicism, diffusionism, structural-functionalism, neo-evolutionism and componential analysis will be treated in an exclusively tutorial setting. Prerequisite: *Anthropology 200*. Enrolment may be limited. Two hours of tutorials weekly.

Anthropology 421

Ethnohistory of Canada: A study of the principles of ethnohistorical research with special attention to their applicability to Canadian materials; and of the native cultures as reported in documentary sources, their interactions with the invading European cultures, and some of the problems arising therefrom. Historical source materials and archaeological evidence will be surveyed. Prerequisite: *Anthropology 100* or permission of instructor. A reading course, with tutorials at monthly intervals, occasional field trips.

Anthropology 430

Anthropological Linguistics: Field methods in linguistics; oral literature; language; society and culture. Prerequisite: *Anthropology 230*. (Offered in alternate years, not offered in 1970-71).

Anthropology 440

Advanced Physical Anthropology: Demonstration and

practice in the use of anthropometric, dermatoglyphic and serological techniques in physical anthropology. Prerequisite: *Anthropology 240* or permission of instructor. Enrolment may be limited. Instruction will be by means of laboratories and seminars involving three hours of work weekly, and occasional field trips.

Indian-Eskimo Studies Program

Indian-Eskimo Studies may be taken either as a single major or as a joint major in the ordinary program. *Indian-Eskimo Studies 100* is a prerequisite to all subsequent courses in the discipline and only in exceptional cases may this be modified in consultation with the instructors. Five or six credits in Indian-Eskimo Studies will be required in order to qualify for a major in the ordinary program.

Indian-Eskimo Studies 100

Indians of the Americas: A survey of the physical anthropology, prehistory and ethnology of the native populations of North and South America. Lecture, seminar or tutorial weekly, occasional field trips and workshops.

Indian-Eskimo Studies 200

Native Societies in Canada: A study of the prehistoric background and modern groups of Indians and Eskimos in Canada at the time of historical contact, including observations on physical, economic, cultural and linguistic groupings. Lecture, seminar or tutorial weekly, occasional field trips and workshops.

Indian-Eskimo Studies 210

The Indian Identity: A study of native (Indian, Eskimo and Métis) personalities and values in the native setting. Lecture fortnightly, tutorials weekly, occasional field trips.

Courses to be offered in third year, along with additional faculty appointments, will be announced in the next Calendar. They will number at least three, and will probably cover such topics as the history of administration of native affairs in Canada, Canadian law and the native Canadian, and regional problems in contemporary native society.

Biology

Professor of Biology and Chairman of the Department
D.B. Carlisle, M.A., D.PHIL., D.SC., F.L.S., F.Z.S., F.I.BIOL.

Professor
R.L. Edwards, M.A., D.PHIL., F.R.E.S.

Associate Professors
J.E. Nighswander, B.SC.F., PH.D.; P.M. Powles, B.A.,
M.SC., PH.D.; I.M. Sandeman, B.SC.

Assistant Professors
Michael Berrill, M.SC., PH.D.; Roger Jones, B.SC., M.SC.,
PH.D.

Sessional Lecturers and Instructors
Mrs. C.D. Johnson, B.SC.; T.R. Matthews, B.SC.

Biology may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary or honours programs. It is believed that most students wishing to major in Biology will want to undertake a four-year program leading to honours. Almost all the third and fourth year courses therefore may be taken in either year and will be offered only in alternate years.

Special Notes

1. *Biology 100*, which may be taken in either the winter or summer program, is the normal prerequisite for all other courses in Biology, but this requirement may be waived for students having high standing in Grade 13 Biology.
2. Students who may eventually choose to honour in Biology or take courses at honours level should read the appropriate section below and choose their courses accordingly.

Biology in a joint-major program at the ordinary level
Five or six courses in Biology and five or six courses in another subject.

Biology in a joint-major program to honours level
Students wishing to pursue such programs should consult the Chairmen of the respective departments at the end of their second year.

Biology as a single-major in the ordinary program
This program is designed for students who wish to have a broad knowledge of Biology by the end of their third year. A minimum of six courses in Biology, which must include *Biology 100*, *210*, and *220* and one course in *Chemistry (Chemistry 100)* are normally required. Students majoring in Biology are advised to choose their electives from courses given in related disciplines; *Geography 100*, *Mathematics 100* and *Physics 100* are particularly suitable.

A suggested course pattern for the three years of a single-major program is:
First Year: *Biology 100*, *Chemistry 100*, three electives.
Second Year: *Biology 210*, *220*, three electives, of which *Biology 286a* and *201b* and *Chemistry 210* are suggested.
Third Year: Two or three additional courses in Biology are required, of which *Biology 315a* and *322a*, and *382a* or *321a* are suggested.

Biology as a single-major in the honours program
This program is designed for students who wish to have an extensive knowledge of Biology, and is particularly suitable for those planning to undertake graduate work or teach secondary school. During their first three years of study, students in the honours Biology program normally take at least six courses in Biology (*Biology 100*, *210*, *220*, *286a* and *201b*, *315a* and *322a* and either *382a* or *321a*). During their fourth year of study, students must take five approved courses, some of which may be in related subjects. Students in the honours Biology program must have their third and fourth-year programs of studies approved by the Chairman of the department.

Biology 100
General Biology: A presentation of biological principles as displayed by both plants and animals. This is at the same time a course for students wishing to major in Biology and a prerequisite for all other Biology courses. Two lectures and one three-hour laboratory period weekly; tutorial every fourth week.

Biology 201b
Population Genetics and Evolution: A study of the genetic basis of evolution at the population level. Prerequisite: *Biology-Psychology 286a* or by arrangement with in-

structor. Recommended: *Statistics 200*. Lecture, three-hour laboratory, and seminar or tutorial weekly.

Biology 210

The Animal Kingdom: A comparative study of the main groups of animals, their structure, development, physiology, life history, and phylogenetic relationships. Prerequisite: *Biology 100* or by arrangement with instructor. Lecture, three-hour laboratory period, and seminar or tutorial weekly.

Biology 220

The Plant Kingdom: A comparative study of the main groups of plants, their structure, development, physiology, life histories, and phylogenetic relationships. Students will be expected to make a plant collection during the summer preceeding the course and should consult the department secretary by June 1, 1970. Prerequisite: *Biology 100*. Two lectures, three-hour laboratory weekly; tutorial fortnightly.

Biology-Psychology 286a

General Genetics: Fundamental genetic principles, including classical and molecular aspects. Prerequisites: *Biology 100* or by arrangement with instructor. Lecture, three-hour laboratory weekly; seminar or tutorial weekly.

Biology 300

Biology of Pollution: The causes and biological effects of pollution with special reference to water pollution. Prerequisite: *Biology 100*. Seminar, tutorial, three-hour laboratory weekly, and field trips.

Biology 301a

Electron Microscopy: A study of the ultrastructure of cells and tissues with emphasis on the biological applications of the electron microscope. Recommended: *Biology 210* or *Biology 220*. Lecture, three-hour laboratory and seminar or tutorial weekly. Enrolment may be restricted.

Biology 302b

Cytology and Microtechnique: Theory of nucleocytoplasmic relations in plant and animal cells. Practice in histological and histochemical techniques in the micro-

scopic study of plant and animal materials. Recommended: *Biology 210* or *Biology 220*. Not offered until 1971–72.

Biology 303a

Biological Techniques: A practical course in the techniques most commonly used in biology. Prerequisite: *Biology 100*. Not offered until 1971–72.

Biology 304b

Marine Biology: Life in the sea. Prerequisite: *Biology 100*. Seminar, tutorial, three-hour laboratory weekly.

Biology 305a

Limnology: The ecology of fresh waters. Prerequisite: *Biology 100*. Seminar, tutorial weekly; six-hour laboratory fortnightly.

Biology 310

Parasitology: The biology of animal parasites. Prerequisite: *Biology 210*. Two tutorials and one three-hour laboratory period weekly.

Biology 311

Entomology: A general introduction to the world of insects, their structure, physiology, behaviour, classification and ecology. Special emphasis will be placed on the way in which insects affect mankind, including their economic influences both beneficial and detrimental. Prerequisite: *Biology 100*. Recommended: *Biology 210*. Lecture, tutorial, three-hour laboratory weekly.

Biology 312a

Developmental Biology: The concepts of development as illustrated by the self-assembly, regeneration, metamorphosis and cancerous growth of organisms. Prerequisite: *Biology 100*. Not offered until 1971–72.

Biology 313b

Experimental Embryology: An analysis of the problems and processes involved in the development of eggs. Prerequisite: *Biology 100*. Recommended: any second year biology course. Lecture, tutorial, three-hour laboratory weekly.

Biology 314b

Fish Biology: The biology, ecology and physiology of marine and fresh water fishes. Management practice of fisheries. Prerequisite: *Biology 100*. Seminar, tutorial, three-hour laboratory weekly, and field trips.

Biology 315a

Animal Ecology: Relationships of animals to plants and to their total environment; the study of populations and communities within various ecosystems. Prerequisite: *Biology 100*. Not offered until 1971–72.

Biology 320a

Plant Growth and Development: Hormonal and environmental control of plant growth and development. Recommended: *Biology 220*. Lecture, three-hour laboratory, and seminar or tutorial weekly.

Biology 321b

Plant Nutrition and Water Relations: Aspects of metabolism, mineral nutrition and water relations of plants. Recommended: *Biology 220* and *Chemistry 210*. Not offered until 1971–72.

Biology 322a

Plant Ecology: Quantitative and dynamic aspects of plant ecology; physiological ecology; applied plant ecology. Recommended: *Biology 220*. Not offered until 1971–72.

Biology 323b

Plant Pathology: Principles of plant pathology and the physiology of host/parasite relationships. Applications of electron microscopy to studies of plant pathogens. Prerequisite: *Biology 220*, or by permission of instructor. Two lectures, one three-hour laboratory, and tutorial or seminar fortnightly.

Biology-Chemistry 330

General Biochemistry: See *Chemistry 330*

Biology-Psychology 380a

The Vertebrate Nervous System: See *Psychology 380a*

Biology-Psychology 381b

Comparative Endocrinology: Anatomy and physiology of the endocrine systems of animals and the effects of hormones on development and behaviour. Integration between the nervous and endocrine systems. Prerequisites: *Biology 100* and *Psychology 100* or *110*, or by arrangement with instructor. Lecture, tutorial, three-hour laboratory weekly.

Biology-Psychology 383b

Physiological Psychology: See *Psychology 383b*

Biology-Psychology 385a

The Control of Animal Behaviour: The interaction of the environment with neural and hormonal systems in determining the behaviour of animals. Prerequisites: *Biology 100* and *Psychology 100* or *110* or by arrangement with instructor. Recommended: *Biology 210*. Lecture, tutorial, three-hour laboratory weekly.

Biology-Psychology 387b

Cybernetics: The mechanisms of communication, coordination, control and integration in animals. Prerequisite: *Biology 100* and *Psychology 100* or *110*. Recommended: *Biology-Psychology 380a*. Not offered until 1971–72.

Biology-Geography 350a

Biogeography: Geographical principles affecting the distribution of animals and plants. Prerequisites: *Biology 100*, *Geography 100*, or by arrangement with instructor. Lecture, tutorial, three-hour laboratory weekly.

Biology 400

Selected Topics in Biology: Students choosing this course will investigate a specific field of interest under the guidance of a faculty member. All students taking single honours in Biology are expected to take this course.

Biology-Chemistry 430

Advanced Biochemistry: See *Chemistry 430*

Chemistry

Professor of Chemistry and Chairman of the Department
G.O. Aspinall, B.SC., PH.D., D.SC., F.R.I.C., F.R.S.E.

Professor
S.A. Brown, B.S.A., M.S., PH.D., F.C.I.C.

Associate Professors
I.D. Chapman, B.SC., M.A.; R.E. March, B.SC., PH.D.;
A.H. Rees, M.A., PH.D., F.R.I.C.; R.A. Stairs, M.SC., PH.D.

Assistant Professors
R.G. Annett, B.SC., PH.D.; P.F. Barrett, M.SC., PH.D.

Senior Demonstrator
Mrs. M.L. Amyotte, B.SC.

Chemistry may be studied as a minor subject, as a single major, or joint major subject in the ordinary and honours program. Ontario Grade 13 Chemistry is the normal prerequisite for all students taking *Chemistry 100*. Students planning to major in Chemistry are also advised to take Physics and Mathematics at Grade 13 level. *Chemistry 100* is prerequisite to all other courses in Chemistry.

Students entering the first or second year should note that the single major program in Chemistry should consist of at least six courses in the subject including *Chemistry 100, 200, 210, 300, and 310*. Those hoping to be admitted to the honours program in Chemistry should normally take seven courses in the first three years, those five required for the major program, and in addition *Chemistry 240* and either *Chemistry 320* or *330*. They should note that a course in analytical or inorganic chemistry is required for those hoping to attain to professional membership of the Chemical Institute of Canada.

Students entering the third year of study of Chemistry as a major subject should take *Chemistry 300, 310* and either one or two other courses in Chemistry from *Chemistry 240, 320* and *330*.

Students entering fourth year of the honours program will normally take five courses in Chemistry although one course in another subject may be substituted. *Chemistry 490* is a required course for all honours students. *Chemistry 400* also forms a normal part of the honours program.

Students planning to take a joint major in Chemistry and another subject should consult the two departments concerned as early as possible. Joint major programs involving Chemistry and another discipline must contain no fewer than five courses in Chemistry including *Chemistry 100, 200* and *210*, and two third year courses. For example, the normal Chemistry content of a joint major program in Chemistry and Biology would include *Chemistry 100, 200, 210, 310* and *330*. However, students intending to proceed to a single honours program in Chemistry after a joint major must include *Chemistry 300* and *310* in the third year program.

It should be noted that *Mathematics 100* or *110* is a prerequisite for *Chemistry 200* and succeeding courses in Physical Chemistry. *Physics 100* is strongly advised as a first year course especially for students wishing to specialize in Physical/Inorganic Chemistry. Since these students may wish to take further supporting courses in Physics it should also be noted that a course in Physics is normally required for those hoping to attain to professional membership of the Chemical Institute of Canada. *Biology 100* is a recommended course for those wishing to take courses in Biochemistry.

Laboratory deposit

All students taking one or more laboratory courses in Chemistry will be required to pay a laboratory deposit of \$20. Depending on breakages incurred during the year the deposit will be returned wholly or in part at the end of the session.

Chemistry 100

General Chemistry: An introductory course in physical and inorganic chemistry. Atoms, molecules, crystals, chemical binding, ions, electrolysis, reaction rate, equilibrium, inorganic and organic descriptive chemistry. Two lectures, one laboratory weekly, tutorials at intervals to be arranged.

Chemistry 200

Elementary Physical Chemistry: This course emphasizes both the macro and the molecular approach to physical chemistry. Topics include: kinetic theory of gases; first, second, third, laws of thermodynamics with particular attention to such concepts as entropy, free energy, chemical

potential, and equilibrium; properties of ideal and non-ideal liquids and solutions (both electrolytic and non-electrolytic solutions); chemistry of electrical cells and chemical kinetics. Prerequisite, *Mathematics 100*. Tutorial or seminar, lecture and laboratory weekly.

Chemistry 210

Elementary Organic Chemistry: Structure, synthesis, and reactions of the principal classes of organic compounds, with an introduction to principles underlying reaction mechanisms and stereochemistry. Lecture, laboratory weekly, fortnightly tutorial, and seminar or additional lecture.

Chemistry 240

Analytical Chemistry: The theory and practice of classical and instrumental analytical chemistry, including volumetric, gravimetric methods, and chromatography. Applications to both inorganic and organic analysis. Emphasis is upon the physical and chemical principles, rather than on details of procedure. Two lectures, tutorials or seminars weekly, laboratory weekly.

Chemistry 300

Physical Chemistry: Introduction to quantum chemistry, chemical bonding, statistical mechanics, spectroscopy, electrochemistry and theory of reaction rates. Prerequisite, *Chemistry 200*. Two lectures, tutorials or seminars weekly, laboratory weekly.

Chemistry 310

Organic Chemistry: A study of aliphatic, aromatic, and heterocyclic compounds, with stress on modern methods and concepts in stereochemistry, reaction mechanisms. Prerequisite, *Chemistry 210*. Lecture weekly, tutorial, seminar alternate weeks, laboratory weekly.

Chemistry 320

Inorganic Chemistry: Atomic structure and its relation to chemical properties of the element, valence theory, stereochemistry of inorganic compounds, co-ordination compounds. Prerequisite, *Chemistry 200*. Two lectures, tutorials or seminars and one laboratory weekly.

Chemistry-Biology 330

General Biochemistry: An introduction to the chemistry of animals, higher plants, and micro-organisms, including composition of tissues, nature of enzyme and biocatalysis, energy relationships, formation and degradation of metabolically important compounds, and control of metabolism. Prerequisite, *Chemistry 210*, *Biology 100*, *Chemistry 200* also desirable. Lecture weekly, one tutorial and one seminar in alternate weeks, laboratory weekly.

Chemistry 400

Advanced Physical Chemistry: The colloidal state. Electrical double layer and electrophoresis. Polymers: polymerisation, structure and physical properties. Surface chemistry. Thermodynamics of interfaces. Adsorption, interfacial tensions, emulsions and catalysis. Polymer degradation. Fast reactions in solution. Prerequisite, *Chemistry 300*. Two lectures, tutorials or seminars weekly.

Chemistry 410

Physical-organic Chemistry: Mechanisms of organic reactions, including substitution, elimination, addition and insertion reactions, and molecular rearrangements. Applications of physical methods in organic chemistry, including ultra-violet, infra-red, nuclear magnetic resonance spectroscopy, optical rotatory dispersion, and circular dichroism. Prerequisite, *Chemistry 310*. Two lectures, tutorials or seminars weekly.

Chemistry 420

Advanced Inorganic Chemistry: Theories and nature of bonding in inorganic molecules and crystals, and factors affecting their stabilities and reactivity. Prerequisite, *Chemistry 320*. Two lectures, tutorials or seminars weekly.

Chemistry-Biology 430

Advanced Biochemistry: Current concepts in theory and methods of biochemistry, including enzyme kinetics and mechanisms, metabolic regulation, structure-function relationships of macromolecules, selected topics in metabolic pathways, applications of enzymological and isotopic techniques. Prerequisite: *Chemistry-Biology*

Classical Studies

330. Lecture weekly, tutorial and seminar in alternate weeks. Students taking Chemistry as a minor subject will attend the laboratory for six hours weekly during the first term.

Chemistry 450

Selected topics in Physical Chemistry: (from among) Heterogeneous processes. Microwave spectroscopy and molecular structure. Mechanisms and kinetics of free radical reactions with particular emphasis on combustion processes. Radiation and photochemistry. Electrolytes. Prerequisite, *Chemistry 300*. Two lectures, tutorials or seminars weekly.

Chemistry 460

Selected topics in Organic Chemistry: Chemistry of five- and six-membered ring compounds containing two heteroatoms. Chemistry of miscellaneous drugs, and selected groups of natural products, including vitamins, carbohydrates and terpenes. Prerequisite, *Chemistry 310*. Corequisite, *Chemistry 410*. Two lectures, tutorials or seminars weekly.

Chemistry 490

Experimental Chemistry: Selected experiments from various branches of chemistry, according to the student's field of specialization. A laboratory course, at least nine hours weekly. Required course for Honours Chemistry students.

For information on postgraduate work in Chemistry and Chemical Physics, please see The Graduate Studies Calendar.

Associate Professor of Classics and Chairman of the Department

B.P. Reardon, M.A., D.U.

Professor in Ancient History

Gilbert Bagnani, D.LITT., F.R.S.C.

Assistant Professors

Miss Janet P. Bews, M.A., PH.D.; David F.R. Page, B.A.; A.M. Young, M.A., PHIL.M.

The Department of Classical Studies offers courses in four fields, all of which provide general background for studies in the humanities. Greek and Latin involve study of language, literature and civilization, and may be studied as major subjects to honours level, in the programs set out below; Ancient History and Greek and Latin Literature may be studied in English to supplement programs in Classics or in other disciplines, notably in history and literature.

Major Programs

Latin

Ontario Grade 13, or its equivalent, is prerequisite to the study of Latin.

a) Latin as a single-major in the ordinary program: six Latin courses and *Ancient History 200*. Strongly recommended: a second Ancient History course.

b) Latin in a joint-major ordinary program: five Latin courses. Recommended: *Ancient History 200*.

Greek

Ontario Grade 13 is normally an equivalent to *Greek 100*

a) Greek as a single-major in the ordinary program: *Greek 200, 210, 300, 310, 320* and *Ancient History 100*. Strongly recommended: *Ancient History 200* and/or *300*.

b) Greek in a joint-major program: five courses in Greek, including *Greek 200, 210* and *300*. Recommended: *Ancient History 100*.

Classics

a) Five Latin courses and either three Greek courses or *Ancient History 200* and two Greek courses.

b) Five Greek courses and *either* three Latin Courses or *Ancient History 100* and two Latin courses.
c) Joint-major in Latin and Greek: five Latin courses, five Greek courses beyond *Greek 100*, and at least one Ancient History course.

Honours programs are offered in Latin, Greek, and Classics. Fourth year programs will be arranged by the department to suit the interests and qualifications of students.

General Remarks

a) *Latin 200* and *210* alternate with *Latin 300* and *310*; in 1970-71, *Latin 200* and *210* will be offered, to both second- and third-year students. *Latin 320* is offered every year, to third-year students only.
b) *Greek 200* as described below is designed for students who have a Grade 13 or *Greek 100* qualification and propose to take several Greek courses. Its content and the qualification prerequisite may be modified, at the discretion of the department, to meet the needs and interests of other students. Students wishing to study Greek beyond *Greek 100* should consult the department.
c) Practice in prose composition and sight translation, in tutorial or seminar groups, forms part of the program in all years in both Latin and Greek.
d) Courses in Greek and Latin Literature in translation do not count for credit toward a major in Latin, Greek or Classics, but one course may be counted for credit toward a major in English. *Greek and Latin Literature 100* will be offered every year; it is designed as a first-year course, but may be taken by students in any year. *Greek and Latin Literature 200* will be offered every second or third year.

Latin 100

Studies in Latin language and literature: Pliny, *Letters*; Catullus, selected poems; Livy, Book 21. Prerequisite: Grade 13. Occasional lecture, one or two tutorials, language seminar weekly.

Latin 200

Further studies in Latin language and literature: Cicero, *De Oratore*; Ovid, *Metamorphoses*; Virgil, *Eclogues*.

Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly.

Latin 210

Comedy and satire: Plautus, *Rudens*; Horace, *Satires*; Juvenal. Prerequisite: *Latin 100*. Occasional lecture, two tutorials, language seminar weekly.

Latin 300

Studies in Augustan literature; Livy; Horace, *Odes*; Propertius. Prerequisite: *Latin 100*. (Not offered 1970-71)

Latin 310

Virgil, *Aeneid* and *Georgics*. Prerequisite: *Latin 100*. (Not offered 1970-71)

Latin 320

Historical and philosophical writing: Tacitus, *Annals*; Lucretius; Cicero, *Tusculan Disputations*. Prerequisite: *Latin 200, 210, 300 or 310*. Occasional lecture, two tutorials, language seminar weekly.

Latin 400

Reading course. Regular meetings.

Latin 410

Studies in Latin language and literature and Roman civilization, with some concentration on a special subject. Regular meetings.

Greek 100

Beginners' Greek. Prerequisite: none. Three tutorials, one seminar weekly.

Greek 200

Prose authors: Plato, *Crito*; Attic Orators, selected passages; Herodotus, selected passages. Prerequisite: (See General Remarks b.) *Greek 100* or Grade 13. Occasional lecture, two tutorials, one language seminar weekly.

Greek 210

Homer. Prerequisite: *Greek 100* or Grade 13. Occasional lecture and seminars, two tutorials weekly.

Greek 300

Tragedy: Aeschylus, *Prometheus Bound*; Sophocles, *Antigone*; Euripides, *Hippolytus*. Prerequisite: *Greek 200* or *210*. Occasional lecture and seminars, two tutorials weekly.

Greek 310

Prose: history, oratory, biography: Thucydides; Demosthenes, *Philippics*; Plutarch, *Lives*; Xenophon, *Hellenica*. Prerequisite: *Greek 200* or *210*. Occasional lecture, two tutorials, one language seminar weekly.

Greek 320

Verse: lyric, elegiac, comic: selections from the *Oxford Book of Greek Verse*; Aristophanes, *Frogs*; Menander, *Dyscolus*. Prerequisite: *Greek 200* or *210*. Occasional lecture and seminars, two tutorials weekly.

Greek 400

Reading course. Regular meetings.

Greek 410

Studies in Greek language, literature and civilization, with some concentration on a special subject. Regular meetings.

Ancient History 100

The history of Greece to the Hellenistic period. Open to students in any year. Three lectures per fortnight, fortnightly seminar.

Ancient History 200

The rise and decline of the Roman Republic. Open to students in any year. Three lectures per fortnight, fortnightly seminar.

Ancient History 300

The Roman Empire from Augustus to Constantine, with special emphasis on social and economic developments and the rise of Christianity. Prerequisite: *Ancient History 200*. Three lectures per fortnight, fortnightly seminar.

Ancient History 400

The later Roman Empire, from Constantine to Justinian; the transition from classical to medieval culture, with

special reference to the establishment of Christianity. Open to students beyond first year. Weekly lectures.

Greek and Latin Literature 100

Study in translation of major Greek and Latin literary works: Homer, *Odyssey*; lyric verse; Sophocles, *Oedipus Tyrannus*, *Antigone*; Euripides, *Bacchae*; Aristophanes, *Clouds*; Plautus, *Menaechmi*; Seneca, *Oedipus*; Plutarch, selected *Lives*; Longus, *Daphnis and Chloe*; Lucian, selected works. Three lectures per fortnight, fortnightly seminars.

Greek and Latin Literature 200

Study in translation of selected areas of Greek and Latin literature: (a) The Trojan theme: Homer, Aeschylus, Sophocles, Euripides. (b) Rome: Virgil, Livy, Ovid, Horace, Juvenal. (c) Literary criticism: Aristotle, Horace, Longinus. (d) Late antiquity: Apuleius, Heliodorus. Prerequisite: *Greek and Latin Literature 100* or permission of the department. Open to students beyond first year. One lecture weekly, fortnightly seminars.

Economics

Professor of Economics and Chairman of the Department
M.J. Boote, B.A., PH.D.

Professor
W.D.R. Eldon, A.M., PH.D.

Assistant Professors
D.C.A. Curtis, M.A., PH.D.; W.T. Hunter, B.COM., M.A.;
H.M. Kitchen, M.A.

Special Lecturer
Mrs. Eleanor G. Torrens, M.A.

Economics may be studied as a single-major, as a joint-major, or as a minor in the ordinary program. The Department intends to offer a fourth-year honours program commencing in the 1970-71 academic year. *Economics 100* is a prerequisite for all other courses in Economics. Six courses in Economics are required for a single-major in the ordinary program, five or six courses for a joint-major. The required courses for either a single or joint-major are *Economics 100, 200 and 300*.

Students intending to take honours in Economics are urged to include *Mathematics 100 or 110* and *Statistics 100* in their program; students taking a major in the ordinary program are advised to include *Statistics 100*. *Statistics 100* may be taken in either the first or second year of studies. Students taking a major or an honours program in Economics are advised to select a combination of courses from among such related disciplines as History, Mathematics, Politics, and Sociology. The teaching method in Economics gives greater emphasis to lectures in the first year than in later years; seminars or tutorials are given in all courses. Details of teaching method in each course will be announced at the beginning of the academic year.

Economics 100
Introductory economic analysis: Composition, growth, and fluctuation of national output. Money and the general level of prices. Markets, the nature of competition, and the formation of individual prices. International trade, tariffs, and the balance of payments.

Economics 200

The Price System: A theoretical analysis of conditions for rational allocation of scarce resources by buyers and sellers in different types of markets. Empirical material relating to government intervention in consumer choice, pricing in agriculture, price and wage controls, price leadership, price determination, and structure and performance of oligopoly and monopoly.

Economics 210

Public Finance: Government expenditure structure (theoretical and practical); welfare economics of the public sector; tax structure, tax incidence and effects; fiscal federalism; fiscal policy. (Formerly *Economics 22*).

Economics 300

Macroeconomic Theory and Policy: National accounting; determination of national income and output; IS-LM approach, Keynesian vs. Classical theory. Aims, techniques and limitations of monetary and fiscal policies; inflation, guidelines and trade-offs; external constraints; recent macroeconomic policy.

Economics 310

International Economics: Trade theory, tariffs and regional integration with special reference to Canada; foreign exchange markets and exchange rates; balance of payments and its adjustment; international financial institutions in historical perspective.

Economics 320

Mathematical Economics: Fundamental methods of mathematics as applied to statics (or equilibrium analysis), comparative statics analyses, optimization problems and dynamic analysis occupies the first half of the year. Economic statistics: An introduction to some of the techniques and problems of quantitative research is covered in the second half of the year. (Formerly *Economics 34*). Not offered 1970-71.

Economics 330

Development Economics: Theories and policies relevant to the economies of developing nations.

Additional second, third, and fourth-year courses may be offered in 1970-71.

English Literature

Professor of English Literature and Chairman of the Department

Miss B.E. Rooke, M.A., PH.D.

Professor

Gordon Roper, A.M., PH.D.

Associate Professors

R.D. Chambers, B.A., B.LITT; S.F. Gallagher, M.A., PH.D.;

Ian McLachlan, M.A.; Miss E.M. Orsten, M.A., PH.D.;

J.S. Pettigrew, M.A.

Assistant Professors

M.S. Berkowitz, M.A.; G.D. Eathorne, M.A.; A.G. Fisher,

M.A.; J.P. O'Flinn, M.A., B.LITT.; R.H. Sadleir, M.A.;

J.M. Treadwell, B.A.; F.B. Tromly, M.A.

Lecturer

Stephen Bonnycastle, B.A.; Ian Carruthers, B.A.

English Literature may be studied as a single-major, as a joint-major, or as a minor subject in the ordinary and honours programs.

The regular courses for undergraduates studying English Literature are: a) English as a single-major subject in the ordinary program: *English 110, 200*, one of *210, 220, 300*, and three further courses; b) English as a joint-major subject in the ordinary program: *English 110, 200*, one of *210, 220, 300*, and two further courses; c) English as a single-major subject in the honours program: *English 110, 200, 210, 220, 300*, and a minimum of six further courses to be approved by the department; d) Students wishing to take a joint-major honours program in English and a related subject should consult with the department.

Students may elect to take one course in Greek and Latin Literature in Translation, or in Comparative Literature as one of the optional courses required in the major and honours programs in English.

First-year Courses: *English 100* is designed for students who do not intend to pursue major or honours studies in English; *English 110* is the normal beginning course of the major and honours programs. These two courses may not be taken together in the same year of studies. Students who have completed *English 100* and then wish to major

or honour in English should subsequently take *English 110*.

English 100

Studies in English literature. The course concentrates on the work of a few major poets, dramatists, and novelists: Minimum of one lecture hour weekly and fortnightly tutorials.

English 110

Studies in Shakespeare's plays. Minimum of one lecture hour weekly and fortnightly tutorials.

Second and Third-year Courses: The first digit suggests the year of study in which the course might normally be taken, but any second or third-year course is open to any second, third, or fourth-year student and should not be considered an out-of-year course.

English 200

Studies in non-dramatic English literature of the Renaissance, with special attention to Spenser, Donne, and Milton. Minimum of one lecture hour weekly and fortnightly tutorials.

English 210

Studies in English literature of the Romantic period, with special attention to Wordsworth, Coleridge, and Keats. Minimum of one lecture hour weekly and fortnightly tutorials.

English 220

Studies in Chaucer. Minimum of one lecture hour weekly and fortnightly tutorials.

English 230

Studies in American literature of the nineteenth century. Minimum of one lecture hour weekly and fortnightly tutorials.

English 300

Studies in non-dramatic English literature of the Restoration and eighteenth century. Minimum of one lecture hour weekly and fortnightly tutorials.

English 310

Studies in English drama to the late eighteenth century. Minimum of one lecture hour weekly and fortnightly tutorials.

English 320

Studies in English prose and fiction of the nineteenth century. One lecture hour, one seminar, and one tutorial in each two week period.

English 330

Studies in Old English language and literature. Minimum of one lecture hour weekly and fortnightly tutorials.

English 340

Studies in modern literature. One tutorial weekly and fortnightly lectures.

English 350

Studies in Victorian and early modern poetry. Minimum of one lecture hour weekly and fortnightly tutorials.

English 360

Studies in Canadian literature. One seminar weekly.

Fourth-year Courses: Fourth-year courses in English are open only to students in the fourth or honours year of studies in English. Any other student wishing to enroll in a fourth-year course requires the permission of the department.

English 400

Honours Colloquium in Bibliography and Textual Criticism.

English 410

Criticism.

English 420

Shakespeare.

English 430

Studies in Middle English literature excluding Chaucer.

English 440

Studies in modern poetry.

English 450

Studies in modern American literature.

English 460

Studies in the novel.

English 470

Sixteenth century literature.

English 480

Seventeenth century literature.

English 490

Special author or topic. The course allows the student to select, with the approval of the department, his own area for study which he then pursues under the direction of a member of the department.

French Studies

Professor and Chairman of the Department
Robert W. Torrens, M.A., PH.D.

Associate Professor
Peter Royle, M.A., PH.D.

Assistant Professors
Georges Cohen, L.-ES-L., D.E.S.; J.M.A. Le Dreff, M.A.,
Terence Mellors, M.A.; Mrs. J. Reardon, L.-ES-L., B.A.

Lecturer
Alan E. Franklin, M.A.

French may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs. The normal prerequisite is Grade 13 or its equivalent. All courses require extensive practice in written and oral French.

A major in French will consist of *French 110* (or in special cases *French 100* with the permission of the department), *French 200*, *230* and at least three additional literature courses.

French 100
An intensive language course for those students who do not intend to major in French. Composition, conversation, laboratory practice. Prerequisite: Grade 13 French or its equivalent. Three hours weekly.

French 110
A survey of French literature from the Renaissance to the present. One lecture, one oral seminar, one composition class and one hour of laboratory practice weekly. Normally required for students intending to major in French. Prerequisite: Grade 13 French or its equivalent. Four hours weekly.

French 200
Phonetics, conversation, composition, laboratory practice. Required for a major in French. Prerequisite: *French 100* or *French 110*. Three hours weekly.

French 210
French literature of the seventeenth century: Works by Corneille, Molière, Racine, Pascal, La Rochefoucauld,

Boileau, La Fontaine, La Bruyère. Required for students majoring in French. Prerequisite: *French 110* or permission of the department. Lecture, one seminar weekly.

French 220
French-Canadian Literature. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

French 230
French Romanticism: Rousseau, Chateaubriand, Lamartine, Vigny, Musset, Hugo. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

French 300
Composition, conversation, introduction to philology, laboratory practice. Prerequisite: *French 200*. Three hours weekly.

French 310
The modern French novel: Balzac, Stendhal, Flaubert, Zola, Proust, Goncourt. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

French 320
Modern French Theatre: Claudel, Giraudoux, Anouilh, Sartre, Ionesco, Beckett. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

French 330
French literature, eighteenth century thinkers, moralists and dramatists: Montesquieu, Diderot, Rousseau, Voltaire, Marivaux, Beaumarchais. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

French 340
The contemporary novel: Gide, Camus, Sartre, Malraux, Le Nouveau Roman. Prerequisite: *French 110* or permission of the department. Lecture and seminar weekly.

Geography

French 400

Phonetics, linguistics and composition. Open to students majoring in French Studies. Two hours weekly.

French 410

Medieval French language and literature. Open to students majoring in French Studies. Two tutorials weekly.

French 420

French literary criticism. Open to students majoring in French Studies. Two tutorials weekly.

French 430

Initiation to literary research. Open to students majoring in French Studies. Two tutorials weekly.

French 440

French Renaissance, sixteenth century, with intensive study of Rabelais, Montaigne, Marot, Ronsard, DuBellay and D'Aubigné. Open to students majoring in French Studies. Two tutorials weekly.

French 450

French poetry from Nerval to the present: Nerval, Hugo, Baudelaire, Verlaine, Rimbaud, Mallarmé, Valéry, Claudel, and Apollinaire. Open to students majoring in French Studies. Two tutorials weekly.

Note: All fourth-year students will do one hour of composition weekly.

Associate Professor of Geography and Chairman of the Department

W.P. Adams, B.A., M.Sc., Ph.D.

Assistant Professors

F.M. Helleiner, M.A.; A.G. Brunger, M.Sc.

Geography may be studied as a minor subject or as a single-major or joint-major in the ordinary and honours programs. Students intending to specialize in Geography are strongly urged to take *Statistics 100*; honours students must do so. All students are encouraged to discuss their ancillary subjects with the department. The attention of students taking half courses in Geography is drawn to half courses offered in Philosophy. *Mathematics 220* is recommended for suitably qualified students of Geography. *Geography 100* or permission of instructor is a prerequisite for all other courses. The sequence *200*, *300* and *400* is required for students majoring in Geography. Fieldwork forms an integral part of most courses; the cost and dates of major field projects will be announced at the beginning of the year.

Geography 100

Introduction to Physical Geography: basic concepts in Meteorology-Climatology, Geomorphology and Biogeography with emphasis on processes and inter-relationships within the earth-atmosphere system. Laboratory work includes an introduction to Air Photo Interpretation. Two lectures weekly and laboratory fortnightly with discussion periods, occasional field trips.

Geography 200

Cartography: Methods and techniques of collecting and organizing geographical data and presenting results of geographical analysis. Maps as models for scientific inquiry. Statistical and automated cartography, and air-photo interpretation. Historical development of cartography. Three hours weekly of lectures and laboratories, including field work.

Geography 260

Geography of Canada: a problem-oriented course, dealing with Canada's role in the world, the human and natural resources and the efforts to cope with current and

incipient problems. One lecture, one seminar weekly, tutorial fortnightly, occasional field trips.

Geography 300

Advanced methodology and techniques of geographical analysis; methods of data retrieval, including aspects of plane survey and air-photo interpretation; statistical and other methods of analyzing data; methods of presenting results; including the use of computers in cartography. Approximately three hours weekly, laboratories, seminars, lectures, field trips.

Geography 320

Economic Geography: a systems approach to the spatio-economic organization of the world. Current methods of inquiry into the processes within the system and models for analyzing the processes. Lecture weekly, tutorial fortnightly, seminar/laboratory weekly.

Geography 330

Historical Geography: Locational analysis in geographic space and time. Decision-making and the role of perception in historical-geographical context. Substantive investigation of geographic processes with an emphasis on nineteenth century migration and settlement, landscape morphology and society, and urbanization. Lecture, tutorial weekly; periodic seminars and laboratories plus field trips.

Geography 340

Climatology-Meteorology: advanced study of the elements of weather and climate with emphasis on the role of water in climate and on applied climatology. Lecture, seminar weekly, occasional tutorials and field trips.

Geography-Biology 350a

Biogeography: See *Biology 350a*.

Geography 390a

Field course in Geography. This is a required course for third or fourth-year students. It involves one full week in a selected field area (the first reading break) with extensive preparation and follow-up.

Geography 400

Dissertation: This course is seen as the culmination of the honours degree in Geography. Throughout the final year, students will engage in a major research project entailing periodic meetings with faculty. A schedule for the submission of research proposals and for the completion of various stages in the project will be set out at the beginning of the year.

Additional Courses, 1970-71

One additional faculty appointment will be made and at least two more courses will be offered. These will include *Urban Geography* or *Geomorphology* at second or third-year levels.

German

Associate Professor of German and Chairman of the Department

D.D. Stewart, M.A., PH.D.

Assistant Professor

J.C. Fewster, M.A.

Lecturer

A.A. Krueger, STAATSEXAMEN

German may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary program.

German 100

Designed for students with little or no knowledge of German, this course provides an introduction to German grammar with intensive oral practice in the language laboratory. Two lectures, one seminar, two laboratory hours weekly.

German 110

A survey of the history of German civilization, with special attention to the literature and thought of the period 1850–1950; grammar review, composition and conversation. Prerequisite: Grade 13 German, or *German 100*, or permission of the department. One lecture, two seminars, two laboratory hours weekly.

German 200

German literature and thought from Nietzsche to Brecht. Prerequisite: *German 110*, or permission of the department. One lecture, two seminars weekly.

German 210

The Age of Goethe I. A study of the beginnings of modern German literature, with special attention to Lessing, Goethe and Schiller. Composition. Prerequisite: *German 110* or permission of the department. One lecture, one seminar, one tutorial, two laboratory hours weekly.

German 300

The Age of Goethe II. A study of the literature of the period 1790–1832 with emphasis on Goethe, Schiller,

Hölderlin and Grillparzer. Composition. Prerequisite: *German 210*. One lecture, one seminar, one tutorial, two laboratory hours weekly.

German 310

The Romantic Movement. Studies in Romantic literature from Wackenroder to Heine, complementary to *German 300*. Prerequisite: Registration in *German 300* or permission of the department. Two lectures weekly.

German 320

History of the German language; introduction to medieval German literature. (Not offered in 1970–71).

German 330

History of the Novelle from Goethe to Grass. Prerequisite: *German 200* or *210*, or permission of the department. One lecture, two tutorials weekly.

Hispanic Studies

Professor of Spanish and Chairman of the Department
J.M.Valverde, LIC.FIL.Y LET., DR.FIL.Y LET.,
EX-CATEDRATICO

Associate Professor
J.P. González-Martín, LIC.DER., DR.DER.

Assistant Professors
E. Gastón, LIC.DER., LIC.FIL.Y LET., D.E.S.; Mrs. Rosa
María Garrido de González, LIC.DER., DR.DER., M.A.;
Mrs. Dawn L. Smith, M.A.

Spanish may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary program, or as a joint subject in the honours program.

There is no prerequisite. *Spanish 100* and *200* require regular laboratory practice. Individual oral examinations are considered in determining final standing. Most courses are given in Spanish.

Spanish as a major subject in the ordinary program: *Spanish 100*; *200*, *210*, *300*, and one or two of *310*, *320*.

Students wishing to take a joint major honours program in Spanish and a related subject should consult the department.

Students with sufficient previous knowledge of Spanish may be admitted directly to *Spanish 200* and/or *210*, at the discretion of the department.

Spanish 100
Beginners' course in Spanish: this course consists of an introduction to grammar and reading, and practice in oral Spanish. Texts include a grammar and two readers presenting simplified stories and excerpts from works by contemporary authors, which will be also used as a first introduction to culture and social background in Spanish-speaking countries. Seminars: three weekly, language laboratory: one hour weekly.

Spanish 200
Advanced Spanish: a general course of Spanish conversation, composition and pronunciation, including seminars and laboratory work. Three hours weekly, conducted in Spanish. Seminars: two hours weekly, language laboratory: one hour weekly. Prerequisite: *Spanish 100*, or Grade 13, or equivalent.

Spanish 210
Spanish Civilization: a general survey of the history of literature, culture and art in the Spanish-speaking countries. Slides are used. Lecture, two seminars weekly. Prerequisite: same as *Spanish 200*.

Spanish 300
Advanced oral Spanish and composition: an analytical study of the elements required in the use of Spanish, especially in writing, with a consideration of the Spanish-American peculiarities. Lecture, seminar weekly.

Spanish 310
Spanish literature, Contemporary period: the Spanish literature since the Generation of 1898. (Formerly *Spanish 32*). Lecture, seminar weekly.

Spanish 320
Spanish-American Literature: the Literature of the Spanish-speaking countries of Central and South America, with its historical and social background. (Formerly *Spanish 41*). Lecture, seminar weekly.

Spanish 400
Honours seminar leading to the completion of an undergraduate thesis, with problems of bibliography and literary criticism.

Spanish 410
Spanish Literature of the Golden Age: the Renaissance and Baroque periods, with their social and political background. (Formerly *Spanish 31*). Mainly intended for Honours students, but also open to third-year students. Lecture, seminar weekly.

Spanish 411
History of the Spanish language and Spanish medieval literature. Lecture, seminar weekly.

History

Professor of History and Chairman of the Department
Alan Wilson, M.A., PH.D.

Vanier Professor of Canadian History
W.L. Morton, S.M., M.A., B.LITT., LL.D., D.LITT., F.R.S.C.,
F.R.HIST.S.

Professor
John Gilchrist, PH.D.

Associate Professors
C.M. Greene, A.M., PH.D.; F.A. Hagar, M.A., PH.D.,
M.LITT.; B.W. Hodgins, M.A., PH.D.; D.S. Macmillan,
M.A., PH.D., F.R.A.H.S.; T.H.B. Symons, M.A.

Assistant Professors
E.H. Jones, M.A.; Douglas McCalla, M.A.; R.J.D. Page,
M.A.; W. G. Pitman, M.A.; S.T. Robson, B.A., D.PHIL.;
Deryck M. Schreuder, B.A., D.PHIL.

Lecturers
A.O.C. Cole, M.A.; J.D.P. Martin, B.A., B.L.S.

History may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs. *History 100* is the normal prerequisite for all other courses in Canadian history. Majors will normally take *History 100* in their first year, two of *History 200*, *210*, *220* in their second year; at least three History courses in each of their third and fourth years.

History 100
An introduction to the study of history, illustrated by the Canadian experience. Weekly lectures and discussions examine major problems in historical development and interpretation in Canada. Lectures by specialists in European and American history and in other disciplines also examine the nature of history. Where possible, students preferring to concentrate on two of the following periods of Canadian history are assigned to appropriate groups: *a* 1600–1840; *b* 1840–1896; *c* since 1896. Students should indicate their preferences when registering.

History 200
The expansion of Europe from 1400 to 1825: Selected topics concerning the background to European expansion, and the economic and political effects of this process in the world outside Europe. Lecture weekly, two-hour tutorial fortnightly. Enrolment may be limited.

History 210
American History: Social, economic and political developments from the Colonial Period to the end of the Civil War. Lecture; seminar or tutorial weekly.

History 220
Modern European History: Selected topics, with emphasis on revolution, reform, and industrialism in the nineteenth and twentieth centuries. Lecture weekly, tutorial fortnightly.

History–Politics 300
Canadian History: Selected topics in the development of Canadian federalism. Seminars and tutorials, with occasional lectures.

History 310
American History: The reform and Progressive tradition, with attention to domestic and foreign policies since the Civil War.

History 320
British History from 1815 to 1951: Selected topics concerning social, economic, and political developments. Lecture weekly, two-hour tutorial fortnightly.

History 330
German History from 1848 to 1939: Selected problems concerning the political, social, and economic history of the Germans. Two lectures, two tutorial hours fortnightly.

History 340
Problems in “Imperialism”, 1850 to 1960: Selected problems in the theory and practice of imperialism, emphasizing the British experience. In 1970–71 the course will be confined to matters relating to Africa, India and Canada. Lecture, two-hour tutorial fortnightly.

History 350

History of France: The French Revolution as a theme in the history of France since the death of Louis XIV. Two-hour lecture/seminar weekly.

History 360

Medieval Europe: A course of medieval studies with particular reference to the period 1048–1348. Selected topics concerning social, economic, cultural, and ecclesiastical developments. Lecture and tutorial weekly. Offered in Fall and Winter terms only.

History 370

Russian History: A study of the development of the Muscovite State and of the Tsarist Autocracy, with some attention to the development of the reform and revolutionary movements. Lecture weekly, two-hour tutorial fortnightly. Enrolment may be limited.

History 380

British History from the sixteenth to the eighteenth century. Lecture weekly, two-hour tutorial fortnightly.

History 390

Reformation Europe: A course of studies with particular reference to the first half of the sixteenth century. Selected topics related to the theological and socio-economic aspects of the period. Lecture, tutorial weekly. Offered in Fall and Winter Terms only.

History–Politics 400

Contemporary Canadian problems: An intensive study of the problems of constitutional change, parliamentary reform, and social and cultural aspects of the French–English relationship in Canada. (Offered jointly by the staff in History and Politics.) Prerequisite: *History–Politics 300*, or permission of the department. Tutorial weekly.

History 401

The growth of the British North American provinces, 1807–1867, as affected by internal and external ideas, techniques and institutions.

History 410

American History: Selected topics in the Progressive era. Emphasis will be given to independent reading, with joint discussion meetings every three weeks. (Not offered in 1970–71).

History–Philosophy 470

Philosophy of History. A study of history as a form of enquiry, with special reference to problems of explanation, objectivity and the historical individual; also an examination of some general interpretations of the historical process. Offered jointly by the staff in Philosophy and History. During the Spring Term, students majoring in History will elect individual work with members of the staff in History. Lectures and discussions in one two-hour session weekly.

History 480

Reading Course: Special topics, designed to provide an opportunity for more intensive study of particular topics. Open to fourth-year Honours undergraduates in History and to some third-year students by special application to the department. Regular consultation and direction during the academic year.

Mathematics

Professor of Mathematics and Chairman of the Department

A.P. Guinand, B.SC., D.PHIL.

Professor

T.E.W. Nind, M.A.

Associate Professor

Cyril Carter, B.SC., PH.D.

Assistant Professors

I.C. Chakravarty, M.SC., PH.D.; G.F. Hamilton, B.A.SC., M.A., P.ENG.; J.P. Henniger, M.SC., PH.D.; E.A. Maxwell, M.SC., PH.D.; T.N. Murphy, B.SC.

Mathematics may be studied as a minor subject, or as a single-major subject in the ordinary and honours programs. *Mathematics 100* or *110*, and *200* must be included in a major program. In any single-major program, *Mathematics 300* must also be included. All first-year Mathematics students should register initially in *Mathematics 100/110*. At the end of the first term they choose either *Mathematics 110* as a preparation for a future major program, or *Mathematics 100*. Normal prerequisite is Mathematics A or its equivalent.

Mathematics 100

Autumn Term: Trigonometry, analytic geometry, number systems, functions and limits.

Winter and Spring Terms: Differential and integral calculus, with applications to rates of change, maxima and minima, areas and volumes. Two lectures weekly, two-hour problem session fortnightly.

Mathematics 110

Autumn Term: As for *Mathematics 100*.

Winter and Spring Terms: A more rigorous treatment of calculus and its applications. Special topics in Modern Mathematics. Two lectures weekly, two-hour problem session fortnightly.

Mathematics 200

General Mathematics: This course is a continuation of *Mathematics 100* or *110*, and includes partial differentiation, multiple integrals, differential equations, elementary

properties of complex variables, a formal treatment of Taylor and Fourier series, determinants, and the coordinate geometry of lines, planes and spheres in three dimensions. Prerequisite: *Mathematics 100* or *110*. Two lectures weekly, tutorial fortnightly.

Mathematics-Physics 210

Applied Mathematics: Introduction to the classical study of the motion of particles and rigid bodies. The course is oriented toward development of an elementary understanding of the links between classical mechanics and relativity, cosmology and quantum mechanics. Prerequisite: *Mathematics 100* or *110*. Two lectures weekly, tutorial fortnightly.

Mathematics 220

Finite Mathematics: Linear algebra, matrices, linear programming, games theory, graph theory, dynamic programming, information theory. Prerequisite: *Mathematics 100* or *110*. Two lectures, discussion group weekly.

Mathematics 230

Introduction to the concepts of modern algebra: Sets, algebraic systems. Prerequisite: *Mathematics 100* or *110*. Two lectures weekly, tutorial fortnightly.

Mathematics 300

Foundations of analysis: The real number system, sequences and series, metric spaces, basic concepts in the calculus, topics in complex variable theory. Prerequisite: *Mathematics 200*. Two lectures weekly, tutorial fortnightly.

Mathematics 310

Applied Mathematics: General theories of classical mechanics. Lagrange's and Hamilton's equations. Variational principles. Some attention to foundations of statistical and quantum mechanics. Prerequisites: *Mathematics 200* and *210*. Two lectures or seminars weekly.

Mathematics 320 series

Half courses will be offered on the topics listed below. Any two half courses may be combined to constitute one course in Mathematics for a degree program. *Mathematics*

324c, 326c, 328c, may be taken in second year. One seminar weekly in each part.

Mathematics 321c

Differential equations. Prerequisite: *Mathematics 200*.

Mathematics 322c

Abstract algebra. Prerequisite: *Mathematics 230*.

Mathematics 323c

Topology of plane sets. Prerequisite: *Mathematics 230* or permission of the department.

Mathematics 324c

Projective and analytic geometry. Prerequisite: *Mathematics 110*. Offered in alternate years, not in 1970–71.

Mathematics 325c

Differential geometry. Prerequisite: *Mathematics 200*. Offered in 1970–71, and alternate years thereafter.

Mathematics 326c

Number theory. Prerequisite: *Mathematics 110*. Not offered in 1970–71.

Mathematics 327c

Special functions of analysis. Prerequisite: *Mathematics 200*

Mathematics 328c

Numerical analysis and computer programming. Prerequisite: *Mathematics 110*.

Mathematics 400

Advanced analysis for honours students. Prerequisite: *Mathematics 300*. One seminar weekly.

Mathematics 430

Advanced algebra for honours students. One seminar weekly.

Further programs of fourth-year honours Mathematics courses, tailored to the requirements of single and joint-major honours students will be worked out by discussion between the candidate and the Chairman of the department.

Statistics 100

Elementary Statistics: An introduction to statistics for students in the social sciences. Not intended for students with a background in mathematics, or to be credited towards a major in mathematics. Lecture weekly, seminars fortnightly.

Statistics 200

Mathematical Statistics: An introduction to probability theory and mathematical statistics for students with a background in mathematics. Prerequisite: *Mathematics 100* or *110*. Lecture weekly, seminars fortnightly.

Statistics 300

Experimental Statistics: Analysis of variance, design of experiments and regression analysis. Prerequisite: For 1970–71, *Mathematics 100* or *110* and any statistics course. Thereafter, *Statistics 200*. Seminar weekly. Offered in 1970–71 and alternate years thereafter.

Statistics 310

Inference. General survey of philosophies and techniques in inference. Prerequisite: *Statistics 200*. One seminar weekly. Not offered in 1970–71, but alternates annually with *Statistics 300*.

Philosophy

Professor of Philosophy and Chairman of the Department

W.H. Dray, M.A., D.PHIL., F.R.S.C.

Professor

David Gallop, M.A.

Associate Professors

J.I. MacAdam, M.A., PH.D.; Miss M.G. Fry, M.A., B.LITT.

Assistant Professors

J.W. Burbidge, M.A., B.D.; W.A. McMullen, M.A.;

K.R. Rautenkranz, M.A.

Philosophy may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs.

Philosophy 100 offers a preparation for other courses in the subject but, after the first year, a student may enrol in any course in Philosophy with the permission of the department. Permission may also occasionally be granted to first year students to enrol in second year courses instead of *Philosophy 100*, if they satisfy the department that they are adequately prepared. Third and fourth-year students may enrol in fourth-year courses, with the permission of the department, whether or not they are majoring in Philosophy.

Candidates for the honours degree in Philosophy will be required to complete nine courses in the subject over the four undergraduate years, or seven if in an approved joint-honours program. These must include at least two fourth-year courses in Philosophy, one of which must be *Philosophy 400* or *401*. Provided the foregoing requirements are met, courses from the lower years, or courses offered outside the department, may be taken as part of the fourth year.

The individual programs of fourth-year honours students in Philosophy must have the approval of the department and should be arranged in consultation with the Chairman during April of the third year. Topics of research tutorials and reading courses will be decided at that time, in the light of the needs of students and the resources of the department. Third-year students who wish to proceed to the honours degree will be expected to apply for honours, or, if already in honours, to signify

their intention of going on to the fourth year, by March 1 of the third year.

A fourth-year honours student may elect to do independent work, in the form of a major paper, in connection with any course in Philosophy, with the permission of the instructor, in lieu of all other requirements for the course.

Further details of the program in Philosophy, may be obtained from the office of the secretary to the Chairman of the department.

Philosophy 100

Introduction to Philosophy: A study of some fundamental problems and their treatment in a variety of philosophical writings: the existence of God, the relation of mind and body, freedom of the will, the foundations of moral judgment, and the role of sense-perception in our knowledge of the physical world. Weekly lecture, fortnightly tutorial, periodic workshops.

Philosophy 210

Ancient Philosophy from Thales to Plato: A study of selected texts. (Offered in 1971–72 and alternate years.)

Philosophy 212

Early Modern Philosophy: A study of some seventeenth and eighteenth century writers including Descartes, Leibniz, Spinoza, Locke, Berkeley, Hume, Kant. (Offered in 1971–72 and alternate years.)

Philosophy 214

Existentialism and Phenomenology: Major themes in the writings of Husserl, Heidegger, Sartre, Jaspers and Merleau-Ponty. Special attention will be given to the relevance of their thought to literature, religion and the social sciences. Weekly two-hour seminar.

Philosophy 230

Problems of Philosophy: A study of selected philosophical problems with special emphasis on fundamental questions of moral philosophy and the philosophy of religion. (Not offered in 1970–71.)

Philosophy–Politics 233

Political Philosophy: (See *Politics 233*).

Philosophy 240

Logic: An introductory study of formal logical systems, together with their use in the analysis of various types of arguments, and a discussion of certain problems in the philosophy of logic. Weekly lecture, weekly tutorial.

Philosophy 270

Philosophy of Science: The origins and development of science, some scientific world views, and the general nature of scientific method, with special attention to the concepts of law, theory and explanation employed in the physical, biological and social sciences. Weekly lecture, weekly tutorial.

Philosophy 310

Ancient Philosophy from Aristotle to Plotinus: A study of selected texts. Weekly two-hour seminar. (Offered in 1970–71 and alternate years.)

Philosophy 312

Philosophy in the nineteenth century: The main movements of thought as found in selected writings of Fichte, Hegel, Schopenhauer, Feuerbach, Marx, Kierkegaard, Nietzsche, Comte, J.S. Mill, Peirce, James, Royce, Bergson, Bradley. Weekly two-hour seminar. (Offered in 1970–71 and alternate years.)

Philosophy–Psychology 323a

Philosophy of Mind: A study of self-consciousness, intelligence, thought, emotion, choice, intention, belief, pain, memory, and of philosophical problems to which these concepts give rise. Weekly two-hour seminar.

Philosophy 330

Ethics: A consideration of the role of reason and emotion in moral judgment and moral justification. A variety of views will be examined in the writings of classical and contemporary philosophers, including Hume, Kant, Moore, Buber, Camus. Weekly two-hour seminar. (Offered in 1970–71 and alternate years.)

Philosophy–Politics 333

Political Philosophy: Revolutionary and collectivist theory in the writings of Hegel, Marx and Engels, Sorel, Green and Oakeshott. Offered jointly by the staffs in

Philosophy and Politics. Prerequisite *Philosophy–Politics 233* or the permission of either department. Second year students not normally admitted. (Offered in 1971–72 and alternate years.)

Philosophy–Politics 334

Political Philosophy: Problems of liberal democratic theory as raised by Bentham, Mill and Hart: the meaning of democracy and liberalism, the nature and role of law, the case for representative government, the obligation to obedience and disobedience. Offered jointly by the staffs in Philosophy and Politics. Prerequisite *Philosophy–Politics 233* or the permission of either department. Second year students not normally admitted. Weekly two-hour seminar. (Offered in 1970–71 and alternate years.)

✓ *Philosophy 370b*

Philosophy of History: Theories of historical causation and of the significance of the historical process, as found in the work of Augustine, Vico, Hegel, Marx, Toynbee, Spengler, Niebuhr. May not be taken for credit as well as *Philosophy–History 470*. Weekly two-hour seminar.

✓ *Philosophy 371b*

Philosophy of Religion: An examination of the nature and status of religious belief, as discussed or displayed in some recent philosophical and theological writings, with special attention to the roles of reason and emotion in religion, and to the attempt to reduce religious belief to matters of social ethics. Weekly two-hour seminar.

Philosophy 372a

Philosophy of Art: An introductory study of basic problems of aesthetic theory: the nature and purpose of a work of art, the difference between art and craft, the role of art in expressing emotion, the meaning and justification of judgments made in art criticism. Weekly two-hour seminar.

Philosophy 373a

Philosophy of Education: An enquiry into the nature and aims of education through a study of selected classical

Physics

authors and discussion of contemporary educational theory and practice. Weekly two-hour seminar.

Philosophy 390

Reading Course: Students will be encouraged to pursue a special interest, largely through independent study. Details will be arranged in consultation with the staff in Philosophy between April 15–30 of the preceding academic year. Periodic tutorials.

Philosophy 400

Philosophical Texts: An intensive study of major philosophical works, both classical and contemporary. Choices for a given academic year will be announced by the department by April 15 of the preceding year. Weekly two-hour seminar.

Philosophy 401

Philosophical Problems: An intensive study of problems which have been central in the development of Western Philosophy. Choices for a given academic year will be announced by the department by April 15 of the preceding year. Weekly two-hour seminar.

Philosophy–History 470

Philosophy of History: (See *History 470*).

Philosophy 480

Research Tutorial: On special topics to be announced by the department by March 31 of the preceding year. Weekly tutorial.

Philosophy 485

Greek Philosophical Texts: A study of selected authors in the original Greek. Offered jointly by the staffs in Philosophy and Classics. Prerequisite *Greek 200* and the permission of the departments. Weekly tutorial.

Philosophy 490

Reading Course: Students will be encouraged to pursue a special interest, largely through independent study. Details to be arranged in consultation with the staff in Philosophy between April 15–30 of the preceding academic year. Periodic tutorials.

Professor of Physics and Chairman of the Department
J.I. Lodge, M.A., PH.D.

Associate Professor

B.C. Gregory, B.A.SC., PH.D.

Assistant Professors

J.W. Earnshaw, B.A.SC., PH.D.; R.G. Johnson, M.SC., PH.D.; W.R. Tyson, B.A.SC., PH.D.

Senior Demonstrators

Mrs. H.G. Morrison, M.A.; Miss E.D. Scott, B.SC.

Physics may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs.

Physics 100 and *Mathematics 100* or *110* are prerequisites for all other courses in Physics. Class meetings in second-, third- and fourth-year courses are divided among lectures, seminars, and tutorials by the instructor with the number of each being dependent upon the nature of the topic being discussed. Ontario Grade 13 credits, or equivalent, in Mathematics A and Physics, or permission of the Chairman of the department or his representative, are normal prerequisites for *Physics 100*.

Undergraduates choosing Physics as a major subject must elect *Chemistry 100* in the first year of their studies and will ordinarily elect the following courses:

- Physics as a major subject in the ordinary program: *Physics 100*, two second-year courses, two third-year courses of which one must be *Physics 300* with *Mathematics 200* as a prerequisite.
- Physics as a single-major honours program: *Physics 100, 200, 300, 320, 330c, 331c, 350, 400, 430, 440*. Supported by *Mathematics 100* or *110, 200, 210, 310*. Undergraduates in the fourth year must participate in two laboratory periods per week of fourth-year Physics.
- Physics in a joint-major honours program with a related subject: *Physics 100, 200, or 220, 300, 350, 400* and two additional courses approved by the department, supported by *Mathematics 100* or *110, 200, 210, 310*.
- Undergraduates electing no more than two courses in Physics as minor subjects should in general choose *Physics 100* and *Physics 200*.

Requests to substitute alternative courses for those regularly prescribed will be considered in relation to the overall programs of the undergraduates making the requests.

Undergraduates wishing to elect advanced courses in Physics without having credit for courses listed as prerequisites should consult with the Chairman of the department.

Physics 100

Elementary Physics: Physical optics, particle dynamics, translational and rotational motion, wave motion, electricity, quantum physics (wave nature of matter). Prerequisites: Ontario Grade 13 credits, or equivalent, in Mathematics A and Physics, or permission of the department. Two lectures and three-hour laboratory weekly, fortnightly tutorial.

Physics 200

Introductory modern physics and thermophysics: production and properties of the electron, atomic structure, kinetic theory and entropy, X-rays, radio-activity and nuclear structure, special relativity, quantum phenomena. Prerequisites: *Physics 100, Mathematics 100*. Two class meetings, three-hour laboratory weekly.

Physics–Mathematics 210

Mechanics: (See *Mathematics 210*).

Physics 220

Electricity and Magnetism: Circuit theory, electrostatics, magnetostatics, electric and magnetic properties of matter, Maxwell's equations. Basic electronics. Prerequisites: *Mathematics 100, Physics 100*. Two class meetings, laboratory weekly.

Physics 300

Modern Physics: Introductory quantum mechanics, atomic structure, introductory nuclear physics. Prerequisites: *Mathematics 200, Physics 200* or *220*. Two class meetings, laboratory weekly.

Physics 320

Electronics: Electrodynamics, elementary solid state, solid state and vacuum diodes, vacuum and gas tubes,

transistors and other solid state devices, microwaves and microwave electronic devices. Laboratory: Electronics and microwaves. Prerequisites: *Physics 220, Mathematics 200*. Two class meetings, laboratory weekly.

Physics 330c

Optics: Propagation, reflection, refraction, interference, diffraction polarization, optical instruments. Prerequisites: *Physics 100, Mathematics 200*. One class meeting weekly, laboratory period fortnightly.

Physics 331c

Thermophysics: Effect of temperature on matter; thermodynamics, phase transformations, statistical mechanics. Prerequisites: *Physics 100, Mathematics 200*. One class meeting weekly, laboratory period fortnightly.

Physics 330c or Physics 331c may be combined with a third year Mathematics half-course for full-course credit.

Physics 350

Fundamentals of Mathematical Physics: Vector, matrix, and tensor algebra, vector calculus, functions of a complex variable, integral transforms, linear differential equations, partial differential equations; Prerequisites: *Mathematics 200*. Two class meetings weekly.

Physics 400

Quantum Mechanics: Wave formalism, wave packets, the wave equation, interpretative postulates, energy and momentum eigenfunctions, spherically symmetric potentials, partial wave analysis of scattering, matrix formalism, Heisenberg and Schroedinger pictures, rotation group and angular momentum, perturbation theory, variational method, WKB approximation. Prerequisites: *Physics 300, Physics 350*. Three class meetings weekly.

Physics 420

Electromagnetic theory: Advanced treatment of Maxwell's equations, radiation, propagation in dielectrics and conductors, elementary plasma physics, special relativity applied to electrodynamics. Laboratory: experiments in microwaves and gas physics. Prerequisites: *Physics 220, Physics 350, Physics 320* recommended. Two class meetings weekly, laboratory.

Politics

Physics 430

Solid State Physics: Crystallography, theory of electrical and thermal properties of metals (band theory, semiconductors, lattice vibrations, specific heat), imperfections in solids. Prerequisites: *Physics 200, Physics 300, Physics 331c*. Two class meetings weekly, laboratory.

Physics 440

Nuclear Physics: Nuclear properties, two-nucleon problem, models of the nucleus, alpha-, beta-, and gamma-decay, methods of detection and spectroscopy, nuclear reaction theories, introduction to elementary particle physics. Prerequisites: *Physics 300, Physics 350*. Two class meetings weekly, laboratory.

Fourth-year laboratory will consist of a program of experiments, including project experiments, designed to suit the needs of each student.

For information on postgraduate work in Physics and in Chemical-Physics, please refer to the Graduate Studies Calendar.

Professor of Politics and Chairman of the Department
S.G.D. Smith, M.A., B.LITT.

Associate Professor
J.Wearing, M.A., D.PHIL.

Assistant Professors

P. Bandyopadhyay, M.A.; D.R. Cameron, B.A., M.SC., PH.D.; Mrs. M.P. Doxey, B.SC.; K.R.V. Lyon, B.A.; D.R. Morrison, M.A.; W.F.W. Neville, B.A.

Politics may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs.

In the ordinary program, undergraduates who major in Politics must normally include *Politics 100* and *233* among their five or six major courses.

Undergraduates seeking an honours degree in Politics must include *Politics 100, 233* and one further course in Political Theory (chosen from *Politics 333, 334, 360, 410, and 440*), among their six courses in Politics during the first three years. In the fourth year the honours program involves further specialized courses, including reading courses.

After the first year, students who have taken *Politics 100* may enrol in second or third year courses out of year without special permission of the department, with the exception of *Politics 333* and *334*.

Politics 100

An introduction to the study of politics: Designed to acquaint undergraduates with the general framework of political institutions and thought. Emphasis is given to Canadian government and politics and to selected major political concepts. Lecture weekly, tutorials fortnightly, occasional seminars.

Politics 210

American politics: A study of the problems which currently beset American society and an analysis of the extent to which the country's politicians and political institutions are able to cope with these problems. Regular tutorials and occasional lectures.

Politics 220

International politics: A study of diplomacy and international relations in the twentieth century, beginning with the origins of the Second World War and placing particular emphasis on the origins and the problems of the Cold War. Special attention will be given to the foreign policies of the major states and to consideration of a number of selected problems, both practical and theoretical, relating to the international system as it has developed since 1945. Prerequisite: *Politics 100* or permission of the department. Regular tutorials and seminars; occasional lectures.

Politics–Philosophy 233

Political Philosophy: An introduction to the philosophical study of Politics through an analysis of such concepts as liberty, equality and justice in selected works of Plato, Aristotle, Machiavelli, Hobbes, Locke and Rousseau. Offered jointly by the staffs in Politics and Philosophy. No prerequisite. Weekly lecture, fortnightly tutorial.

Politics–History 300

Canadian History: Selected topics in the development of Canadian federalism. (See *History 300*).

Politics 320

Conflict and cooperation in international relations: An analysis of the relations between states based on contemporary theoretical approaches to the subject. Characteristics of international systems, the goals and instruments of national policy, sources of tension and conflict, decision-making and the role of coercion will be discussed in the first part of the course. In the second part, emphasis will be placed on international cooperation at the universal and regional level. Prerequisite: *Politics 220* or permission of the department. Regular tutorials and seminars.

Politics 330

Comparative government: A study of the government and politics of Britain and France. Where appropriate the course may examine the political systems of other European states. Prerequisite: *Politics 100* or permission of the department. Lecture weekly, tutorials and seminars fortnightly.

Politics–Philosophy 333

Political Philosophy: Revolutionary and collectivist theory. (See *Philosophy 333*).

Politics–Philosophy 334

Political Philosophy: Problems of liberal democratic theory. (See *Philosophy 334*).

Politics 350

The politics of developing areas: A study of political behaviour and structures in the new states of Africa and Asia with particular reference to the problems of modernization and political development; the relationship between politics and socio-economic change; and the roles of ideologies, political parties, civil and military bureaucracies, and voluntary associations in nation-building processes. Prerequisite: *Politics 100* or permission of the department. Fortnightly tutorials; occasional lectures. (Offered in 1971–72).

Politics 351

Politics and social change in Africa: A study of traditional society and politics, the impact of colonialism, and contemporary strategies for modernization in sub-Saharan Africa. Special attention will be given to the problems of continental unity and the politics of race in southern Africa. Prerequisite: *Politics 100* or permission of the department. Fortnightly tutorials; occasional lectures.

Politics 360

Special topics in political thought: A reading course, open only to undergraduates majoring in Politics, designed to provide an opportunity for more intensive study of a certain period or authors studied concurrently in *Politics 333* or *334*. Prerequisite: *Politics–Philosophy 233*. Periodic tutorials.

Politics–Sociology 370

The course is an introduction to the sociological study of political processes and institutions both on the macro and micro levels. Major theories of sociological analysis will be considered and attention will be focused on the study of political participation, political parties, ideologies, community politics, elites, revolutions, the comparative

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study of states and power structures. Prerequisites: *Sociology 100* or *110*, or *Politics 100*, and *Sociology 210*, or permission of the department.

Politics–History 400

Contemporary Canadian problems: See *History 400*.

Politics 410

Contemporary political analysis: A critical examination of recent approaches to the study of politics. Prerequisite: permission of the department. Fortnightly tutorials.

Politics 420

Foreign policy analysis: An analytical study of the processes of formulating and executing foreign policy with emphasis on internal and external constraints on decision-making. *Either Canadian or United States foreign policy* will be studied in depth. Prerequisite: permission of the department. Occasional tutorials.

Politics 440

Marxism: Criticism and Development: A study of the developmental process in the work of Marx and later marxists. The chief concern will be conceptual clarity and methodology. A reading knowledge of French will be most useful. Fortnightly tutorials, seminars.

Politics 460

Special topics in politics. A reading course for third or fourth year honours students, available in 1970–71 in any of the following areas of study: Comparative parliamentary institutions; Comparative federalism; Voting behaviour and political sociology; Recent trends in the study of politics; Political parties in democratic and totalitarian countries.

Politics 470

Honours thesis.

Associate Professor of Psychology and Chairman of the Department

Alan G. Worthington, B.COM., PH.D., M.A.P.S.

Professors

J.M. Blackburn, B.SC., PH.D.; J.P.S. Robertson, M.A., PH.D.

Associate Professor

B.L. Beach, M.A., PH.D.

Assistant Professors

Mrs. Lorna Gendreau, M.A.; P.E. Gendreau, M.A., PH.D.; R.B. Morris, B.A., M.SC., PH.D.; R.G. Settingington, M.A., PH.D.; H.J. Stanford, M.A., PH.D.; Peter Watson, M.A., PH.D.

Lecturer

Mrs. Catherine Sproule, B.A.

Psychology may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary program, or as a single-major in the honours program. In certain circumstances, after consultation with the relevant department chairmen, it is possible to pursue studies leading to a joint-major in the honours program. The later year courses for which *Psychology 100* is an acceptable prerequisite are clearly indicated. The prerequisite for most later year courses is *Psychology 110*. Students who take *Psychology 100* and wish subsequently to enter a major program may do so under certain circumstances only after consultation with the Chairman of the department. A high level of performance in *Psychology 100* will normally be required. Such students will be expected to make up certain portions of the work of *Psychology 110* during the summer prior to entering second year. This material will be examined in the second week of first term and proficiency in these aspects of *Psychology 110* will have to be demonstrated. In addition such students will be required to complete certain of the *Psychology 110* laboratory work offered during the first term of their second year.

Note: Students who completed Psychology 10 prior to 1969-70 will be permitted to enrol in all courses in accordance with previous Calendar statements.

All second year students will attend at least two laboratory sessions. In general these laboratory sessions will be given in conjunction with the course *Psychology 210* which is concerned with training in the methods and techniques of empirical Psychology. Certain laboratory sessions will be fairly closely tied to other second year courses and students in these courses are required to attend the relevant laboratory sessions.

Third-year students will be required to attend certain third-year seminars. Honours students will attend all seminars while other students only attend those seminars related to their courses. The purpose of the seminars is to facilitate the integration of material dealt with in the various courses.

All third-year students will attend at least two laboratory sessions. These sessions will in general be given in conjunction with *Psychology 300* which is concerned with training in advanced methods in empirical Psychology.

All fourth-year students will attend a fortnightly seminar dealing with contemporary problems and recent research findings.

Students taking a single or joint major in Psychology are required to take *Psychology 110* and *210*. In addition they must take at least one or two of *Psychology 220, 260, 270, Psychology–Sociology 230, 240*; and at least two of *300, 330, 340, 350, 360, 370, 380, 410*. The following half courses are also available and may be counted as either second or third year half courses: *Biology–Psychology 286b, 380a, 381b, 382a, 383b, 384a, 385a, 387b*. These courses may be counted towards the total number of Psychology courses (a minimum of five courses is required for the major).

Students taking Psychology as a single major in the honours program MUST take: *Psychology 110, 210, 300, 330, 350, 400, 410*. At least four further courses will be selected from *Psychology 220, 230, 240, 260, 270, 340, 360, 370, 380* or selected from the half courses *Biology–Psychology 286b, 380a, 381b, 382a, 383b, 384a, 385a, 387b*.

Statistics 100 is a recommended first year course for students intending to pursue serious studies in Psychology. Other subjects which combine well with Psychology are Biology, Mathematics, Anthropology, or Sociology.

Psychology 100

Introduction to General Psychology: A survey of the field of Psychology with emphasis on the experimental approach to the study of behaviour. Two hours lectures weekly, tutorial fortnightly.

Note: This course is not designed for students intending to major or do honours in Psychology.

Psychology 110

Introduction to Psychology and to the scientific methods employed. Part of this course will overlap with *Psychology 100*. The remainder is designed to provide basic training in the skills required of an experimental Psychologist including statistics and experimental design. The course is not as broad in scope as *Psychology 100*; however areas will be dealt with in greater detail. Two lectures weekly, tutorial fortnightly, three-hour laboratory session monthly.

Psychology 210

Statistics and Experimental Psychology: A discussion of the problems and methods of experimental Psychology including the theoretical basis of inferential statistics and training in the use of such techniques. Laboratory sessions on a variety of topics. Prerequisite: *Psychology 110*. Two lectures, seminar weekly, three hours laboratory fortnightly. Students enrolling for this course will attend all laboratory sessions. Students from other second-year courses will attend certain required laboratory sessions.

Psychology 220

Child Psychology: A discussion of the research literature pertaining to child behaviour, with primary emphasis on research methods, learning, motivation, cognitive processes, and theories of child development. Prerequisite: *Psychology 100* or *110*. Lecture weekly, seminar fortnightly, plus occasional attendance at required laboratory sessions. Enrolment may be limited.

Psychology–Sociology 230

The Social Psychology of Organizations: See *Sociology 230*.

Psychology–Sociology 240

Social Psychology: A discussion of recent developments

in the objective study of attitude measurement, attitude change, person perception, prejudice, language and communication, risk taking, small group interactions, sociometry, role theory, leadership, and mass movements (previously *Psychology 24–Sociology 33*). Prerequisite: *Psychology 100* or *110*. Lecture weekly, seminar or tutorial fortnightly. Attendance at required *Psychology 210* laboratory sessions.

Psychology 260

Educational Psychology: A discussion of selected problems in teaching and education with emphasis upon theoretical and empirical bases. Prerequisite: *Psychology 100* or *110*. Lecture weekly, tutorial fortnightly. Attendance at required laboratory sessions.

Psychology 270

Personality and Abnormal Psychology: The personality theories of Freud, Jung, Adler, Horney, Sullivan, Lewin, Sheldon, Eysenck, Dollard and Miller, Murray, Allport, and others. Classification and dynamics of abnormal behaviour. Prerequisite: *Psychology 100* or *110*. Lecture, seminar or tutorial fortnightly. Attendance at required laboratory sessions. Enrolment may be restricted.

Psychology–Biology 286a

Genetics: See *Biology 286a*.

Psychology 300

Advanced Experimental Psychology and Statistics: An intensive study of experimental methods and advanced statistical techniques in selected areas of Psychology. The course will consist of seminars and experimental projects. Prerequisite: *Psychology 210*. Lecture; seminar or tutorial weekly, three hours laboratory weekly. Students enrolling for this course will attend all laboratory sessions. Students from other third-year courses will attend designated laboratory sessions. Attendance at third-year seminars.

Psychology–Philosophy 323a

Philosophy of Mind: (See *Philosophy 323a*).

Psychology 330

Sensation and Perception: The perceptual processes

underlying an individual's apprehension of his environment; the organization and interaction of patterns of stimulation, and the ways in which expectancies, memories, frames of reference, and other cognitive functions enter into the structuring of the percept. Prerequisite: *Psychology 210*. Lecture weekly, tutorial fortnightly. Attendance at required *Psychology 300* laboratory sessions and third-year seminars.

Psychology 340

Abnormal Psychology and Introductory Clinical Psychology: A survey of deviations and disorders in behaviour as investigated by experiments and other systematic procedures. The application of psychological research to medical and allied problems. Prerequisite: *Psychology 210*. Lecture weekly, tutorial fortnightly. Attendance at required laboratory sessions and third-year seminars.

Psychology 350

Learning and Motivation: An introduction to the behavioural analysis of learning and motivation. The contributions of Thorndike, Skinner, Guthrie, Hull, Spence, Estes, MacDougall, McClelland, and Young, are evaluated in the light of contemporary empirical findings. Prerequisite: *Psychology 210*. Lecture weekly, tutorial fortnightly. Attendance at required *Psychology 300* laboratory sessions and third-year seminars.

Psychology 360

Cognitive Processes: An analysis of the development of cognitive processes and the adequacy of competing theories to deal with the available data. Methods used in the study of cognition. The relationship of cognition to learning, perception, and motivation. Problem solving and concept formation. Prerequisite: *Psychology 100* or *110*. Lecture weekly, seminar or tutorial fortnightly. Attendance at required *Psychology 300* laboratory sessions and third-year seminars.

Psychology 370

Psychological Measurement: Mental test theory; psychological scaling; a discussion of the unique problems associated with measurement in Psychology. Prerequisite: *Psychology 210*. Lecture weekly, seminar or

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tutorial monthly. Attendance at required *Psychology 300* laboratory sessions and third-year seminars.

Psychology–Biology 380a

The Vertebrate Nervous System: Anatomy and physiology of the brain and central nervous system and the physiology of the motor and sensory systems. Prerequisites: *Biology 100* and *Psychology 100* or *110* or by arrangement with instructors. Lecture, seminar, three-hour laboratory weekly.

Psychology–Biology 381b

Comparative Endocrinology: See *Biology 381b*.

Psychology–Biology 383b

Physiological Psychology: The relationship between physiological mechanisms and behaviour with special emphasis on how organisms learn, perceive, and are motivated. Some discussion of physiological models of behaviour. Prerequisite: *Psychology–Biology 380a* or by arrangement with instructors. One two-hour tutorial and one three-hour laboratory session weekly.

Psychology–Biology 385a

The Control of Animal Behaviour: See *Biology 385a*.

Psychology–Biology 387b

Cybernetics: See *Biology 387b*.

Psychology 400

Research Tutorial: A research project of the student's choice supervised by a member or members of the Psychology Department. Periodic seminars dealing with current projects will be held. Restricted to Psychology honours students.

Psychology 410

History and Systems of Psychology: A course in which students will be required to prepare major papers on problems concerned with the history of Psychology and the emergence and development of new topics and systems. Prerequisite: any third year course in Psychology. Periodic seminars will be held. This course is primarily intended for honours students.

Professor of Sociology and Chairman of the Department
Rodney F. White, B.A., B.A.SC., M.COM., PH.D.

Professors

Bernard R. Blishen, M.A.; John B. Hudson, M.A., PH.D.;
John C. McDonald, B.A., M.SOC.SC., PH.D.

Associate Professor

Roy T. Bowles, B.SC., PH.D.

Assistant Professors

Pradeep Bandyopadhyay, M.A.; William van Weezel
Errens, B.A., DOCTORANDUS; Mrs. Dorothy M. Hepworth, M.A.; John Hillman, M.A.; Paul A. Weinzwieg, M.A.

Associate Professor of Social Administration and Special Lecturer in Sociology

Mrs. Marjory P. Seeley, B.A., A.M.

Instructors

Gary Caldwell, M.A.; Donald Carveth, M.A.

Sociology may be studied as a minor subject, or as a single-major or joint-major subject in the ordinary and honours programs.

Sociology 100 and *110* take different approaches in introducing students to sociological analysis but carry equal credit, and both courses prepare students for all subsequent work in Sociology.

Sociology 210 and *211* (Theory and Methodology) will be offered jointly and must be taken together in the same year.

Sociology 100 or *110*, *210*, *211* and *310* should be included among the five or six Sociology courses required to complete the ordinary program with a single-major in Sociology and for those proceeding to the honours program. Sociology majors entering third year in 1970–71 will take *Sociology 210* and *211* instead of the previously offered *Sociology 30* and *32* which have been discontinued, and will require *Sociology 100* or *110*, *200* (formerly *Sociology 10* and *20*), and *210* and *211* in order to graduate. Joint-majors should take *Sociology 100* or *110* and two or three other Sociology courses.

Sociology 430 must be included among the eight or nine Sociology courses required to complete the honours program with a single-major in Sociology.

Students planning to enter the honours program in Sociology are strongly urged to take *Statistics 100*, especially students who are planning to continue with post-graduate work in Sociology. *Mathematics 220* is also highly recommended.

Students following the honours program in Sociology are advised to include a combination of courses from related disciplines; Anthropology, Economics, History, Politics, and Psychology.

Any student wishing to elect a joint-major honours program involving Sociology must obtain the permission of the department.

Courses offered in alternate years will be open to students in subsequent years.

Certain courses, as indicated, will run for only half the year. Some will be offered in the Autumn Term only and others in the Winter and Spring Terms only. Students should select a combination of two of these courses to obtain the equivalent of a full course credit.

For advanced students the reading courses (*Sociology 390* and *490*) offer students the opportunity to work out with an instructor a specialized course which is not available in the regular course offerings, provided the instructor concerned is willing to give such a course.

Sociology 100

Introduction to Social Analysis: An introduction to the basic principles and methods of sociological study. An examination of the elements of social structure and social behaviour—social relations, social groups, cultural norms, and values—against the background of both simple and complex societies. Two lectures, one seminar weekly.

Sociology 110

Introduction to Social Analysis: An examination of some representative sociological monographs in sufficient depth to permit the student to appreciate the variety of issues, methods, and theories considered by sociologists: Weber, Durkheim, Goffman, Mills, Lipset and Neumann. Lecture, seminar weekly.

Sociology–Anthropology 200

Cultural Anthropology: See *Anthropology 200*

Sociology 210

Sociological Theories: An introduction to the classical and current theories which sociologists have formulated about society and social behaviour. Schools of theory to be covered may include structural functional analysis, conflict theory, symbolic interaction theory and exchange theory. Prerequisite: *Sociology 100* or *110*, or permission of department. Lecture, two seminars weekly.

Sociology 211

Methodology in Sociology: A companion course to *Sociology 210* which treats the methodologies and research techniques associated with the different theoretical approaches covered in the theory course. Prerequisite: *Sociology 100* or *110*, or permission of department. Lecture, two seminars weekly.

Sociology 220

Introduction to Mathematical Sociology: Mathematical analysis of social structure, conflict and cooperation, interpersonal attraction, communication, innovation, optimization of competing objectives with limited resources. Prerequisite: *Sociology 100* or *110* or permission of department. Offered jointly by the staffs in Mathematics and Sociology, thus credit cannot be given for both *Sociology 220* and *Mathematics 220*. Lecture, two seminars weekly.

Sociology–Psychology 230

The Social Psychology of Organizations: An introduction to the application of psychological and sociological techniques to problems of industry and to other organizations, e.g. educational institutions. Prerequisite: *Sociology 100* or *110*, or permission of department.

Sociology–Psychology 240

Social Psychology. (See *Psychology 240*).

Sociology 241

Family and Kinship: An analysis of the structure and functions of family and kinship, including the family as an agency of primary socialization. An examination of

childhood, adolescence, courtship, marriage, parenthood and old age. A discussion of trends and problems affecting the contemporary family. (Formerly *Sociology 22*) Prerequisite: *Sociology 100* or *110*, or permission of department. Lecture, two seminars weekly.

Sociology 280

Social Stratification: Theory and research on the forms and functions of social inequality in comparative and historical perspective. The nature of the relationship between social, political and economic power. Discussion of the criteria of social class, correlates of class position, and social mobility. (Formerly *Sociology 20*). Prerequisite: *Sociology 100* or *110*, or permission of department. Lecture, two seminars weekly.

Sociology 310

Theoretical Sociology: Theory and explanation, concept formation, theoretical and practical knowledge, criteria for choice of problem, theory verification, measurement, research design, related philosophical issues. Application of findings from research on learning, creativity, group influence, exchange theory, sociology of knowledge, and sociology of science to process of formulating and evaluating sociological theories. Prerequisite: permission of department (1970–71), subsequently *Sociology 210* and *211*. Lecture, two seminars weekly.

Sociology 311b

Creativity and Innovation: Theoretical research on the sociological conditions for creative behaviour and organizational innovation, with the goal of improving organizational effectiveness. Development of a strategy for linking such theoretical research with practical or policy oriented problems in education, mental health, government, and administration. Prerequisite: *Sociology 210, 211* or permission of the department. Lecture, two seminars weekly.

Sociology 320b

Structural Analysis: Examination of the properties of social structure as they influence organizational outcomes such as effectiveness, flexibility, responsiveness, and innovation. Graph theory and other mathematical models for the analysis of social networks will be used as

appropriate. Prerequisite: *Sociology 210, 211* and *220*, or permission of department. Lecture, two seminars weekly.

Sociology 330b

Occupations and Professions: A study of the Sociology of work and the relationship of occupational systems to the rest of society with special attention to careers and occupational choice, professionalization and the role of professional associations. Prerequisite: *Sociology 210* and *211*, or permission of department. Lecture, two seminars weekly.

Sociology 331a

Complex organizations: An analysis of the structure and functioning of modern complex organizations as open systems, including the effects of changing technology, problems of rationality and control, design and assessment, organizational stress etc. Examples will be drawn from industrial, educational and health organizations. Prerequisite: *Sociology 210* and *211*, or permission of department. Lecture, two seminars weekly.

Sociology 340b

Sociology of Education: An examination of the structure and functions of education and their relationship to those of other social institutions, with particular reference to socialization and social control, ability and opportunity, social mobility, social and cultural factors in achievement and the teaching profession. Prerequisite: *Sociology 210* and *211* or permission of department. Lecture, two seminars per week.

Sociology 350a

Sociology of Religion: A study of the various theories on the nature and origin of religion, and of its evolution from primitive to contemporary society. The course will also cover changes in religious phenomena in terms of various historical and social contexts; the effects of the breakdown of traditional religions; the rise of “secular” religion; and the future of religion. Lecture, two seminars weekly.

Sociology 351b

Sociology of Literature and Mass Culture: An examination

of some contemporary problems of mass communications, leisure and social control, against the background of the social history of literature. Topics to be included are the sociological implications of the production, diffusion and consumption of Literature and Art, and the technical political and economic elements in the mass media. Lecture, two seminars weekly.

Sociology 360

Sociology of Welfare: This course focuses on the development and application of sociological theory relevant to poverty and other welfare problems as a function of changing conditions in society, and on the meaning of welfare and its consequences for the individual and society. Lecture, two seminars weekly.

Sociology 361a

Deviance and Social Control: A study of the major theories of deviance and an examination of their relevance and utility in the understanding of delinquency, criminality, suicide, alcoholism, drug addiction and mental disorders. The nature of social control including an analysis of the role of punishment, treatment, and total institutions in our society. Lecture, two seminars weekly.

Sociology–Politics 370

Political Sociology: (See *Politics 370*).

Sociology 380

Social Change: Classical and modern theories of social change. An examination of the sources and consequences of large-scale social change with particular reference to industrialization and modernization. (*Formerly Sociology 42*). Prerequisite: *Sociology 210* and *211*, or permission of department. Lecture, two seminars weekly.

Sociology 390

Reading Course.

Sociology 410

Honours Seminar: A reading course and discussion seminar to supervise the work of honours students in selected areas of sociological analysis. Students in this course will be responsible for a major research paper. Fortnightly seminars.

Sociology 480

Canadian Society: The institutional framework of Canadian society compared with other modern urban, industrial societies. Two lectures, seminar weekly.

Sociology 490

Reading Course.



Part-time Studies

A rapidly expanding program of part-time studies at Trent University provides citizens of Peterborough and the Trent Valley with an opportunity to pursue a wide variety of courses which lead to an Arts or Science degree, as well as general interest non-credit courses.

Courses for part-time students are in three distinct categories: part-time courses for credit during the regular session, summer session credit courses, and non-credit courses. The last includes courses which, while not recognized for University credit, may lead to certification by co-operating organizations.

Part-Time Credit Courses

Part-time students wishing to obtain a degree from the Ordinary Program at Trent University must successfully complete 15 courses of which from five to eight must be in a major subject. A joint major may be taken with five or six courses in each of the major subjects. There is considerable freedom allowed in the choice of the remaining courses.

Honours programs are also available to part-time students and require an additional four or five senior courses. The other requirements for an Honours degree as set out elsewhere in this calendar must also be met.

Students who transfer from another university to continue their studies at Trent may be granted advanced standing in the courses which they have taken. Generally, to be eligible for credit, a course must be equivalent in content and standard to one given at Trent, and the student must have obtained a mark of at least 60 per cent.

Part-time students at Trent University are accorded the same rights and privileges as regular students in as many ways as possible. They are eligible for college affiliation, are assigned academic advisors, and have equal library privileges. As in the regular program, emphasis is placed on individual study and small group discussions. Students are expected to prepare themselves for seminars and tutorials through assigned and suggested reading.

Part-time Studies — Regular Session

Part-time students at Trent University may enrol in any of the regular courses given at the University for which they have the necessary prerequisites. In this way, part-time students share the same classes with full-time students

and are assured of a course which is equal in content and quality.

To accommodate part-time students whose schedule does not permit attendance at classes during the day, a number of regular courses are scheduled late in the afternoon. In addition, a limited number of evening courses will be scheduled during the coming session. The late afternoon and evening courses are chosen in order to meet the demands of as many part-time students as possible.

Evening courses combine a full week's classwork in one evening in the form of lectures and small group teaching, thus requiring a minimum amount of commuting for area students.

While many of the courses now scheduled in this manner are at the first-year level, an increasing number will be second or third-year courses.

Summer Session

Summer courses at Trent University follow as closely as is practical the format of regular winter courses, by including small group teaching as well as lectures. In general, a total of six hours classroom work per week is required, with at least two hours in small groups.

The six-week summer session runs from the beginning of July to the middle of August.

During 1970, courses will be held at the Nassau Campus of the University. Here, ample air-conditioned lecture and small group teaching space is available in attractive surroundings. Students will be able to take advantage of the new Bata Library.

Residential facilities will be available at Champlain College for students who wish to live at the college during the summer session. Meals will be available for all summer session students. In addition to the six weeks of class work, students enrolled in the summer courses are assigned pre-course reading, and are expected to complete such assignments as set out by their instructors before the start of the course.

Students enrolled in the summer session at Trent University are not permitted to take more than two courses during any one summer session. It is suggested that students who are returning to studies after a period of years take only one course during their first session.

Application for enrolment in summer courses must be made not later than April 30, 1970. Students applying to the University for the first time must also submit all official transcripts by this date. An official transcript must be sent directly from his secondary or post-secondary school to the Registrar at this university.

Withdrawal

Students who have enrolled in a summer session course may withdraw at any time up to the end of the third week of classes without penalty of failure. A withdrawal after this date will be considered as a failure in the course.

Part-time students enrolled in the regular session may withdraw from courses any time before March 1 without penalty of failure. Students withdrawing from a course must notify the Director of Part-time Studies in writing of their intention to withdraw. If notice of withdrawal is not received in writing, the student may be charged with a failure.

Non-Credit Studies

A number of broad general interest courses are offered by Trent University each year as part of a non-credit studies program. These weekly lectures are given over periods varying from seven to twenty weeks. Courses in 1969–70 included Art, Genetics, Music, Education, Architecture, and Resource Management.

The non-credit courses are an extension of the University's public lecture program which brings to the University noted speakers on a wide range of subjects. Trent University's Lectures on Religion and the Champlain Lectures have become established as part of the University community program.

Enquiries regarding non-credit courses to be offered in 1970–71 should be addressed to the Director of Part-time Studies.

Regular Session Fees

Fees for part-time students during the regular session will be \$115 for each course and will be due on or before September 7, 1970. Fees may be paid in two instalments, in which case an additional charge of \$5 is made. The first instalment, in the amount of \$60, is payable on or before September 7, and the second, also for \$60, is due on or before January 31. A deposit of \$15 per course must

accompany applications. For those who request college affiliation, a further fee of \$10 is charged.

Students withdrawing from a course before the first day of classes will receive a refund of their fees, in accordance with the regular schedule of the University. The deposit will not be refunded.

Summer Session Fees

Fees for students taking courses at the 1970 summer session will be \$110 for each course and will be due on or before June 27, 1969. A deposit of \$10 per course must accompany applications.

Students withdrawing from classes before the first day of classes will receive a refund of their tuition fee. The deposit will not be refunded. A charge of \$15 per week will be made to students who withdraw after classes have begun, but before the end of the third week of classes. Normally no refund will be allowed after the end of the third week of classes.

More detailed information on all aspects of Part-time Studies can be obtained by writing to the Director of Part-time Studies.

Pre-Professional Studies

The University believes that there is considerable merit in studying at one university before proceeding to professional study at another. The curriculum has therefore been planned to offer attractive courses which meet the academic requirements of Ontario's professional faculties for students proposing to proceed to another university for professional studies.

The academic requirements for admission to some professional faculties are summarized below:

Dentistry

The University of Western Ontario and the University of Toronto offer instruction in Dentistry in Ontario. The admission requirements for this course are successful completion of either a first year science program or a degree in Science or Arts. Possession of these requirements renders a candidate eligible for selection; it does not guarantee admission. Prospective students of Dentistry are advised to consult very carefully the calendar of the Faculty of Dentistry of the university in which they are interested.

Law

For admission to the study of Law, at least two years of university study beyond the Grade 13 level are required.

Medicine

The Faculties of Medicine at McMaster, Ottawa, Queen's, Toronto and Western Ontario Universities, require all candidates for admission to have completed either two-year pre-medical courses which they offer, or three years of study, with courses appropriate for prospective medical students, at another recognized university. So that students may take full advantage of the science courses at Trent University which will prepare them for the professional study of Medicine, they are advised to complete the secondary school program in Mathematics A and B, Physics and Chemistry.

All Canadian faculties of Medicine have many more applicants than they can admit, and possession of the entrance requirements does not guarantee admission. Prospective medical students are advised to consult very carefully the calendar of any faculty of Medicine in which they are interested.

Chartered Accountancy

The Institute of Chartered Accountants of Ontario has placed Trent University on the list of designated universities whose graduates are eligible for entry into the Institute's course of studies. Graduates of the University are, therefore, eligible for the course offered by the Institute.

Ontario Colleges of Education

Interim High School Assistants' Certificate, Type B:

Graduates of the ordinary program of Trent University meet the requirements for admission to the professional course leading to the Interim High School Assistants' Certificate, Type B. Endorsement of Certificate, Type B, is given to candidates offering five university courses with an overall average of second-class standing, in a subject taught in Ontario schools. Students intending to qualify for admission to the course leading to the Interim High School Assistants' Certificate, Type B, must include in their programs at least seven courses in at least two subjects taught in secondary school.

Interim High School Assistants' Certificate, Type A:

For admission to the course leading to Type A certificates in the Ontario Colleges of Education, four years of university study beyond the Grade 13 level are required. Students are expected to study subjects that are taught in Ontario Secondary Schools. Graduates of the ordinary program however may become eligible for admission to the course leading to Type A certificates in a number of ways.

Further information for prospective teachers is available from the Registrars of the Colleges of Education.

Student Services and Miscellaneous Information

University Bookstore

The University has been operating its own bookstore for the past two years at 175 Hunter Street West, which is easily reached from the University buses. With some 3,000 square feet of floor space, the bookstore is well suited to meet the wide range of needs and interests of the students, faculty and the Peterborough community.

All books in print can be obtained on individual order. A collection of bibliographical tools is maintained which students and staff are encouraged to use.

The bookstore aims to be more than a mere outlet for textbooks and stationery supplies. To this end, records, artists' supplies, a wide range of periodicals, and books of general interest are made available. The bookstore seeks to create an atmosphere that will encourage the enjoyment of books and the building of a private library. The manager is William Jordan.

University Student Health Service

The University Student Health Service is located at 302 King St. near Rubidge Hall and provides both medical and counselling services for undergraduate and post-graduate students. Emergency treatment is available 24 hours a day.

The University requires all students to carry both medical and hospital insurance. By Ontario law, these consist of the Ontario Health Services Insurance Plan (OHSIP) and the Ontario Hospital Services Commission (OHSC). For Canadian students from outside Ontario, coverage should be obtained from their own province. For students from outside Canada special arrangements may have to be made at the time of registration.

Students seeking medical treatment are charged a fee for service which is normally recoverable from their medical insurance.

Athletic program

The University has developed a diversified athletic and recreational program which makes use of the facilities available in the city and surrounding area. Located on the campus are a full-size flood-lit playing field, a quarter mile track, tennis courts and a squash court. The University also has its own sailboats, canoes, and paired shells. Arrangements are made within Peterborough for the use of rinks and swimming pools.

In the fall of 1969, the University erected a temporary air-supported structure on the Nassau campus that will provide during the winter months heated indoor facilities for such activities as badminton, basketball, fencing, judo, tennis, track, volleyball, and wrestling. Planning has been undertaken for the development of a permanent athletic fieldhouse that will include a gymnasium and related facilities, squash courts, a swimming pool and locker rooms.

The athletic program is organized to meet the varying interests of the students with competition for both men and women available at the inter-university, inter-college, and intramural levels. For the purpose of inter-university competition, Trent University is a member of the Ontario Intercollegiate Athletic Association.

Inter-university and inter-college competition is undertaken in badminton, basketball, curling, fencing, golf, hockey, harrier, judo, rowing, rugger, skiing, soccer, sailing, softball, squash, tennis, track, touch football, and wrestling. The University Outing Club, which organizes regular camping and canoeing expeditions into the Kawartha hinterland helps to round out this vigorous and expanding athletic and recreational program.

Career Planning and Placement

Students seeking assistance in finding employment are invited to use the facilities of the Placement Office. A principal concern of this office is the career planning of graduating students and their eventual employment. On-campus interviews are arranged with representatives of business, industry and government agencies. Students seeking information about teaching, professional schools, and graduate study also find this office useful.

Religion

Trent University is a multi-denominational university. Undergraduates are encouraged to take part in the religious societies and activities at the University.

Undergraduate Activities

The University community has fostered and developed a rich and varied program of social and cultural activities. Participation is invited in the numerous student organizations and activities; the first six years of the University have seen the establishment and lively growth of literary

magazines, a yearbook, a community action program, and of dramatic, art, music, debating and film societies, plus a student newspaper and many other activities and events. Each of the college governments sponsors a wide variety of formal and informal activity.

Among the facilities that Peterborough offers to members of the University are a fine public library, a museum, symphony orchestra, a varied theatrical program, and regular visits by musical and theatrical companies.

Conduct and Dress

Undergraduates are expected to conduct themselves at all times in a manner appropriate to members of a university.

Many undergraduates wear the University gown on formal academic occasions, including lectures, seminars, tutorials, examinations, formal visits to members of the faculty, and various College functions. University gowns may be purchased from the Porter at Rubidge Hall or rented from him for a nominal fee each year.

Graduate Studies

Programs of Graduate Studies are being introduced at Trent on a selective basis, with Master of Science programs now underway in Physics and Chemistry. Every program of Graduate Studies introduced at Trent will be submitted to the Appraisals Committee of the Ontario Council on Graduate Studies to ensure that it meets the high standards required for graduate studies in Ontario universities. Appraisal will soon be sought for programs in History and other areas in the Humanities and Social Sciences.

*For further information please write to
Dean of Graduate Studies
Trent University
Peterborough, Ontario
or consult the Graduate Studies Calendar*



Fees

Academic fees

The total fee for full-time undergraduates for the academic year is \$550. This figure includes registration and tuition fees, and incidental fees of \$50 for health services, athletics and student government. Academic fees may be paid in two instalments, in which case the total is increased by \$5.

The fees charged part-time students are set out on page 75.

Residence fees

The fee for room and board for the academic year, excluding the Christmas (Sunday, December 20–Sunday, January 4) and the March (Sunday, March 7–Sunday, March 21) vacation and reading periods is \$1,000. If paid in two instalments, an additional charge of \$5 is made.

Non-resident fee

Non-residents are encouraged to enter fully into the life of their colleges, and accordingly make considerable use of college facilities. A non-resident fee of \$90, including \$25 to be applied against meals taken in college, is payable by all full-time non-resident students in addition to the academic fee. This fee is payable at the same time as academic fees; if paid in instalments, the two instalments are \$50 and \$40.

Special students

Special students taking four or five courses are considered to be full-time students and must pay full tuition fees and appropriate college fees.

Certain further fees may be charged in appropriate circumstances.

All fees are subject to change.

Deposits on account of academic and residence fees

As explained on page 25, students entering, or returning to, the University are required to submit a deposit of \$50 against their tuition fees before August 1, 1970. An ad-

ditional \$50 deposit is payable by those students accepting a place in residence.

These deposits are not normally refundable. In cases of economic hardship, the Registrar may authorize deposit refunds to accepted candidates who present a valid petition before August 15, 1970.

Payment of fees

Fee payments should be mailed to the Office of the Comptroller, and are due and payable on or before August 31, 1970. If paid in instalments, the first instalment is due on or before August 31, 1970, and the second instalment, on or before January 31, 1971.

If fees are paid in instalments, the following amounts are due on the dates indicated.

On or before August 31, 1970	Academic \$280	Residence \$550	Non-resident \$50
On or before January 31, 1971	\$275	\$455	\$40

Deposits received on account of academic or residence fees will be applied against the first instalments of these fees.

All cheques or other remittances should be made payable to Trent University.

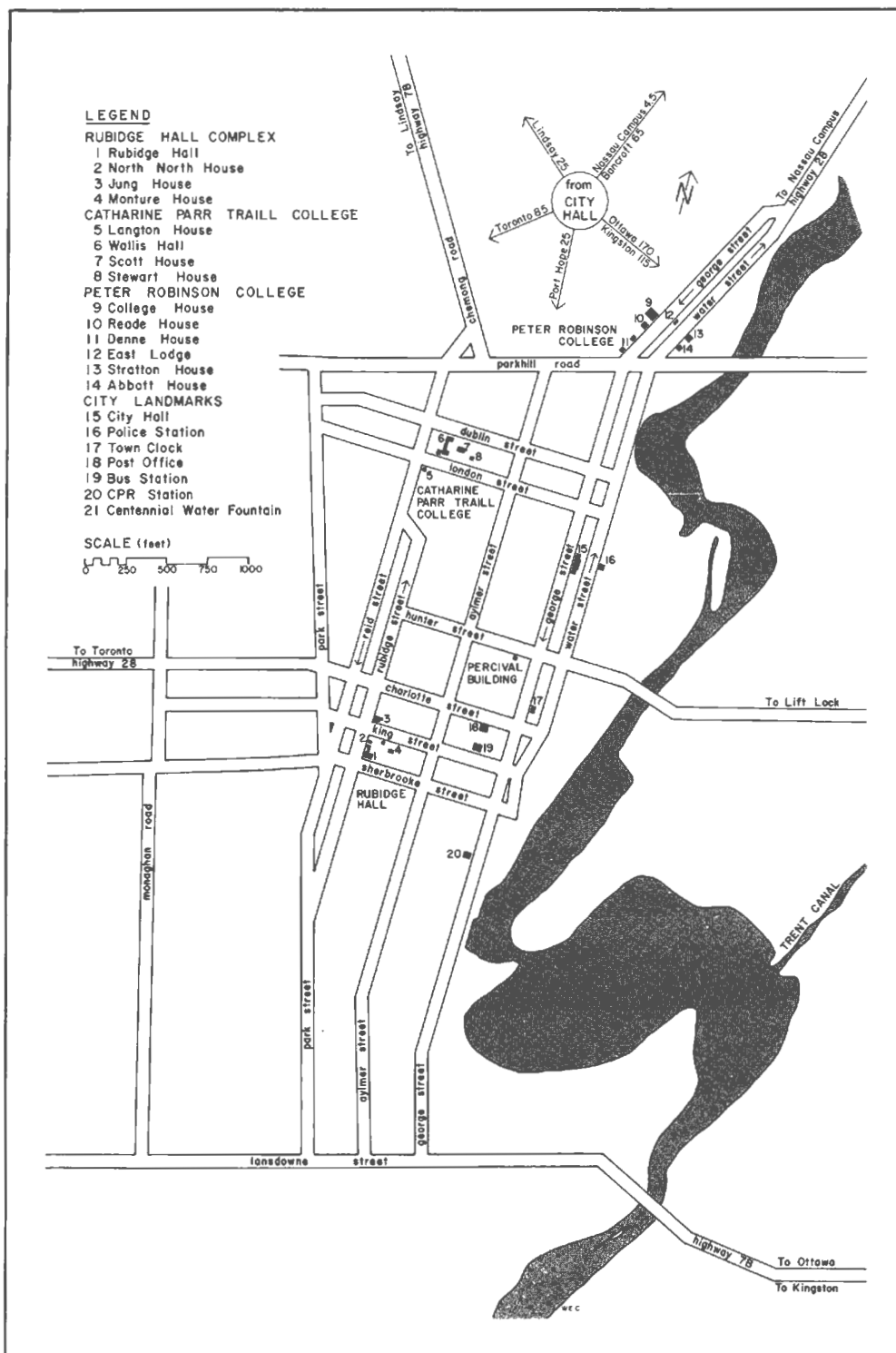
A charge of \$3 per month will be imposed on any fees remaining unpaid after the end of the month in which they became payable.

Special arrangements may be made for students whose fees are paid by funds from scholarships, student loans and awards, grants or other forms of assistance.

Students may be debarred from writing final examinations of each year if any outstanding University accounts remain unpaid at the conclusion of the week preceding the writing of final examinations. The academic record of a student who has any accounts outstanding will not be released by the University.

Fees refunds

Refunds of any fees paid are made only in special cases and on the written authorization of a student's College Head. Any refunds granted will be subject to a refund charge. Incidental fees are not refundable.



**University Map
Nassau Campus**

