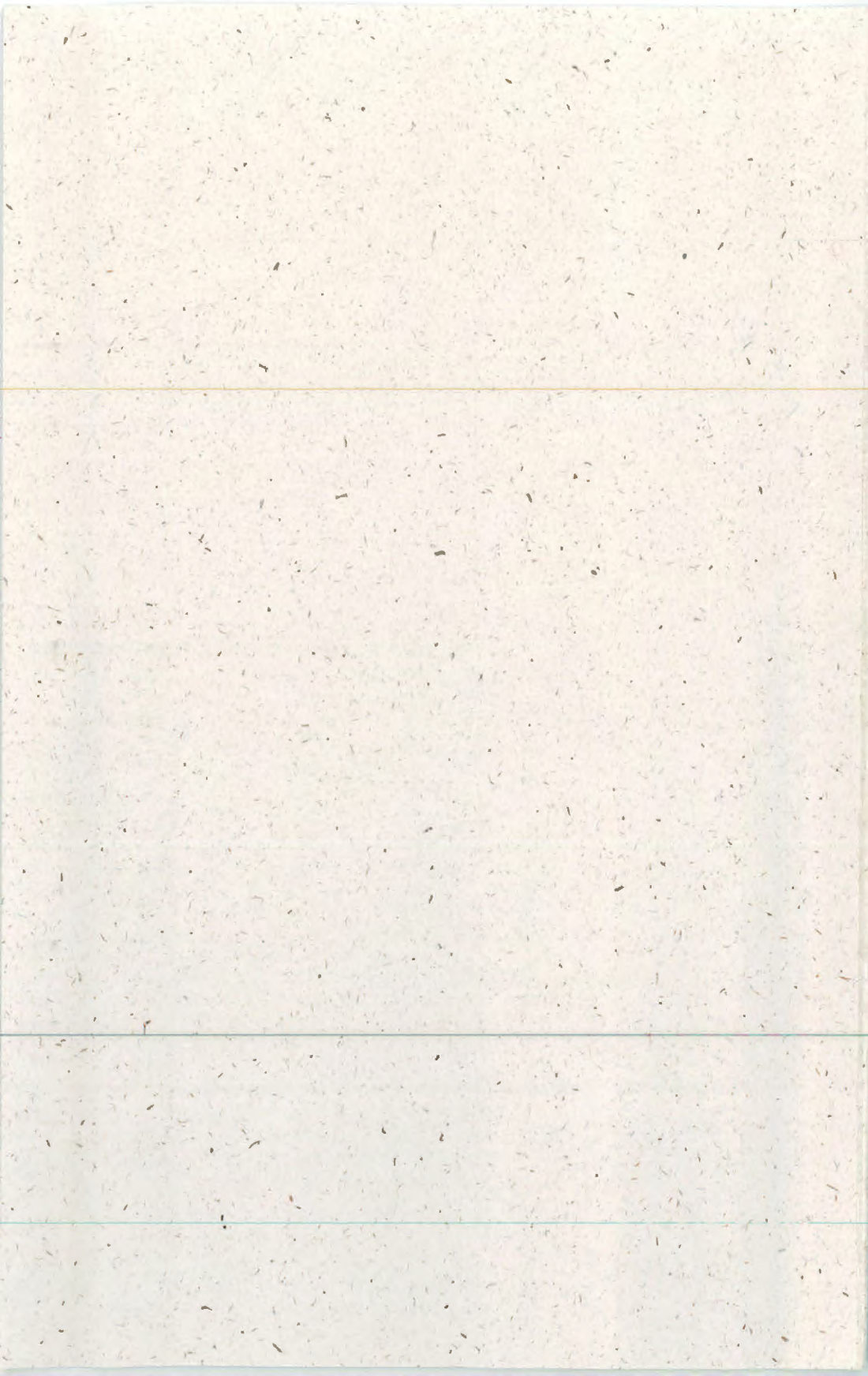


TRENT UNIVERSITY



1 9 9 3 - 1 9 9 4



The Thirtieth Academic Year

1993-94

TRENT UNIVERSITY

CALENDAR



Nunc cognosco ex parte

Mission Statement

Trent University aspires to be Canada's outstanding small university known for its commitment to liberal undergraduate education in the humanities, social sciences and natural sciences and to the centrality of the individual student. Within a collegial setting the University offers undergraduate and graduate programs, both traditional and inter-disciplinary, which seek to advance learning through the creative interaction of teaching and research of the highest quality.

Peterborough, Ontario, Canada.

K9J 7B8

Telephone: (705) 748-1011

FAX: (705) 748-1246

The Thirtieth Academic Year

1917-18

TRENT UNIVERSITY

CALENDAR



Headquarters in Peterborough

Mission Statement

The University is committed to the highest standards of academic excellence and to the advancement of knowledge and learning. It is committed to the development of its students as individuals and as members of the community. It is committed to the advancement of the arts, sciences, and professions. It is committed to the advancement of the human condition. It is committed to the advancement of the world.

Peterborough, Ontario, Canada

1917-18

Telephone 4051-740, 1051

Post Office Box 120

Important Notice

The contents of this Calendar are not necessarily final and complete. Changes may occur in a number of areas including:

1. new faculty appointments or departures;
2. courses, including withdrawal of courses listed as being offered;
3. policies and procedures related to applications, admissions, and registration for new and returning students;
4. regulations;
5. fee structure;
6. the University Diary.

The University reserves the right to make and implement changes subsequent to the publication of this Calendar, as it deems appropriate.

It is the responsibility of all students to familiarize themselves with the specific requirements for the degree or diploma which they seek. While advice and counselling is readily available, it is the students' responsibility to ensure that the courses in which they register are appropriate and sufficient to the program requirements. Students are bound by the regulations and policies of the University.

No liability shall be incurred by Trent University for loss or damage suffered or incurred by any student or third party as a result of delays, suspension or termination of services, courses or classes, or other academic activities by reason of natural disasters, civil unrest or disobedience, labour disputes, work stoppages, strikes, lockouts, financial exigency, restrictive laws or governmental regulations, inability to procure materials or trades, weather, utility interruptions, damage to University property, or other happenings or occurrences beyond the reasonable control of Trent University.



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Notes

Every member of Trent University — faculty, staff or student — has a right to freedom from discrimination in the University by another faculty, staff or student member because of race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, age, record of offences, marital status, family status, or handicap.

Trent University recognizes its responsibility to those of its students, faculty and staff with special needs. It undertakes to ensure access to its academic programs and physical facilities, short of undue hardship, while protecting the academic integrity of the University.

Trent University is working towards becoming a smoke-free institution. Smoking is prohibited in most public areas including classrooms, but it is permitted in certain designated areas and in student study-bedrooms.

The Trent University Calendar is produced for the Office of the Provost and Dean of Arts and Science by the Communications Office.

Tours or visits to the University can be arranged by contacting the Registrar's Office, Trent University, Peterborough, Ontario K9J 7B8. (705) 748-1332.

Cover photo: Wayne Eardley, Brookside Studio

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Readers are advised that changes may occur to the dates contained in the University Diary, particularly as they relate to early registration and registration for 1993-94. Students will be notified as changes occur, and alterations in dates will be published in the Supplement to the Calendar in August.

Summer Session 1993

(For Summer Session Deadline Dates See Chart)

May	14	Friday	Final date for receipt of grades for incompletes and Letter of Permission courses for those planning to convocate in the Spring
	24	Monday	Statutory Holiday: "Victoria Day"
June	1	Tuesday	Final date for payment of deposit against residence fees by returning students
	4	Friday	Spring Convocation
	15	Tuesday	Final date to request Summer Session Letters of Permission
			Final date for receipt of applications for full-time admission to Trent University
			Final date for continuing part-time students to apply for full-time studies
	30	Wednesday	Final date for receipt of grades for incompletes from the Fall/Winter Session
July	1	Thursday	Statutory Holiday: "Canada Day"
	15	Thursday	Pre-registration: Final date for submission of Confirmation of Intent to Register form and tuition deposit required by all students wishing to continue studies on a full-time basis in the Fall, 1993
			Final date for appeals of full and b half courses
			Final date for receipt of appeals against academic penalties
August	2	Monday	Statutory Holiday: "Civic Holiday"
	13	Friday	Final date to request Fall/Winter Session Letters of Permission
			Final date for receipt of applications and supporting documentation from new and re-admit part-time applicants for admission to the University
	15	Sunday	First instalment of fees is due

Fall/Winter Session 1993-94

Fall Term 1993

September	6	Monday	Statutory Holiday: "Labour Day"
	7	Tuesday	Arrival of new students
	7	Tuesday	Introductory Seminar Week begins
	10	Friday	Registration for new full-time students
			Final date for new full-time and part-time student registration, without late fee
			Final date for receipt of Application for Degree/Diploma Assessment for Fall eligibility
	12	Sunday	Arrival of returning students
	13	Monday	Classes begin
			Official course registration for returning and re-admitted full-time students begins
	17	Friday	Final date for returning and re-admitted students to register, without late fee
	21	Tuesday	Meeting of the Senate
	24	Friday	Meeting of the Board of Governors
			Faculty Board Meeting

September 27	Monday	Final date for rebate on college fees for transfers from full- to part-time status
30	Thursday	Final date for Summer Session appeals
October 1	Friday	Final date for official registration
		Final date to change or add full and a half courses
		Final date for receipt of grades for incompletes and Letter of Permission courses from Summer Session
11	Monday	Statutory Holiday: "Thanksgiving Day"
15	Friday	Faculty Board meeting
19	Tuesday	Meeting of the Senate
23	Saturday	Classes end
25	Monday	Residential Reading and Laboratory Week begins
29	Friday	Meeting of the Board of Governors
November 1	Monday	Classes resume
12	Friday	Final date for withdrawal from a half courses without academic penalty
		Faculty Board meeting
16	Tuesday	Meeting of the Senate
26	Friday	Meeting of the Board of Governors
		Final date to request Letters of Permission for courses beginning January, 1994
December 3	Friday	Final date for receipt of applications and supporting documentation from new and re-admit part-time applicants for admission to the University for b half courses
10	Friday	Faculty Board meeting
11	Saturday	Last day of classes
13	Monday	Final examinations for a half courses begin
		Study week begins
14	Tuesday	Meeting of the Senate
18	Saturday	Final examinations for a half courses end, 10:30 p.m.
		Study week ends
19	Sunday	Winter Vacation and Reading Period begins
		College residences close
25	Saturday	Statutory Holiday: "Christmas Day"
26	Sunday	Statutory Holiday: "Boxing Day"

Winter Term 1994

January 1	Saturday	Statutory Holiday: "New Year's Day"
7	Friday	Final date to register for b half courses for part-time students, without late fee
9	Sunday	College residences open
10	Monday	Classes resume
15	Saturday	Second instalment of fees is due
		Final date for payment of outstanding bookstore and other accounts
21	Friday	Faculty Board meeting
25	Tuesday	Meeting of the Senate
28	Friday	Meeting of the Board of Governors
		Final date to change or add b half courses
		Final date to register for b half courses for part-time students, with late fee
31	Monday	Final date for receipt of Application for Degree/Diploma Assessment for Spring Convocation

February	11	Friday	Faculty Board meeting
	15	Tuesday	Meeting of the Senate
			Final date for withdrawal from full Fall/Winter Session courses without academic penalty
	19	Saturday	Classes end
	21	Monday	Residential Reading and Laboratory Week begins
	28	Monday	Classes resume
March	11	Friday	Final date for withdrawal from b half courses without academic penalty
			Faculty Board meeting
	15	Tuesday	Meeting of the Senate
	18	Friday	Final date for appeals for a half courses
	19	Saturday	Final date for resident students to apply for transfer between residential colleges
	25	Friday	Meeting of the Board of Governors
April	1	Friday	Statutory Holiday: "Good Friday"
	7	Thursday	Pre-registration: Final date for submission of Course-Preference form required by all students wishing to continue studies in the Fall, 1994
			Faculty Board meeting
	8	Friday	Classes end
	9	Saturday	Meeting of the Senate
	12	Tuesday	Examinations begin for b half and full courses
	14	Thursday	Meeting of the Board of Governors
	29	Friday	Examinations end for b half and full courses, 10:30 p.m.
	30	Saturday	Final date for non-resident students to apply for residence

Summer Session 1994

(For Summer Session Deadline Dates See Chart)

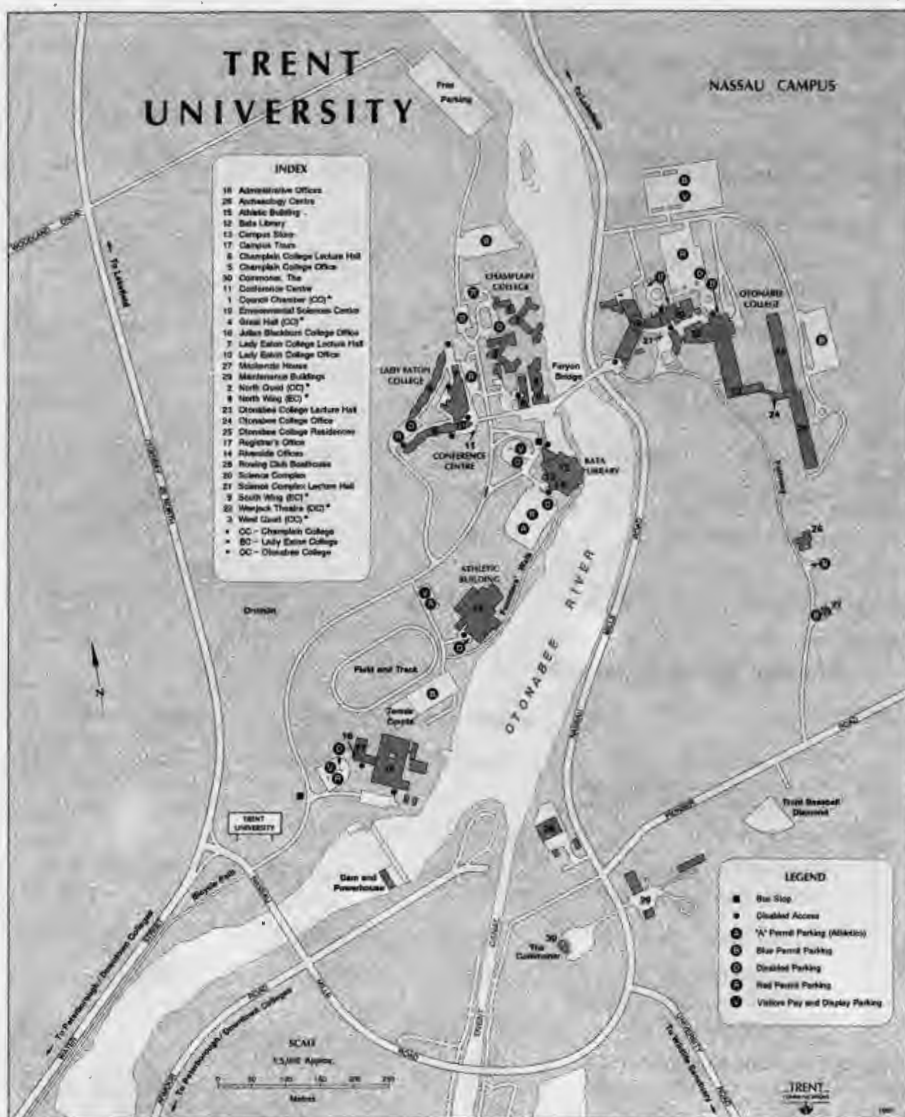
May	13	Friday	Final date for receipt of grades for incompletes and Letter of Permission courses for those planning to convocate in the Spring
	23	Monday	Statutory Holiday: "Victoria Day"
	30	Monday	Final date for payment of deposit against residence fees by returning students
June	2	Thursday	Meeting of the Board of Governors
	3	Friday	Spring Convocation
	15	Wednesday	Final date to request Summer Session Letters of Permission
			Final date for receipt of applications for full-time admission to Trent University
			Final date for continuing part-time students to apply for full-time studies
	30	Thursday	Final date for receipt of grades for incompletes from the Fall/Winter Session
July	1	Friday	Statutory Holiday: "Canada Day"
	15	Friday	Pre-registration: Final date for submission of Confirmation of Intent to Register form and tuition deposit required by all students wishing to continue studies in the Fall, 1994
			Final date for appeals of full and b half courses
			Final date for receipt of appeals against academic penalties
August	1	Monday	Statutory Holiday: "Civic Holiday"
	12	Friday	Final date to request Fall/Winter Session Letters of Permission
			Final date for receipt of applications and supporting documentation from new and re-admit part-time applicants for admission to the University
	15	Sunday	First instalment of fees is due

Summer Session Dates 1993

	8 week term	12 week term	6 week term
Final date for receipt of applications for admission or re-admission with supporting documentation	April 15	April 15	June 14
Final date to register, without late fee	April 26	April 26	June 28
Classes begin	May 3	May 3	July 5
Final date to register, with late fee. Final date to add courses	May 17	May 17	July 12
Final date for withdrawal	June 2	June 16	July 28
Classes end	June 28	July 27	August 13
Examinations begin	June 29	July 28	August 16

Summer Session Dates 1994

	8 week term	12 week term	6 week term
Final date for receipt of applications for admission or re-admission with supporting documentation	April 15	April 15	June 13
Final date to register, without late fee	April 25	April 25	June 27
Classes begin	May 2	May 2	July 4
Final date to register, with late fee. Final date to add courses	May 16	May 16	July 11
Final date for withdrawal	June 1	June 14	July 27
Classes end	June 25	July 23	August 13
Examinations begin	June 28	July 25	August 15

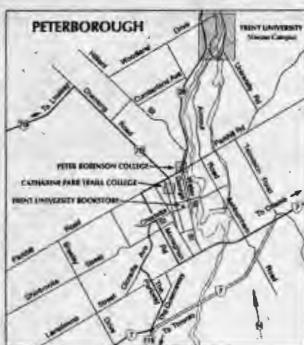


CATHARINE PARR TRAIL COLLEGE

- 1 Kent House
- 2 Walks Hall
- 3 Lecture Hall
- 4 Scott House
- 6 Crawford House
- 8 Stewart House
- 7 Bradburn House
- 9 Tensile Court
- 9 Langton House
- 9 College Office



PETERBOROUGH



PETER ROBINSON COLLEGE

- 1 North House
- 2 Lecture Hall
- 3 College Office
- 4 East Lodge
- 5 Judy Hargman
- 6 Peadar House
- 7 703 George St.
- 8 Townhouses
- 9 Abbott House
- 10 Stratton House



General Information

History

Trent University stresses the importance of a liberal undergraduate education, which it looks upon as an education for the intelligent and informed use of freedom in society. In line with this belief, students at Trent are encouraged to make their own decisions 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 has the opportunity to pursue fields of interest intensively in close association with academic seniors.

Trent is one of the smallest and youngest universities of Ontario and it has no ambition to compete in size, but rather in excellence. Formally created as an independent university with full degree-granting powers by the Ontario Legislature in April 1963, the University has chosen to expand gradually in both its undergraduate and graduate programs.

Now in its thirtieth teaching year, the University has about 3,775 undergraduates in the full-time program, and about 3,250 in both the part-time winter and summer school programs. In addition, there are about 100 Master's degree candidates in the five fields in which graduate studies are offered.

The University is the result of several years of planning by public-spirited citizens of Peterborough and, after the appointment of T.H.B. Symons as president-designate in 1961, by an Academic Planning Committee and Campus Planning Committee. A nucleus of faculty members and senior administrative staff assumed full-time duties more than a year before the University opened its doors to its first students in September 1964. In 1967, the late Leslie M. Frost, former Prime Minister of Ontario, was elected first Chancellor of the University. The University was elected to full membership in the Association of Universities and Colleges of Canada in 1968.

Trent opened with two residential colleges and a teaching and administrative

complex in the heart of Peterborough. GE Canada donated the core of what is now the 1,400-acre Nassau Campus on a rolling, wooded property located on both sides of the Otonabee River at the northern edge of the city. With the guidance of master planning architect, the late Ronald J. Thom, a long-range plan was developed and a program of construction undertaken which, while retaining facilities developed in the city, provides for the main development of the University on the Nassau Campus. There are now three residential colleges, the main library, two science buildings and central administrative offices, along with recreational facilities including an athletic and recreation building, playing fields, an all-weather track and tennis courts on the Nassau Campus. The University's first two colleges remain in their original downtown locations, linked to the Nassau Campus by the city bus system. In addition to the five coeducational colleges, part-time study is offered through the Julian Blackburn College for continuing education.

Trent's master plan was devised on the twin foundations of the residential college and small-group teaching. The college system enhances the opportunity for both resident and non-resident students to benefit from a liberal education by taking advantage of the corporate life of the colleges. Quite apart from its social amenities, the college system is designed to offer genuine and continuing opportunities to cross those boundaries between different subjects and fields of study which so often hinder discussion in a university. Intellectual isolation can be avoided by bringing together, within each college, students and faculty from all disciplines.

Further opportunities are offered to each student to engage in the exploration of ideas with members of faculty and with other students through emphasis given to a variety of small teaching groups according to the requirements of the given discipline. Directed reading, the preparation of essays and other assignments and laboratory work in the sciences, form the basis for regular academic discussions in small groups in most courses.

In the section on Courses of Study in this Calendar may be found the teaching method employed in each course. 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 lectures are offered, but, in the senior years particularly, these are to guide, to clarify and to emphasize, rather than cover prescribed material. Lectures are normally open to anyone.

At registration each student is assigned to an academic adviser or counsellor who is responsible for advising on course selection and reviewing the student's progress at regular intervals. Ultimate responsibility for course selection must rest with the student. The tutorial and seminar system demands that a student distribute the work evenly through the academic year. The academic year is divided in two terms with a long recess in December, and one-week reading and laboratory recesses in late October and late February.

Peter Robinson College

Master

To be named.

Senior Tutor

C. McKinnon, D.PHIL.

Senior Don

W. Ramp, PH.D.

Assistant to the Master

J. Johnson, B.A.

Honorary Director of Music

P. MacKinnon

Peter Robinson College, named after one of the founders of Peterborough, was the first college to open in 1964 and the first to become coeducational in 1967. One of the two city colleges, it is located in converted older houses and new buildings which incorporate residence and academic areas. Sadleir House, the focus of college life, is a striking old Peterborough home which has been redesigned so as to integrate the features of the original architecture with the newer additions. Its

location in Peterborough's north end and its size (Trent's smallest college) make Peter Robinson particularly appealing to those students who are interested in an intimate university milieu which is not isolated from the city community.

Besides providing a strong base for traditional academic disciplines such as History, the college encourages interdisciplinary co-operation and is the home base for the Cultural Studies Program on the undergraduate level and two M.A. programs: The Frost Centre for Canadian Heritage and Development Studies and the Methodologies Program for the Study of Western History and Culture. The college strongly supports the arts in all its forms, and has an active program of visiting scholars, artists, broadcasters, musicians and cultural theorists. (Trent Radio is at the nearest corner.) The dining hall in Sadleir House, originally the hayloft for the stables, has been adapted to accommodate theatre and music.

Peter Robinson has always emphasized the need for student involvement in wider social issues in the community and abroad. The college provides a supportive environment for activities concerned with human rights' international, aboriginal and environmental issues. The offices of the Ontario Public Interest Research Group, the Trent Institute for the Study of Popular Culture and the Vanier Professor are located at the college.

Peter Robinson is the only college that has both conventional residential accommodation and single rooms in townhouses where each student has a study-bedroom and shares kitchen and living and dining room facilities with three or five others. College facilities include an 11,000 volume library, a computer room, a darkroom, a recreation area with squash court and sauna and a croquet lawn.

Catharine Parr Traill College

Principal

Heather Avery, B.A., M.A.

Senior Tutor

C.M. Greene, A.M., PH.D.

Senior Dons

Eleanor Underwood and Kenneth Field

Assistant to the Principal

Lynn Neufeld, B.Sc.

Named in honour of the noted author botanist and pioneer settler of the Peterborough area, Catharine Parr Traill College is one of the founding colleges of Trent University. An integral part of the academic and social life of Trent University as a whole, Traill College is also a self-contained and active community, beautifully situated on a drumlin in central Peterborough. Regular and frequent bus service connects the college with the Nassau Campus and the city bus station, while its central location gives easy access to the University Bookstore, the Peterborough Public Library, art galleries, movie theatres, live concerts, shops, local beaches, churches, parks, restaurants and pubs. For those who wish to be engaged in a variety of experiences in both the University and the local community, Traill College is an attractive home.

The college consists of a number of old houses of architectural and historic significance which have been remodelled for residence and teaching purposes. Kerr House accommodates the College Library, with its computer terminals and public access terminals to the University Library. The ample study and reading space, including the Alan Wilson Reading Room for Canadian Studies, makes the library a comfortable environment for many resident and non-resident students. Wallis Hall, a modern structure, completes the facilities, which include teaching offices, seminar rooms, a lecture hall and the Academic Skills Centre. Total residence accommodation includes study-bedrooms for 215 students, six apartments for faculty and staff who live in the college as residential dons, and the Principal's Lodge.

In addition to being the base for the academic Departments of English, Classical Studies, Canadian Studies and Philosophy, Traill also has faculty members from most disciplines in the arts and sciences. It is thus an active centre for teaching and learning, not only for resident students, but also for Trent's large number of non-resident students, many of whom live in the residential areas around the college.

The intellectual life of the college is supplemented by an active visitors program organized by students and faculty, which gives members of the college the opportunity to meet informally with writers, artists, professionals,

politicians, musicians and scholars.

The Nineteenth Century Society provides a convivial atmosphere for discussion of any topic, serious or lighthearted, relating to that period. Over the years, students and faculty members of the college have been actively involved not only in community cultural organizations, such as the Peterborough Symphony Orchestra, but also in world-wide charitable organizations, such as Amnesty International. Traill College is also the home of a very active Peer Aids Education Program.

Active, responsible student involvement has always been a feature of the college's life. Traill students have assumed leadership roles in the University Senate, and the Trent Student Union, and true to the college's character, have even campaigned in local politics. The College Cabinet plays an important part in organizing academic and social activities for residents and nonresidents alike. Facilities at their disposal include the college dining room (which is also used for movies, dances or concerts), The Trend (the student-run snack bar and pub) and various common rooms and lounges, which have proved to be excellent settings for social activities, both formal and informal. The college also has a music room, pottery room, darkroom, exercise room, sauna and outdoor tennis court, frequently used for ball hockey. Ice hockey is popular as well, and each year the college alumni return to Traill for its alumni hockey tournament.

Champlain College

Master
To Be Named.

Senior Tutor
To Be Named.

Senior Don
To Be Named.

Assistant to the Master
Marian O'Brien

Champlain College, whose name 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 is widely acclaimed for its beauty. It provides an appropriate setting for the casual and formal activities of college life.

The centre of the College is the impressive Great Hall and its adjacent common rooms. The two residential quads are divided into staircases with five single study-bedrooms clustered on each floor. Although the residence is co-educational, some sections may be all-male or all-female. Tutorial offices for faculty fellows, dons' residences and seminar rooms are interspersed throughout the college. Non-residents share with residents the use of the common rooms, the squash court, music practice room, the Ceilie and Junior Common Room, Reading Carrels and the Morton Reading Room.

To the north, beyond the Master's Lodge, the playing field is suitable for a pick-up game of soccer, football, hockey, softball or frisbee.

The academic life of the College includes Champlain's Society (for guest speakers), the Scholars' Dinners and special lecture series. The student Cabinet, elected annually by the Champlain student body, organizes many social and cultural activities to supplement the regular curriculum, in particular, Harvest Weekend in October and Bon Temps in February. In co-operation with the faculty College Council, the Cabinet also shares in decisions affecting the administration of the college. Members of Champlain College have enjoyed a long tradition of active participation in University activities: athletic, social and communal.

Lady Eaton College

1968 - 1993
25th Anniversary

Principal

H.J. Stanford, M.A., PH.D.

Senior Tutor

C.F. Sproule, M.A.

Senior Don

Pat Strode

Assistant to the Principal

Ashley Mancuso, 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 facilities designed to encourage

academic and social interchange for a community of students and fellows in an international atmosphere.

Situated against a drumlin, the residential wings and Commons Block enclose a pleasant quadrangle. One-third of the south wing of the college building is reserved as a women's residence while the remainder of the south wing and the entire north wing house both men and women. In total there are 214 single study-bedrooms, one apartment reserved for upper-year students and 12 double study-bedrooms. On the first floor of the residence wings are the Principal's Lodge and six apartments for faculty and staff of the University who live in the college as residential dons. There are also offices for many of the fellows of Lady Eaton College as well as the departmental offices of Women's Studies, Mathematics, and Modern Languages (French, Spanish, German) and the offices of the Trent International Program and those of the Provost and Dean of Arts and Science. Teaching takes place in these offices as well as in the college's seminar rooms and lecture hall.

Non-resident members of the college living at home or in lodgings in Peterborough are full members of the college and are encouraged to participate in college activities and to use the T.V. room, the music practice room, the Junior Common Room, the student-run coffee shop (The Magpie), Crawpadies, and other facilities. The dining hall, a spacious and colourful room with small tables, has a warm and friendly atmosphere. It is also used for dances, concerts, and other special events. Extensive grass fields, ideal for a variety of pick-up sports, surround the college. The Athletic Complex and University Library are close by across the main driveway.

Art exhibitions are occasionally held in the college. They complement the permanent collection of the college, which includes Inuit sculptures, a gift from Lady Eaton.

A very active student government organizes and sponsors many college events in which students and faculty participate. These include intramural sports, in which most students take part, a varied social program including regular events sponsored by Cabinet; *The Drumline*, a student publication and the Lady Eaton College section in the Trent Annual (yearbook).

Language tables organized by the Department of Modern Languages and Literatures hold informal weekly meetings in the college during meal times. Each year the College Visitors Program brings scholars, writers, performers, and public servants to the college to meet students and fellows and to present seminars and lectures. There are, in addition, regular open college symposia given by fellows of the college and guests on topics of special interest. With the assistance of the Canada Council, the college has annually hosted a writer-in-residence program through which an eminent Canadian writer is available for one week of discussions, consultations and readings.

Otonabee College

Head of College
G. Johnston, M.A.

Senior Tutor
To be named.

College Assistant
Pat Gage

The college's distinctive red-roofed buildings range along a cedar ridge overlooking the river from which the college derives its name (Ojibwa for "fast water"). To the east, an uninterrupted vista of rolling rural landscapes; to the west, the Faryon pedestrian bridge, providing easy access to the Bata Library, the Athletic Complex and the other Nassau Campus colleges.

Eight "houses" plus four resident dons' apartments and the residence of the Head of College, all of them connected by an interior walkway called "the Street", make up Otonabee's coeducational residence. Each house contains single and double study-bedrooms, laundry facilities, a kitchenette and a commons area. Adjacent to the residence is the College Office where the College Head, College Assistant, College Secretary and Senior Tutor have their offices. Past "the link", a set of faculty offices, are located the junior common room, the senior common room, the private dining room for smaller gatherings and doubling as a music practice room, and the public dining hall.

The academic wing of the college, directly connected to the Science Complex and the Environmental Sciences Centre, houses laboratories for Anthro-

pology and Psychology; a Sociology resource area; the Native Studies lounge; several seminar rooms; teaching offices representing many of the disciplines in arts and sciences; and the Wenjack Theatre, which accommodates regular film-shows as well as theatrical productions by amateur and professional companies. Nearby are the Archaeology Centre, Mackenzie House and a wildlife sanctuary with walks and ski trails.

Students at Otonabee play a major role in organizing and conducting the cultural, social and athletic activities there. The Otonabee College Council, comprising student, staff and faculty representatives, has a student President; the Head of College chairs its Executive Committee. The Council, through its committees, sponsors a variety of events for its non-resident and resident members: visiting authors, artists, musicians; annual inter-house debating for the George Bernard Shaw award; college dinners and dances, a College Winter Weekend; the inter-house Olympics, and intramural co-educational competition in such sports as soccer, softball, volleyball and rowing. Members of the college also participate in the wider social, cultural and athletic activities of the University and the city of Peterborough, including various forms of community service.

Julian Blackburn College for Continuing Education

Associate Dean and Principal
G.A. Nader, PH.D.

Academic Counsellor and Assistant to the Principal
B. Donnellan, M.A.

Administrative Assistant
Tui Menzies, M.A.

Administrative Secretary
Carol Tomlin

Trent University's program of part-time and continuing education was established soon after the University itself. Julian Blackburn College is named in honour of the late Professor Julian Blackburn, one of the key advisers in the founding of the University and a scholar and teacher deeply committed to part-time studies.

The aim of Trent's part-time studies program is to make the University's academic programs available to those students who, for a variety of reasons, do not choose to pursue their studies full-time, but who wish to take university credit courses either for interest, or as part of a degree program. In keeping with this aim Trent maintains a flexible admissions policy which puts a high value on the applicant's maturity and motivation and is thus particularly advantageous to many prospective part-time students with varying educational backgrounds. Once admitted to the University, part-time students are free to enroll in any Trent course, on or off-campus, provided that they have the prerequisites for the course. Many part-time students enroll in courses with no thought of proceeding to a degree, including a growing number who already have a degree and who simply cannot break 'the learning habit'.

The college office is located on the west bank of the river in a building housing the Registrar's Office and Julian Blackburn College.

For the convenience of part-time students, especially those who prefer evening or off-campus locations, Julian Blackburn College produces several brochures during the year for both on-campus and off-campus courses. These may be obtained directly from the college by calling (705) 748-1229.

Trent in Oshawa

The University's largest permanent off-campus centre is in Oshawa, through which it also serves neighbouring communities including Newcastle, Bowmanville, Whitby, Ajax, and Pickering. Trent as Ontario's smallest university, thus attempts to serve the largest population centre in the province without its own university. In doing so it offers many credit courses each year in the Fall/Winter Evening and Summer Evening and Day Sessions leading to General B.A. or B.Sc. degrees in Anthropology, Cultural Studies, Economics, English Literature, History, Politics, Psychology and Sociology, for students who study in Oshawa only, and to General and Honours B.A. and B.Sc. degrees in a number of other disciplines, or to the Bachelor of Administrative Studies degree, for students who can supplement their Oshawa courses with winter evening or summer courses taken

on the main Trent campus. All Trent courses in Oshawa are taught at Durham College and all are outlined in the *Part-time Studies Summer and Fall/Winter Session Brochures*.

Fall/Winter On-Campus Late Afternoon and Evening Program

Every Fall/Winter Session a large number of the University's regular courses are scheduled either in the 4:30 to 6:30 p.m. late afternoon or in the 7:00 to 10:00 p.m. evening periods. The courses to be offered in late afternoon or evening hours in the coming Fall/Winter Session are highlighted in the *Part-time Studies Fall/Winter Session Brochure* which is published annually in June.

Fall/Winter Off-Campus Evening Program

Every Fall/Winter Session the University offers courses at off-campus locations, the majority of these at Trent's primary off-campus centre in Oshawa. Details of these courses and any others which may be offered in Cobourg, Lindsay or any other off-campus location are given in the *Part-time Studies Fall/Winter Session Brochure* mentioned above.

Spring Session

A Spring Session of introductory-level courses is offered over a twelve-week period from late January to late April. Courses are offered in both Peterborough and Oshawa.

Summer On-Campus Program

The Summer Session is divided into three parts: a twelve-week session in which courses are taught twice a week from early May to late July, an eight-week session from early May to late June, in which courses are taught three times a week, and a six-week session from early July to mid-August in which courses are taught four times a week. Details of the courses to be offered in the coming Summer Session are available in the *Part-time Studies Summer Session Brochure* which is published annually in February.

Summer Off-Campus Program

The majority of Trent's off-campus summer courses are offered in Oshawa and fall into the same twelve-week, eight-week or six-week periods as on-campus summer courses. However, each summer the University offers a number of other courses at particular times or in special places: Archaeology field schools in the

Arctic or in Central or South America Geography field courses in the Rockies; Anthropology and Comparative Development Studies courses in South America. Details of all these courses are given annually in the *Part-time Studies Summer Session Brochure*.

Non-Degree Credit Courses

In addition to these credit courses leading to General or Honours degrees in Arts or Science, or to the degree of Bachelor of Administrative Studies, the college also provides non-degree business courses which are accepted by various business organizations as part of their professional certificate programs.

Julian Blackburn College Students' Association

Part-time students have an active Students' Association which represents them on Senate and a variety of other University committees. All part-time students are automatically members of this association. Further information may be obtained by contacting the association at 748-1380.

Further information is available from Julian Blackburn College at (705) 748-1229. JBC provides a year-round counselling and information service for Oshawa area students at (416) 723-9747. During registration periods, the Oshawa Information Office accepts applications as a further service to Durham Region students. Written enquiries should be addressed to Julian Blackburn College, Trent University, Peterborough, Ontario K9J 7B8.

Library

University Librarian

M.W. Genoe, M.A., M.L.S., M.PHIL., M.P.A.

Access Services Librarian, J. Lauder, B.A., M.L.S.; *University Archivist and Special Collections*, B. Dodge, B.A., M.A.; *Collections Development Librarian*, A. McCalla, B.A., M.L.S.; J. Millard, B.A., M.L.S. (on leave 1993-94); *Information Services Librarian*, J.A. Wiseman, M.PHIL., PH.D., F.L.A.; *Government Publications and Maps Librarian*, B. Znamirski, B.A., M.L.S.; *Monographs (Acquisitions and Catalogue) Librarian*, M. Scigliano, B.A., M.L.S.; *Monographs Librarian*, S. Elliott, B.A., M.L.S.; *Serials, Microforms, and Photoreproduction Services Librarian*, K. Field, B.MUS.ED., M.L.S.; *Systems Librarian*, L. Declerck, B.A., M.L.S.

The University's Thomas J. Bata Library is adjacent to the University Court and is the focal point of the Nassau Campus. Bright, spacious and air-conditioned, it provides ideal study and research facilities for all student and staff requirements. The building also houses a number of administrative and faculty offices.

An automated library system, the Trent University Online Public Access Catalogue (TOPCAT), is a valuable resource serving the growing needs of all those using the library facilities available at Trent University. The town colleges, Durham College in Oshawa, Sir Sandford Fleming College and Peterborough Public Library are all connected to and/or accessible from Bata Library.

The library contains a collection of more than 457,207 volumes, 250,448 microforms, 2,779 serials subscriptions, 100,403 maps and air photos, and 184,000 government documents. Nearly all the material is available on open shelves and all members of the University are free to browse through the entire collection. The library also subscribes to a number of indexing and abstracting services in CD-ROM format. The following are currently available: Social Sciences Index, Canadian Business and Current Affairs, Life Sciences, and ERIC. Student use of the library has been 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 additions as the G.M. Douglas Arctic collection; the Shell Canada Fund for Canadian literature, the Floyd Chalmers collection of Canadian Explorations and the A.J.M. Smith collection of Canadian poetry and literature. Other specialized collections include the Holm Collection of Children's Literature the Ernest Thompson Seton Collection; the Robert L. Hunter Canadiana Collection, the Trevor Lloyd Collection; and the Walter A. Kenyon Collection. Transcripts of the Royal Commission on the Economic Union and Development Prospects for Canada (MacDonald Commission) and the transcripts of the Mackenzie Valley Pipeline Inquiry are also valuable resources. The Feinberg Collection of Whitman and Twain material is on permanent loan from the Peterborough Public Library.

The Trent University Archives preserves non-current records of Trent University and historical records of the Trent Valley area. There are over 2,500 cubic feet of textual records—private, family, business and institutional papers—as well as 15,000 photographs, maps and other graphic items. Holdings are particularly strong in literary records, native studies records, World War I materials and business papers. There are several collections which provide primary research materials relating to women's studies. Most of the collection is unrestricted to researchers and provides excellent support for many academic programs at Trent University.

The Trent University Library of Religion, incorporating the Bishop Webster Collection, provides source material for scholars in religion, philosophy, history and related subjects. Extensive support from the Robert Markon Foundation has been used to establish an art book collection. The Donner Foundation has provided substantial assistance in building up library resources in support of native studies while the Messecar Foundation has provided direct support for Canadian studies. Additional support has been provided to build the Japan Foundation Collection.

The Government Publications and Map Sections are a major resource for students in Politics, Canadian Studies, Administrative Studies, Geography, Anthro-

pology, Biology, Native Studies and Environmental and Resource Studies.

The University library is augmented by an extensive inter-library loans network through which materials are borrowed from all parts of North America. The Inter-University Transit System, combining electronic-mail communications and a daily courier service, expedites the delivery of materials between university libraries of Ontario and Quebec.

Alumni Association

The Trent University Alumni Association represents the 14,000 graduates of the University. The objectives of the association are to initiate and support activities which further the interests of the University, its students and alumni. It also endeavours to foster a spirit of fellowship among alumni.

The association serves the University by raising funds to support scholarships, bursaries, the library, the colleges and other special projects. The association participates in University governance and committee work and sponsors a number of events aimed at helping students.

The association offers its members a number of services that help keep alumni in contact with Trent and other alumni.

Alumni Council

Mary Elizabeth Luka (President)
Philip Playfair (Past President)
Carol MacKinnon (Vice-President)
John Currie (2nd Vice-President)
T.H.B. Symons (Honorary President)
John Leishman (Honorary Vice-President)
John Boeckh
Michael Carr
Kelly Elliot
Anne Godden
Bob Morrison
Kathryn Morrison
Lari Langford (Board representative)
Margie Lightbody (Board representative)
Martin Boyne (Peterborough Chapter)
Mary Crawford (Toronto Chapter)
Fran Cooney (Kingston Chapter)
Roy O'Brien, Denis Desjardins
(Ottawa Chapter)
Jack Duffy (Kitchener-Waterloo Chapter)
Tony Storey (Director of Alumni Affairs)
Kathleen Easson (Alumni Affairs Asst.)
Cathy Kidd (Data Manager)

Athletic Program

The University offers a comprehensive and diversified athletic and recreational program. The programs range from the more organized inter-university competition to completely informal recreational activities.

Located on the campus are rowing facilities, a full-size floodlit playing field a 400-metre all-weather track, tennis courts, a gymnasium, a 25-metre pool, squash courts, a weight room, saunas and locker facilities.

Trent University is a full member of the Ontario Women's Intercollegiate Athletic Association, the Ontario Universities' Athletic Association, and the Canadian Inter-collegiate Athletic Union. Inter-university and intramural competition is organized in a wide range of activities which include badminton, basketball, cross-country running, fencing, hockey, rowing, rugby, skiing (nordic), soccer, softball, squash, tennis, touch football, field-hockey, volleyball, swimming, curling, golf and synchronized swimming.

University Services

Undergraduate Activities

The University has fostered the development of a rich and varied program of social and cultural activities. The early years of the University saw the establishment and lively growth of literary magazines, a radio service, a symphony orchestra*, a concert band*, a choir*, community action programs, and of drama, art, debating and film societies, plus a student newspaper and a full range of other activities. Each of the college governments encourages a wide variety of formal and informal events.

Among the facilities offered by the City of Peterborough to members of the University are a fine public library, an art gallery, a museum, a symphony orchestra, a varied theatrical program, and regular visits by musical and theatrical companies, and outstanding speakers.

*Students interested in joining either the orchestra, band or choir should contact the Trent University Music Society, c/o Peter Robinson College.

Student Services

Student Services provide a broad range of programs and services that are designed to support the educational experience of Trent University students. Depending on their needs, students may be assisted by any of the following offices: Counselling Services, Careers and Placement, Student Health Services, Financial Aid, Special Needs Services, Off-Campus Housing. Student Services representatives as well as students themselves sit on a variety of university-wide committees dealing with programs that serve all students at Trent University. These committees include:

Committee on Colleges, Health Services Committee, Special Needs Committee, Transportation Committee, Introductory Seminar Committee, Dining Hall Services Committee.

University Bookstore

The University operates a bookstore in the City of Peterborough which is easily reached from the University buses. The bookstore meets the wide range of needs and interests of the students, faculty, staff, and the Peterborough community.

Most 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, academic supporting stock, a wide range of periodicals, computer software and supplies, and books of general interest are made available. The bookstore seeks to create an atmosphere that will encourage the enjoyment of books and building of a private library. There is a spring "buy back" of textbooks.

Campus Store

The Campus Store is situated in the Bata Library opposite the visitor parking lot and provides a variety of convenience items year-round to members of the University and visitors to the campus.

University Student Health Service*Director*

Ann Walters, Reg.N.

Telephone: 748-1481

The University Student Health Service is located in the Staging Building and provides medical, nursing and counselling services for full-time and part-time students. Hours are 9 a.m. to noon and 1:30 to 4:30 p.m. Monday to Friday. Appointments are strongly encouraged. While every effort is made to see students promptly, drop-in students are seen on a first-come-first-served basis and waiting times vary by time of day, time of year and reason for visit.

The University requires *all* students to carry medical insurance. Any student without insurance is held personally responsible for his/her health care costs.

Students from Ontario must submit their Ontario Health Card number to the Student Health Service. Canadian students from outside Ontario (except for Québec) must submit valid health insurance numbers to the Health Service. Students from Québec and from countries outside Canada who seek medical treatment will be charged a fee for service which is normally recoverable through their health and medical insurance. The CIDA plan is honoured for CIDA-sponsored students in the Trent International Program.

The Peterborough Ontario Health Insurance Program office is located at Park Lane Plaza, near Lansdowne and High Streets in the south end of the city (opposite Lansdowne Place), telephone 743-2140.

Students with Special Needs*Coordinator Special Needs*

Eunice Lund-Lucas

Telephone: (705) 748-1281;

TDD (705) 748-1482

Within its resources, Trent University endeavours to ensure the accessibility of its campus and programs to all students, including those with special needs. The University has a Special Needs Office, located on the ground floor of the Bata Library building, and a Coordinator for Special Needs, who provides support and advocacy on behalf of students with physical, sensory or learning disabilities. Some of the services provided by this office include transcription services for

those who are visually impaired or learning disabled, assistance with obtaining note-takers for hearing-impaired students, exam invigilation services for students with a variety of special needs, and liaison with faculty members and with support agencies in the community. In addition, the Special Needs Office has available some adaptive technological aids such as a computer equipped with voice synthesizer, optical scanning equipment, computers, reading lamps, portable FM systems, four-track tape recorders and hand-held tape recorders.

Special needs students who are considering attending Trent are strongly encouraged to contact the Coordinator at the time of application since some action may be necessary in advance to accommodate the student's needs. Where appropriate, for example in the case of a learning disability, formal diagnosis and assessment of the condition will be required, normally a report prepared by a psychologist within two years. In all cases early identification of needs is extremely important. For example, if a visually impaired or learning disabled student requires taped texts, these must be ordered several months in advance of need, otherwise the student may face long delays in receiving these materials.

While most buildings at Trent have elevators or ramps to accommodate wheelchairs, mobility-impaired students may have trouble negotiating parts of the campus unless they can drive or be driven from building to building. Students with such impairment are strongly urged to visit the campus to determine its suitability to their needs or interests.

Students with special needs are also encouraged to become aware of assistance that is available through various private and public agencies. For example, hearing-impaired students from Ontario may be able to get financial assistance for note-takers or tutors from the Vocational Rehabilitation Service of the Ministry of Community and Social Services or Educational Support Services of the Canadian Hearing Society. Students from other jurisdictions who have special needs should investigate the availability of assistance through such agencies in their home province or country.

Counselling and Careers Centre

Counselling Services

Coordinator

Ada Meecham, M.A.

Telephone: 748-1384

The student *Counselling Centre*, located in the Staging Building, is a resource provided by the University to promote the personal, academic and careers development of Trent students.

Many students seek help with specific concerns related to family and peer relationships, self confidence, stress, loneliness, sexuality or academic difficulties. Others bring less clearly defined problems such as low motivation or generalized anxiety, all of which can interfere with concentration and feelings of well-being and belonging. Students also request aid in defining their interests and abilities in order to make decisions about academic choices and career goals.

All counselling sessions are free, voluntary and confidential.

Careers and Placement

Coordinator

Susan Welch

Telephone: 748-1385

The student *Careers and Placement Centre*, located in the Staging Building, provides information on a wide variety of specific careers and employers, colleges of education and graduate and professional schools. It maintains a library containing up-to-date calendars from other Canadian universities and community colleges as well as books describing work and study abroad programs and government employment programs. Materials concerning resumé writing, job-search techniques and interview skills are also available at the Centre.

Full-time, part-time and summer employment opportunities are available through the Centre, as is information about companies which plan recruitment activities both on and off the campus.

Office hours are Monday to Friday, 9 a.m. to 5 p.m.

Off-Campus Housing Service

Students coming to Trent University who will not be living in residence and who require accommodation should call or visit the Off-Campus Housing Office, located at Crawford House, Traill College, on London Street in Peterborough.

The Off-Campus Housing Office is open from early May to the end of August. Normally, the office is open seven days a week, 10 a.m. to 5 p.m. Please consult the "Off-Campus Housing at Trent" brochure for further information on the services provided.

Students are advised, if they need this service, to visit the office at their earliest convenience.

Bus Service

A bus service operated by the City of Peterborough connects the Nassau Campus with the two town colleges and the bookstore. Please see also section on fees.

Trent Day Care Centre

Telephone: 743-2811

The Trent Day Care Centre, Incorporated, is a separately incorporated child care facility which provides services in a building owned by Trent University. Trent Day Care is open to the community as well as the University, but priority on the waiting list goes to Trent students and persons associated with the University. Early registration is urged.

Computer Services

The University maintains a VAX/VMS and UNIX time-sharing facilities, a cluster of MS-DOS and MACintosh microcomputers and a network of Unix workstations. These are available to undergraduate and graduate students, faculty and research users from the University community.

Academic Skills Centre

Coordinator Teaching Program

Karen Taylor, M.A.

Coordinator Writing Program

Lucille Strath, M.A.

The Academic Skills Centre offers both individual and group assistance in writing, critical and efficient reading, mathematics, and study skills. Any Trent student may use the services of the Centre; the length of the contact varies from a single session to regular, long-term assistance.

During Introductory Seminar Week the Centre administers a non-compulsory diagnostic writing exercise. On the basis of the results of this exercise, some students are advised to seek help either by taking workshops or by working one-to-one with an instructor.

Many students begin work at the Centre in the early weeks of their first year; however, students may come for help at any time throughout their years at Trent. While the Centre's main office is located at Traill College, some students may find it more convenient to meet with an instructor at one of the Nassau Campus offices. At the Traill College office, there is a lending library of books on composition and study skills.

Students who would like the response of an instructor at any point during the essay-writing process—on reading, research, drafting, or revision—or those who seek a

review of grammar, seminar presentation, study skills, or high school mathematics, may phone the Centre's secretary to enrol in a workshop or to arrange an appointment. Many students—even those who complete the diagnostic writing exercise with ease—find that taking the non-credit workshops early in the first year helps them get a good start in their course work.

Two groups of students who might be particularly interested in working with the Centre are students for whom English is a second language and special needs students. These students should make a special effort to visit the Centre early in the year or even before term begins.

The Centre's Writing Program writes, publishes, and distributes handbooks that assist students to achieve academic success. *Notes on the Preparation of Essays in the Arts and Sciences* is a guide to correct documentation and style; *Thinking It Through: A Practical Guide to Academic Essay Writing* covers the writing process and the requirements of an academic essay; *Clear, Correct, Creative: A Handbook for Writers of Academic Prose* covers conventional English grammar, style, and word usage; and *Making Your Mark: Learning to Do Well on Exams* helps students study throughout the academic year and prepare for exams. These books may be obtained by contacting the Academic Skills Centre by telephone (705) 748-1720, by facsimile (705) 748-1721, or by mail.



Financial Information

Fees

All quoted fees are for 1992-93. Fees for 1993-94 will be available in March 1993.

Payment of Undergraduate Fees

All fees are due by August 15, 1993.

Payment may be made in the following ways:

- payment in full by August 15, 1993.
- a payment of approximately 60% by August 15, 1993, and a payment, preferably by post-dated cheque, of the balance of all fees by no later than January 15, 1994.
- all other accounts such as departmental charges for laboratory fees, field trips, etc. are also due by no later than January 15, 1994.

Cheques or other remittances should be made payable to Trent University and mailed to Accounts Office, Financial Services, Staging Building, Trent University, Peterborough, Ontario, K9J 7B8. There is a \$20 fee for cheques which are returned by the bank for NSF or other reasons.

Students who receive financial assistance from OSAP, scholarships, bursaries or any other source which is not available by August 15, 1993 may receive a payment deferment. Students are required to make arrangements with the Financial Aid Office in Financial Services in the Staging Building prior to August 15, 1993. Deferments will normally only be granted to students who can show proof of financial assistance which can be confirmed by the University. There may be a \$25 fee for a deferment.

The University will not consider registration to be complete until all financial requirements have been met by the student.

Students who have an outstanding account from a previous academic session will be excluded from pre-registration and will not be allowed to register in any subsequent session.

Tuition Fees

Students admitted to full-time studies are required to pay full tuition fees. In 1992-93 this fee was \$1,895.

Students admitted to part-time studies pay one-fifth of the full-time tuition fee for each full course registered. In 1992-93 this fee was \$379 per full course, \$189.50

per half course.

A tax certificate for tuition fees assessed during the calendar year will be provided in February.

Special additional fees may be assessed directly by some departments for courses involving laboratory or field work, or for course material.

Ancillary Fees

All students admitted to full-time studies will be affiliated with one of the five University Colleges for full-time students, and will be required to pay the ancillary fees for full-time students. This includes fees for Athletics, Health Services, Transportation (bus pass and some parking), College Activities and a Convocation fee. In 1992-93 these fees were:

Athletics	\$103.80
Health Services	\$ 28.00
Transportation	\$122.00
College Activities	\$169.00
Convocation	\$ 11.00

Full-time ancillary fees apply differently for those students taking a full course load in Oshawa. For further information contact the Accounts Office in Financial Services.

All students admitted to part-time studies will normally be affiliated with the University's College for part-time students (Julian Blackburn College). If a part-time student wishes for some exceptional reason to be affiliated with one of the Colleges for full-time students, he/she will be required to pay all the ancillary fees paid by full-time students.

Part-time students registered in courses offered in Peterborough pay ancillary fees for part-time students. This includes fees for Athletics, Health Services, College Activities and a Convocation fee. In 1992-93 these fees were:

Athletics	\$29.32 per full course
Health Services	\$ 2.50 per full course
College Activities	\$26.00 per full course
Convocation	\$ 2.35 per full course

Part-time students who are required to visit the University's main campus three or more times per week on a regular basis are eligible to purchase a bus pass. Student bus passes are issued by the Accounts Office in Financial Services in the Staging Building.

Part-time students registered in courses offered outside Peterborough, Oshawa for example, are not required to pay the ancillary fees for Athletics and Health Services.

Residence Fees

Full room and board is provided in single and double accommodation in each of the five University Colleges. In addition, limited townhouse accommodation is available without meals. In 1992-93 residence fees were \$4,905 for single, \$4,635 for double and \$2,771 for townhouse.

A \$200 deposit is required with the submission of residence application. Residence applications are submitted directly to the Colleges.

Trent University offers accommodation in residence from early May to late August each year. For further information about rates please contact The Conference Office or one of the Colleges.

Meals

The University's residence fees include the cost of a full meal plan (21 meals per week) for the academic year commencing immediately after introductory seminar week in September.

The Colleges encourage non-resident students to eat their meals in the College dining rooms. Therefore, the University offers special meal plans for non-resident students at various levels of discounts. These meal plans may be purchased at the Accounts Office, Financial Services in the Staging Building. In 1992-93 the following special meal plans were available:

	1st Term	2nd Term
10 meals/week (25% discount)	\$ 682.19	\$ 779.65
21 meals/week (40% discount)	\$1,059.47	\$1,210.83

Alternatively, non-resident students may purchase a package of 50 meal tickets (25 lunches and 25 dinners) for \$275.18 (13% discount) or a package of 21 meals at 8% discount (lunches for \$114.40 or 21 dinners \$128.92). Prices for 1993-94 will be available in March 1993.

Student Government and Organization Fees

All full-time and part-time students are required to pay student government and organization fees. For full-time students these fees in 1992-93 included Trent Student Union \$30.25, Arthur \$9, Trent Film Society \$3, Trent Radio \$15, Trent Music Society \$2.50, Theatre Trent \$3, Trent International Students Association \$1.50, Montag Magazine \$0.99, Peterborough Rape Centre \$3, Women's

Centre \$1.75, Trent Annual \$18, WUSC \$2, Trent Student Union Student Health Plan \$53.77, The Commoner \$3, OPIRG \$9, OXFAM \$3, Peterborough Learner's Centre \$4, College Student Pubs \$2, Canadian Federation of Students \$4. (The Commoner, OPIRG, OXFAM, Trent Student Union [for Student Health Plan] and Peterborough Learner's Centre will provide refunds on request).

Part-time students pay a Student Association Fee and a For Tomorrow levy. In 1992-93 these fees were \$10 for each part-time student and \$5 per full course respectively.

Other Fees

Additional fees at 1992-93 levels:

Transcripts - per copy	
1st copy	\$ 4.00
extra copies	\$ 3.50
Academic Appeals	\$ 25.00
Letter of Permission for courses at other Universities	\$ 30.00
Degree Replacements	\$ 25.00
Replacement of tax tuition form	\$ 5.00
Late Registration:	
full time:	
1 week	\$100.00
2 weeks	\$150.00
3 weeks	\$200.00
part time: per course	\$ 25.00
Late Pre-registration Returning Students:	
Late Course Preference Selection form	\$ 50.00
Late Confirmation of Intent To Register form	\$100.00
Handling charge for with- drawal from the University	\$ 50.00
Late course additions per course	\$ 25.00
Year Abroad application fee	\$ 50.00
Fee Payment instalment fee	\$ 30.00
Failure to meet 2nd instalment on January 15	\$ 50.00
Replace bus pass	
1st term	\$101.20
2nd term	\$ 54.00
Replace student i.d. card	\$ 5.00
Return cheque fee	\$ 20.00
Copy of OSAP application	\$ 3.00
Incorrect/incomplete OSAP application	\$ 5.00
Fee deferment due to late filing of OSAP application	\$ 25.00
Fee deferment - other reasons	\$ 25.00
Short-term loan application	\$ 10.00
Replacement of meal card	\$ 25.00
Replacement of library card	\$ 5.00

Textbooks

The cost of books and materials varies according to individual course requirements, with those for science courses tending to be more expensive than those for arts courses. Students should be prepared to spend approximately \$130 per course. Both new and used textbooks are available from the Trent University Bookstore. The Bookstore accepts personal cheques, MasterCard and Visa.

Seniors

The University's Board of Governors has approved a policy to waive all but residence fees for students over 60 years of age who register in any credit course offered by the University.

Withdrawal From the University and Refund of Fees

Refunds are provided for all fees except those listed under Student Government and Student Organizations after deduction of a \$50 handling charge.

Full-time students who wish to withdraw from Trent University must visit their College Office to complete an official Withdrawal Form, obtain the signature of the College Head and return the student identification card (bus pass) and meal card (in case of a resident student). Then the student is required to submit the form to the Registrar's Office to obtain an official date of withdrawal for academic and refund purposes. The date the form is received by the Registrar's Office serves as the effective date for the Finance Office at which it will calculate the proportionate refund of fees. The Finance Office will not process a refund until the student has returned the bus pass and the meal card when applicable.

Part-time students who wish to withdraw are required to write the Registrar's Office. The date the student's letter is received by the Registrar's Office becomes the effective date of withdrawal for academic and financial reasons. The Finance Office will calculate the refund

of fees in proportion to this date. All fee refunds will be reduced by a \$50 handling charge.

Students Changing From Full-Time to Part-Time and Refund of Fees

Students changing from full-time to part-time will be provided a pro-rated refund in tuition fees based upon the date a completed Change of Course Registration Form is received by the Registrar's Office.

Unpaid Student Accounts

Students who wish to pay their fees in two instalments will be assessed a \$30 instalment fee when the first instalment is due, i.e. August 15, 1993. Students who fail to pay the second instalment including all other accounts which are due by January 15, 1994 will be assessed a \$50 late payment fee.

Unpaid accounts of students who are no longer registered with the University will be placed with a collection agency.

Ineligibility to Return to the University for Financial Reasons

For all students who have not paid their University account in full by February 28 the Registrar's Office will change their academic status to "Financially Ineligible to Return". All students who are deemed financially ineligible to return will be excluded from pre-registration and will be required to apply for re-admission to the University. Students in this status are expected to complete the academic year, including the writing of any final examination; however, neither transcripts nor grade reports will be released for students having financial obligations to the University.

Schedule of Undergraduate Fees

To assist students in their financial planning, a fee schedule, based on 1992-93 rates, is included. The actual fees for the 1993-94 academic year will not be available until March 1993 after they have been approved by the University's Board of Governors.

Schedule of 1992-93 Fees

(Fees for 1993-94 will be available in March, 1993)

Full-Time Undergraduate Students

	Tuition	Ancillary & College Fees	Student Government & Organizations	Residence Fee	Total Fees	First Instalment to Register Due Aug. 15/92	Second Instalment Due Jan. 15/93
Students in Residence							
- single room	\$1,895.00	\$433.80	\$164.76	\$4,905.00	\$7,398.56	\$4,400.00	\$2,998.56
- double room	\$1,895.00	\$433.80	\$164.76	\$4,635.00	\$7,128.56	\$4,250.00	\$2,878.56
- townhouse	\$1,895.00	\$433.80	\$164.76	\$2,771.00	\$5,264.56	\$3,140.00	\$2,124.56
Non-Residence Students	\$1,895.00	\$433.80	\$164.76		\$2,493.56	\$1,490.00	\$1,003.56

Visa students pay an additional \$5,243.00 in tuition fees.

Student Aid

Coordinator
Y. Del Mastro

Ontario Student Assistance Program (OSAP)

The Province of Ontario and the Government of Canada provide loan assistance to university students through the Ontario Student Assistance Program. To qualify for Canada Student Loans the student and/or parents, guardians or sponsors must be Canadian Citizens or Permanent Residents. To qualify for Ontario Student Loans the student must also meet certain residency criteria.

The purpose of OSAP is to assist both full-time and part-time students when the financial resources available to them from parents, spouses, summer work or other sources are insufficient to meet estimated educational costs.

The Ontario Special Bursary Plan (OSBP) funded by the Province of Ontario provides bursaries to sole-support parents and students with disabilities who study on a part-time basis.

The Ontario Work Study Program (OWSP) is funded by the Province of Ontario and provides part-time jobs on campus during the study period for full-time students (minimum 60% course load) whose financial needs are not met through the loan programs. Applications for these positions will be available at the Financial Aid Office in September.

Students can obtain applications and information on the OSAP program through their high school guidance office or from the Financial Aid Office, Trent University.

Financial Assistance for Students from Outside Ontario

Students from outside Ontario who require financial assistance in university are strongly urged to consult with officials in their schools about available provincial loan and bursary assistance.

Students from foreign countries are urged to consult with educational authorities in their own country.

The University has limited bursary funds to assist needy students not eligible for government assistance.

Emergency Short-term Loan Funds

Loan funds are available on a short-term basis to help needy students meet emergency situations. Among these funds is the Henry and Mary Nokes Fund, established by the Cobourg and District Labour Council to honour Mr. and Mrs. Nokes, and augmented by private donors. Funds have also been made available through a joint undertaking of the Trent University Alumni Association, the Trent Student Union (Development Projects Fund) and the College Cabinets/Councils. A fund has also been established by the Major Bennen Chapter, IODE, Peterborough, Ontario.

Bursaries

Bursary funds are intended to assist primarily in emergency situations. Bursaries are usually awarded in second term based on financial need and satisfactory academic achievement. Applications are available from the Financial Aid Office or the College Heads.

Eileen Allemang Bursary Fund

This bursary is to be awarded to a student of Peter Robinson College based on academic achievement, financial need and contribution to college activities.

The Atkinson Charitable Foundation Bursaries

These bursaries are awarded to deserving Ontario undergraduates based on academic achievement and financial need.

Barkley's of Avonmore Bursary

Established by Fred Barkley of Avonmore a bursary of the value of \$500 will be awarded to a deserving student in any undergraduate year, who is a resident of a province other than Ontario.

Beta Sigma Phi Bursary Fund

Established through the local chapter of the Beta Sigma Phi with funds from the international division to be awarded to deserving students in any undergraduate year.

The Birks Family Foundation Bursary Fund

This bursary will be awarded to a deserving student in any undergraduate year based on academic achievement and financial need.

The Bourinot Bursary Fund

This bursary will be awarded annually to a full-time student from Peterborough County. Preference will be given to an employee of the Canadian Tire Store in Peterborough or a member of their immediate family.

Philip and Annie C. Black Award

These awards are the gift of Isadore and the late Morris Black of Peterborough in memory of their father, Philip Black, the first Rabbi in Peterborough, and mother Annie.

Julian Blackburn College**Student Association Bursary Fund**

A number of bursaries are available to part-time students undertaking study at Trent on a continuing basis.

Jacob F. Burnham Memorial Bursary

The gift of Daisy McCarrell, a former employee of Trent University, two bursaries of \$500 each will be awarded annually based on financial need and satisfactory academic achievement. Preference will be given to students majoring in Economics, Administrative Studies, and related fields.

Dr. Leslie Calvert Award

Named after one of Trent's first students of German, this award is for deserving students who require financial help to participate in the Year Abroad Program in Freiburg.

The Ron Campbell Bursary

Established by Ron Campbell Enterprises, which operates McDonald's Restaurants in Peterborough and Lindsay, for students from Victoria and Peterborough Counties enrolled in Trent's Environmental and Resource Studies Program. This bursary will be awarded annually based on satisfactory academic achievement and financial need.

Champlain College Cabinet Bursary

This bursary will be awarded annually to a Champlain College student with a minimum C- average and financial need. The recipient will be chosen by a committee of the Master, Assistant to the Master and the College Cabinet President.

Harry Cherney Memorial Bursary

Established in memory of the late Harry Cherney by wife, Erica, his sons, Brian and Lawrence, family and friends, these bursaries will be awarded annually to students studying Administrative Studies, Economics or Computer Studies, based on financial need and satisfactory academic achievement.

Morris Christie Memorial Bursary

Established in memory of Morris Christie by Karen and Mark Christie and family, to be awarded annually to deserving students based on satisfactory academic achievement and financial need with preference given to a student from the Third World.

The City of Peterborough Employees' Awards

The City of Peterborough Employees' Awards have been established by the employees of the City of Peterborough. These awards are available to any child or spouse of a City of Peterborough employee who requires financial assistance with tuition, or related costs, while attending Trent University. Applications will be available through the Personnel Office, City of Peterborough or Trent's Financial Aid Office.

The Commoner Bursary Fund

This bursary established by The Commoner Limited will be awarded annually to a full-time student based on financial need and a minimum C average.

County of Peterborough Bursary Fund

Established by the County of Peterborough to be awarded to deserving students in any undergraduate year who have established a minimum two years residency in the County of Peterborough (which includes the fourteen townships and four villages), has satisfactory academic standing and a demonstrated financial need.

The John S. Cunningham Memorial Bursary

Established in memory of the late John Scott Cunningham by associates of Bell & Howell, friends, and fellow members of the Stoney Lake Cottagers Association, to be awarded to deserving students in any undergraduate year.

The Dainard Foundation Bursary

Established by Mr. Garnet Dainard, Peterborough, to be awarded to deserving students in any undergraduate year.

The Ewing Memorial Honours Awards

A number of awards are available annually to students of high academic standing entering the fourth year. Interested students are encouraged to apply for these awards through the University Financial Aid Office. These awards are the gift of the late C.W. Ewing, a native of Warkworth.

Reginald R. Faryon Bursary

The award is the gift of the Peterborough Branch of B'nai B'rith in memory of Reginald R. Faryon.

The Michael Frisch Memorial Bursary

Established in memory of the late Michael Frisch, to be awarded to an undergraduate student who is actively involved in extra-curricular activities within or beyond the university.

The Eileen Gallagher Memorial Bursary

The gift of alumni, family and friends, this bursary will be awarded to deserving Otonabee College students demonstrating financial need, chosen by the Head of College in consultation with the Director of Alumni Affairs.

German Studies Bursary

These bursaries will be awarded annually to students majoring in German Studies in second year or higher, who have achieved a minimum B average in the preceding year and have demonstrated financial need.

Jon K. Grant Bursary Fund

This fund has been established in honour of Jon K. Grant in recognition of his distinguished contribution to Trent University as Chairman of The Fund for Excellence campaign, April 1, 1982 to March 30, 1987. The bursaries will be awarded to deserving students based on academic achievement and financial need. Distinction in cultural, athletic or other community activities may also be considered.

The Hamilton Foundation—Chaney-Ensign Bursary Fund

Bursaries are available to assist financially needy undergraduate and postgraduate students. Applicants must be graduates of Hamilton secondary schools, public or separate.

Naomi Harder Memorial Bursary Fund

Established by family and friends in memory of Naomi S. Harder, a second year Comparative Development major at Trent University at the time of her death on December 19, 1988. In the spirit of Naomi's concern for others and her deep commitment to international understanding, this bursary will be awarded annually to a student based on his/her dedication to international and national development, peace and justice issues financial need and satisfactory academic standing.

The Brian Heeney Memorial Award

Established in memory of the late Brian Heeney, Vice-President (Academic) and Provost of Trent University at the time of his death on September 17, 1983. This award valued at \$1,000 will be given annually to a graduate from Lakefield College School or Lakefield District Secondary School who enrolls at Trent in the undergraduate program. The award will be based on academic standing, financial need and distinction in cultural, athletic or other community activities. Applications may be made through the Financial Aid Office.

Victor E. Henderson Bursary Fund

These bursaries are named in honour of Victor E. Henderson, local campaign chairman of the Trent University Second Decade Fund. The Henderson Bursaries will be awarded to deserving students from Peterborough County based on academic achievement, financial need, and distinction in cultural, athletic or other community activities.

Henniger/Pilkington Bursary Fund

To honour Perry and Ella Henniger and Lawrence and Norah Pilkington, the parents of Jim and Isabel Henniger, this bursary is awarded annually to a well rounded student(s), actively involved in the life of the university, be it student government, sports or music programs or university clubs, while maintaining satisfactory academic achievement. This renewable bursary is available to second, third or fourth year students in financial need.

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.

The Interprovincial Pipe Line Company Bursary Fund

Established by the Interprovincial Pipe Line Company, these bursaries may be awarded to deserving undergraduates in second or higher years, majoring in sciences or business related programs.

The David Irwin Memorial Bursary

This bursary, established in memory of David Sutherland Irwin, a member of Trent's first graduating class and a former Professor of Biochemistry, is awarded on the basis of academic standing and financial need to a student entering the third or fourth year of an Honours Program in Chemistry or Biochemistry.

Jean Ann Johnston-Gauld Bursary

These bursaries, the gift of the family, in memory of Jean Ann Johnston-Gauld a part-time student at Trent University from 1982-85, will be awarded annually to part-time students based on satisfactory academic achievement and financial need.

Rhoda Johnston Memorial Bursary

These bursaries, the gift of Robert Johnston in memory of his wife Rhoda, a long term past employee of Trent University, will be awarded annually to deserving undergraduate students in a Canadian Studies program. Bursaries of up to \$1,000 will be awarded on the basis of academic achievement and financial need.

Principal H.R.H. Kenner and PCVS Faculty Award

This award was established by the PCVS Form 5 graduating class of 1937 in honour of Principal Kenner and their teachers. Support has also come from the class of 1939. Bursaries will be awarded to graduates of secondary schools in Peterborough County based on academic achievement and financial need.

The Keppler Bursaries of German Studies

Established by Hans and Christine Keppler, to be awarded annually to upper-year students studying German, based on financial need and satisfactory academic achievement.

Kiwanis Club of Peterborough Bursary

A bursary of \$500 will be awarded annually to a student in second year or higher majoring in Administrative Studies, Computer Studies or Economics. Applicants must be residents of the City or County of Peterborough.

Lady Eaton College Students' Bursary Fund

This bursary is to be awarded to a student of Lady Eaton College who can demonstrate financial need.

The Leonard Foundation Bursaries

Bursaries averaging \$1,250 are available to financially needy students. Preference will be given to sons and daughters of clergy, teachers, military personnel, graduates of Royal Military College, members of the Engineering Institute of Canada and the Mining and Metallurgical Institute of Canada. Application deadline date is March 15th.

Louis and Bess Loftus Fellowship Bursary

Established by Barnett David Loftus in memory of his parents. These bursaries will be awarded annually to deserving students in any year showing satisfactory academic achievement and financial need.

Malcolm Montgomery Bursary Fund

These bursaries, a bequest from the estate of the late Malcolm Montgomery, will be awarded to needy students in the fourth year of the Native Studies Honours program.

Marriott Corporation Bursary Fund

Established by Marriott Corporation to be awarded to deserving students in any undergraduate year based on satisfactory academic standing and financial need.

The Masonic Foundation of Ontario

The Foundation aims to provide assistance for students near graduation who cannot complete their year owing to a sudden personal emergency.

John C. McDonald Memorial Fund

Assistance from this fund, established in memory of Professor John C. McDonald former Chairman of the Department of Sociology, is awarded to deserving students who need financial help to continue their studies at Trent University.

William Hamilton Munro Bursary Fund

These bursaries, the gift of the late Mrs. Angele Munro in memory of her husband William Hamilton Munro, are to be awarded to deserving students in any undergraduate year.

Native Studies Bursary Funds

The Department of Native Studies provides bursaries for students of Métis and non-status Indian ancestry who do not qualify for educational assistance from the Department of Indian and Northern Affairs. Native students who can establish financial need and have been admitted to Trent University are encouraged to apply.

Ontario Credit Union Charitable Foundation Bursary

A bursary of \$250 will be awarded annually to a Trent student who is a Canadian citizen or permanent resident in second, third, or fourth year of a Business Management Program, based on satisfactory academic achievement and financial need.

Ontario Housing Corporation Bursary
OHC will award bursaries to talented students living in OHC accommodations to undertake post-secondary education.

Ontario Public School Teachers' Federation Bursary

Established by the Ontario Public School Men Teachers Federation to provide assistance for deserving students of Métis and non-status Indian ancestry.

Otonabee College Council Tenth Year Bursary

This bursary of a value of no less than \$150 is to be awarded annually to an Otonabee College student on the basis of academic performance (B average or better), athletic ability and participation within the community. The recipient will be chosen by a committee of the Master the Senior Tutor, the President and Vice-President of College Council.

Peter Robinson Bursary Fund

These bursaries, a bequest from the estate of the late Lady Maude E. Robinson are to be awarded annually in the name of Peter Robinson, the founder of Peterborough and the brother of Sir John Beverley Robinson, 1st Baronet, to deserving students of Peter Robinson College, demonstrating financial need.

Peterborough Professional Fire Fighters' Bursary

Established from gifts to Trent's Second Decade Fund by the Peterborough Professional Fire Fighters Local Number 519, these bursaries will be awarded annually to students at Trent University.

The Scott Rennie Memorial Bursary

This bursary, the gift of alumni, family and friends, is in memory of Scott Rennie, an alumnus of Otonabee College. The bursary will be awarded to a deserving Otonabee College student to be chosen by the Master of the College in conjunction with the Director of Alumni Affairs.

Royal Canadian Legion Bursary

Bursary assistance of up to \$500 is available for: a) War veterans and their sons and daughters; b) Ordinary members of the Legion and their sons and daughters; c) Associate members of the Legion and their sons and daughters; d) Ladies Auxiliary members and their sons and daughters. Awards are determined by the District Bursary Committee.

Setsu Suzuki Bursary

Donated by David Suzuki in memory of his mother, Setsu Suzuki, to be awarded to a deserving student from the Third World on the basis of academic standing and financial need.

Sir Sandford Fleming College Award

Established by Sir Sandford Fleming College in recognition of Trent's 25th anniversary and to acknowledge the excellent relationship between our institutions, this award for a value of full tuition will be made annually to a graduate of SSFC enrolled at Trent University in a full-time or part-time program based on academic achievement and financial need.

Sisters of St. Joseph of Peterborough Bursaries

These bursaries, the gift of the Sisters of St. Joseph of Peterborough, are to be awarded on the basis of need and academic achievement to students completing the Teacher Education Program for use in their fourth year at Queen's University.

Bill and Dorothy Slavin Bursary

Established by members of the Slavin family, in memory of their parents, Bill and Dorothy Slavin, to be awarded to a deserving student from a developing country on the basis of academic standing and financial need.

The J. Herbert Smith Bursary

Established by J. Herbert Smith to be awarded annually to a deserving student in their undergraduate year. As Chief Executive Officer, Dr. Smith was instrumental in arranging for the original gift of land to Trent University by GE Canada.

William and Margaret Taylor Bursary

This bursary, the gift of William E. Taylor, Jr., is to be awarded annually in memory of William and Margaret Taylor to a deserving undergraduate student demonstrating financial need. Preference will be given to orphans, native students and Canadian Studies majors.

The Roland Tedford Bursary

Established by Garth Duff in memory of Roland Tedford, former Warden of Peterborough County and Reeve of Douro Township. Two bursaries of \$500 will be awarded annually based on financial need and satisfactory academic progress with preference given to students from Douro and Dummer Townships.

Catharine Parr Traill College Students' Bursary Fund

This bursary is to be awarded to a student of Catharine Parr Traill College who can demonstrate financial need.

William Thompson Graduate Bursary

This bursary, a bequest from the estate of the late William Thompson (1891-1978) of Westwood, Ontario, will be awarded annually to a student registered in a graduate program, based on financial need and satisfactory academic progress.

Trent University Alumni Bursary

Established by the Trent University Alumni Association, to be awarded to returning students on the basis of need, significant contribution to university life, and an acceptable academic average.

TUFA Bursary

These bursaries are funded by the faculty and professional librarian members of the Trent University Faculty Association. They will be awarded annually to students in second year or higher, who achieved a minimum B average in the preceding year and have demonstrated financial need.

The Trent University S & A Bursaries

The employees of Trent University have donated bursaries up to \$500 to be awarded to students who demonstrate financial need, all-round achievement and character, and are permanent residents of the Province of Ontario.

Trent Student Union Bursary

Established by the Trent Student Union, this bursary will be awarded annually on the basis of academic achievement and financial need.

University Women's Club 50th Anniversary Award

Established by the University Women's Club of Peterborough in 1987 in honour of their 50th anniversary, an award of \$500 will be made annually to a deserving student currently registered in the fourth year of an Honours program and proceeding to graduate studies at Trent University. The award will be based on financial need and academic achievement.

Visa Student Bursary Fund

Established by the Board of Governors of Trent University to be awarded to visa students in any undergraduate year with satisfactory academic standing and who can demonstrate financial need.

The Walling Corporation Bursary

Established by the Walling Corporation of Lindsay, these bursaries will be awarded annually to students majoring in business or environmental studies, based on financial need as well as fitness/health and community involvement.

Scholarships and Prizes**Scholarships**

The University has a full and diverse scholarship program designed to foster and reward high academic achievement among its students. Funding for the program comes not only from the University itself, but also from the many private donors whose generosity has created a wide range of endowed scholarships and prizes.

Scholarships are of two sorts: entrance and in-course. All students entering first year (or transferring into a higher year) at the University are automatically considered for entrance scholarships and no separate scholarship application is required with the exception of the Champlain Scholarship. Likewise, no separate application is required for in-course scholarships, since all continuing Trent students are automatically considered for such scholarships, normally upon completion of each sequence of five full courses or their equivalent in half courses.

Trent University's most prestigious scholarship, the Champlain Scholarship, is a renewable scholarship awarded to a new student entering the first year of study who has displayed exceptional academic and extra-curricular achievement and is likely to make a significant contribution to the life of the University. Students must apply for the Champlain Scholarship.

All University scholarships may be held in conjunction with scholarships awarded by outside agencies when their conditions permit. However, a student may not normally receive funds from more than one major Trent University scholarship in an academic year. Holders of renewable scholarships must maintain a minimum average of 80% in a sequence of five full courses in order for their scholarship to be renewed.

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

The Bata Scholarship

This scholarship is the gift of Thomas J. Bata, one of the original honorary sponsors of the University and a member of the Board of Governors.

Biology Department Scholarship

This scholarship is awarded annually to a student, entering the third or fourth year of the Biology program, with high academic achievement and promise.

The B.P. Canada Science Scholarship

This scholarship, the gift of B.P. Canada is awarded annually to an entering or incourse student who has demonstrated academic excellence in the physical sciences.

Julian Blackburn College Principal's Scholarship

A tuition-based scholarship to be awarded to a student who is enrolled in the part-time credit program, who has completed at least five full courses or the equivalent as a part-time student at Trent and who has demonstrated high overall academic achievement.

Maurice Boote Scholarship

This scholarship, established in honour of Maurice J. Boote, one of the founding faculty members of Trent University and the first Chair of the Department of Economics, is awarded annually to an outstanding student entering the fourth quarter of the Economics program.

Winifred Elizabeth Burton Scholarship

This scholarship of the value of \$1,000 is awarded annually to an outstanding student entering first or a higher year.

The Canadian Tire Corporation Science Scholarship

This scholarship, the gift of the Canadian Tire Corporation Limited of the value of \$1,000, is awarded annually for excellence in science to an entering or incourse student proceeding to a Bachelor of Science degree.

The Anthony Cekota Scholarships

These scholarships were established to honour Anthony Cekota. A self-made man, Mr. Cekota edited and published a chain of magazines and newspapers in his native Czechoslovakia. He also authored several books and papers dealing with

problems of industrial management and sociology and continued as a consultant and advisor on industrial relations following his retirement (after 45 years with the Bata Shoe organization). These scholarships are awarded on an annual basis to students demonstrating exceptional academic performance.

The Champlain Scholarship

The Champlain Scholarship is available for an entering first year student of exceptionally high academic achievement and promise. This scholarship covers full tuition fees and, for students living in residence full residence fees. This scholarship is renewable each year so long as the holder's work is of scholarship standing. New applicants to the University must apply for the Champlain Scholarship.

The Sylvia Cherney Scholarship

The Sylvia Cherney Scholarship, the gift of the late Harry Cherney and of Brian Cherney and Lawrence Cherney, is named in memory of Sylvia Cherney and is available to in-course students majoring in English Literature with the aim of encouraging promise and interest in the study of drama. The Cherney Scholarship is an annual award to meet tuition fees.

The Howard Darling Scholarship

This scholarship, established in honour of Howard Darling, Supervisor, Grounds and Custodial Services, is awarded annually to an upper-year student who has demonstrated excellence in Environmental Sciences/Studies.

The Roscoe F. Downey Scholarship

The scholarship, the gift of the late Roscoe F. Downey of Peterborough, is available to entering students, one from Peterborough County and one from Victoria County.

William Paxton Eastwood Scholarship

The gift of the late William Paxton Eastwood, a former citizen of Peterborough and Ocala, Florida, is awarded in recognition of academic excellence.

The Roy L. Edwards Scholarship

This scholarship, established in honour of Roy L. Edwards, one of the founding faculty members of Trent University and the first Chair of the Department of Biology is awarded annually to an outstanding biology student entering the fourth quarter of the biology program, with the aim of encouraging promise and interest in the study of freshwater ecology.

The Ewing Memorial Scholarships and Honours Awards

Several awards are available each year for students entering the University and for Honours students undertaking a fourth year of study. These scholarships are the gift of the late C.W. Ewing, a native of Warkworth, Ontario.

Faculty Scholarship

A scholarship, the gift of a member of the founding academic staff of Trent University, is available to an entering student living in residence.

The Reginald R. Faryon Scholarships

These scholarships, the gift of 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.

The Eugene Forsey Scholarships

These scholarships are named in honour of Senator Eugene Forsey, a former Chancellor of the University and a member of the Board of Governors for ten years. The scholarships are awarded annually to outstanding students proceeding toward a degree in Administrative Studies.

Robert M. Fowler Scholarship

This scholarship is a gift of the Quaker Oats Company of Canada in memory of the late Robert M. Fowler a former member of the Board of Directors of Quaker Oats and of the Board of Governors of Trent University. The scholarship is awarded annually to students in the Administrative Studies Program and to other students undertaking policy studies in other appropriate university departments.

The Rufus Gibbs Scholarships

These scholarships, the gift of the late Rufus C. Gibbs, are available for annual award to students in all years, on the basis of academic standing, all-round achievement and character.

The Joseph Ernest Goodhead Scholarship

The scholarship, the gift of an anonymous donor, of the value of \$100, is awarded for excellence in the study of Biology.

The Hector and Geraldine Elizabeth Gray Scholarship

This scholarship, the gift of the late Hector and Geraldine Elizabeth Gray, is awarded annually to students entering the third year of an Arts program.

The Brian Heeney Scholarship

Established as a memorial by his family friends and colleagues, this renewable scholarship covers half the cost of tuition, residence and miscellaneous fees and will be awarded annually to an outstanding student entering first year. A room is reserved in Champlain College for the scholar.

The Heritage Scholarship

This scholarship honours the Curtis and Milburn families, both of whom were very early settlers of the Peterborough area and have contributed continuously to its development. The scholarship is awarded annually to an outstanding student entering the final year of honours in English.

The Howson Scholarship

The George Henry and Jane Laing Howson Scholarship is the gift of the late Miss A. Howson and the late Mrs. M.H. Simpson, and is named in memory of their late parents. The scholarship is available to a student with high academic standing who is proceeding to the degree of Bachelor of Arts.

The Imasco Scholarship

These scholarships, the gift of Imasco Ltd., are available to students of high academic achievement entering first or higher years in the University.

The Richard B. Johnston Scholarship

A scholarship, donated by the family of Professor Richard B. Johnston of the Department of Anthropology in his memory is awarded to a deserving student in North American archaeology.

The Francis Dean Kerr Scholarship

This scholarship, the gift of the late 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.

Margaret Laurence Scholarship

This scholarship, named in honour of the late Margaret Laurence, a former Chancellor of the University, is awarded annually for outstanding achievement in the fields of Canadian Literature or Canadian Studies.

The Lodge Physics Scholarship

This scholarship, named in honour of the founding Chair of the Department of Physics, is awarded annually to the student with the highest grade in the Introductory Physics course who is continuing in a program which leads

to a single- or joint-major in Physics, or who is continuing in the Chemical Physics program and enrolled in at least one Physics course at an advanced level.

The Dr. Ross Matthews Scholarship

This scholarship, established in honour of the late Dr. Ross Matthews, is awarded annually to an entering student for demonstrated academic excellence.

The Ralph McEwen Scholarship

These scholarships, established in honour of the late Ralph McEwen are awarded annually to students who are undertaking courses in Canadian Literature or Canadian Social History.

The William Allan Newell Scholarship

This scholarship, the gift of the late Judson Newell of Prescott, named in honour of his father, the chairman and founder of the Newell Manufacturing Co., Ltd., is available to an entering student proceeding to the degree of Bachelor of Science.

The Robert J.D. Page Scholarship in Environmental and Resource Studies

This scholarship, established by Dr. Robert J.D. Page who was associated with the ERS Program from its beginning, is to be awarded annually to a student entering fourth year who best combines academic achievement and public environmental service.

Peter L. Roach Scholarship

This scholarship was established in honour of Peter L. Roach, Director of Education from 1975 to 1992 in recognition of his years of service to the Peterborough Victoria Northumberland and Newcastle Roman Catholic Separate School Board. In selecting the recipient, priority will be given to a student who has studied in the P.V.N.N. Separate School system. The funding for this scholarship was provided by the employees of the P.V.N.N. Separate School Board through the For Tomorrow Campaign and the friends and associates of Mr. Peter Roach.

The J.J. Robinette Scholarships

These scholarships were established by friends and colleagues to honour the 60th anniversary of Dr. J.J. Robinette's call to the Bar. He was a member of the first Board of Governors of Trent University and Chancellor from 1984 to 1987.

The Peter Robinson Scholarship

This scholarship, of the value of \$1,000, is awarded to a graduate of a Peter-

borough City or County Secondary School on the basis of high scholastic merit.

The Peterborough Examiner Scholarship

This scholarship, the gift of the Peterborough Examiner Co. Ltd., is available to an outstanding student entering first or a higher year and living in residence.

The Helen and Barney Sandwell Scholarship

This scholarship, the gift of the distinguished Canadian publisher, B.D. Sandwell, a long-time member of the Trent Board, and its Chair from 1971 to 1975, and of his wife, Helen, is awarded annually to an outstanding student majoring in English Literature entering the third year of a degree program in English.

The Katherine E. Scott Scholarship

This scholarship, the gift of the late Dr. C.M. Scott of Peterborough, is named in honour of his late wife.

The William Bligh Shaw Scholarship

This scholarship, the gift of Muriel Beatrice Shaw, is awarded annually to an outstanding student entering the first year of the Administrative Studies Program.

The H. Clare Sootheran Scholarship

The gift of the late H. Clare Sootheran a citizen of Peterborough, this scholarship is awarded for excellence in the Faculty of Arts.

The Ian Stonehewer Memorial Scholarship

Named in honour of Ian Stonehewer B.A. Honours 1975, this scholarship, the gift of Mr. and Mrs. John Stonehewer, is awarded annually for excellence to a student entering fourth year of an Honours History Program. The value of the scholarship is determined annually.

The Carolyn Sarah Thomson Scholarship

This scholarship was established by the late Carolyn Sarah Thomson, a Trent alumna who was intensely loyal to Trent and to the people—faculty, staff and students, who make the University so unique. This scholarship of \$1,000, is awarded annually for excellence to a student entering the third year of the Canadian Studies Program.



The James G. Wharry Scholarship

This scholarship, a gift of the Quaker Oats Company of Canada, equal in value to full tuition for the fourth year, is awarded annually for excellence to a student or students entering the fourth year of the Canadian Studies Program.

The Trent University S & A Scholarship

The employees of Trent University have donated two \$500 scholarships to be awarded annually to students from the Peterborough and Victoria County and Separate Boards of Education for academic standing and all-round achievement and character.

The Trent University Scholarship

Several Trent University Scholarships are available to students of high academic achievement entering first or higher years in the University.

Twenty-fifth Anniversary Scholarships

These scholarships were established to commemorate Trent's anniversary. These renewable scholarships cover full tuition and are awarded to entering students.

The David and Joyce Woods Graduate Scholarship

This scholarship, to honour David M. Woods, Chair of the Board of Governors

of Trent University from 1975 to 1980, and his wife, Joyce Woods, has been established by their children and friends and is to be awarded to a student in the Watershed Ecosystems Graduate Program. This is the first graduate scholarship to be established at the University.

Externally awarded scholarships

A number of scholarships (and bursaries) are awarded by bodies outside the University. Several corporations, for instance, have special programs for dependents of their employees. Students should consult their guidance counsellors concerning these awards.

Trent University is grateful for the generous donations which will allow the following scholarships to be awarded in the near future:

Binney and Smith Scholarship

Established by Binney & Smith (Canada) Ltd. of Lindsay, manufacturers of Crayola Products, to be awarded to students in the Trent/Queen's Teacher Education Program.

City of Trenton Scholarship

Established by The Corporation of the City of Trenton, to be awarded to an entering student from the city of Trenton.

Prizes

Governor-General's Medals

The gold medal is awarded to the graduate student with the highest standing on graduation and the silver medal is awarded to the fourth-year student with the highest standing on graduation.

President Symons Medals

The Symons Medals were established in 1972 in honour of T.H.B. Symons, the founding president of Trent University. These medals are awarded to students in the Honours program who achieve high overall standing on graduation.

Professor Gilbert Bagnani Medals

The Professor Gilbert Bagnani Medals were established in 1986 to honour the late Professor Gilbert Bagnani, one of the founding faculty members of Trent University. The medals are awarded to graduating students in the General program who achieve high overall standing.

Administrative Studies Prize in Marketing

This prize, in memory of George Wills marketing teacher at Lakefield Secondary School, is awarded to the leading Administrative Studies Program student in *Administration 310a/315b*.

Ambassador of Switzerland Prizes in French and German

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

Anthropology Society Prize

This prize is awarded to the most outstanding *Anthropology 100* student on the basis of tutorial work and overall marks.

Sir Donald Banks Prize

This prize, the gift of Professor D.L. Smith, in memory of her father is awarded annually to a promising student in Spanish planning to participate in the Year Abroad in Granada Program.

Bruce Barrett Memorial Prizes

In memory of Bruce Barrett, a former Trent Philosophy student, several prizes are awarded annually to outstanding students in first-year courses in Philosophy. Approximate value \$100.

Department of Biology Prizes

Awarded to students who show excellence in the study of Biology in first or higher years.

Gordon Campbell Memorial Award

In memory of Gordon Campbell, a former Trent Geography student, one award of \$500 is given annually to a third- or fourth-year undergraduate student in a single- or joint-major program in Geography with a demonstrated and continuing interest in the Canadian North.

Canadian Association of Geographers' Undergraduate Award

This award, presented by the Canadian Association of Geographers, is offered each year to the Honours Geography student at Trent who is judged to have the best academic record in fourth year.

Donald Chase Memorial Prize

This prize, in memory of Donald Chase, a Trent student in 1989, is awarded annually for the best essay in Canadian history written by a first-year undergraduate at Trent.

Comparative Development Prizes

The prizes are awarded annually to students with the highest overall standing in the 200, 300 and 400 level central core courses in Comparative Development Studies.

Consul General's Prizes in French

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

CRC Press Freshman Chemistry Achievement Award

This prize is a gift of a copy of the CRC Handbook of Chemistry and Physics from the CRC Press Inc., and is awarded to a student at the end of first year on the basis of outstanding academic achievement in Chemistry.

James Creery Memorial Essay Prize

This prize, in memory of James Harold Creery, a Trent student of Philosophy in 1972-74, is awarded annually for the best philosophical essay written by an undergraduate at Trent.

The Cultural Studies Faculty Prize

The Faculty Prize was established in 1988 through contributions from the Cultural Studies faculty. It is awarded to a Cultural Studies major or joint-major for the best essay of a critical or theoretical nature

related to the subject areas of the Cultural Studies Program submitted to a juried competition held annually by the Program. Value \$300.

Currie Honours Awards

These awards are presented to two students enrolled in *Geography 401* or *402* in the Winter Session of a single-major honours program in Geography, on the basis of both academic achievement and proposed thesis research. They are valued at \$500 each, but under special circumstances three awards of \$333 each may be made.

The Digital Equipment of Canada Award

This award is presented to the student with the highest grades in Computer Studies at Trent University.

The J. Emmett Duff Memorial Prize in Geography

This prize, the gift of Professor T.H.B. Symons and Celanese Canada Inc. was established in memory of the late J. Emmett Duff, who, without formal training in the subject, was possessed of an intense love of traditional geography. It is awarded to a student who attains a standing of at least 70% in *Geography 411b* and who best epitomizes the spirit of cartophilia.

Embassy of Spain Prize in Hispanic Studies

Awarded to an outstanding student in upper years majoring in Spanish.

Department of English Literature Prize

This prize, the gift of the Department of English Literature, is awarded to the best student entering the fourth quarter of the Honours program in English Literature.

Environmental and Resource Studies Program Prize

This prize, a gift of the ERS program, is awarded annually to a first-year student achieving the highest academic standard in the first year ERS course.

Essay Prize in Honours Economics

This prize, the gift of the Department of Economics, is awarded each year to an honours student submitting the most outstanding essay in *Economics 490*.

The Marjorie Elizabeth Foster Prize

This prize, given in memory of Marjorie Elizabeth Foster, is awarded to the student who writes the best essay or research project in Historical Geography in a particular year in any Geography course.

French Studies Staff Prizes

These prizes are offered by members of the French Studies Section to outstanding students of first-year French Studies.

French Studies Staff Prize (Nantes Program)

This prize is awarded annually by members of the French Studies Section to the outstanding participant in the Nantes Year Abroad Program in French Studies.

The Gregory R. Frith Memorial Prize in Cultural Studies

This prize was established in honour of the late Gregory R. Frith, B.A. Honours 1977. It is awarded to a Cultural Studies major or joint-major for the best submission in any of the arts associated with the Cultural Studies Program to a juried competition held annually by the Program. Value \$300.

The Honourable Leslie Frost Prize

This prize, the gift of the late Hon. Leslie M. Frost, P.C., Prime Minister of Ontario from 1949 to 1962 and first Chancellor of Trent University, is awarded to the leading undergraduate in the first-year course in Canadian History.

Gadfly Prizes

These prizes are available for award to the leading undergraduate in Philosophy in each of the second and third years. The prizes commemorate Socrates' description of himself as one who rouses and reproves the society in which he lives just as a gadfly awakens a sluggish horse.

Department of Geography Prizes

Awarded in the first and second year to students who show excellence in the study of Geography. The second-year prize, known as the Geography alumni prize, is donated by the Trent University Geographical Society using funds contributed by Geography alumni.

Guinand Prize

This prize, in honour of the first Chair of the Department of Mathematics, is awarded to a student of high promise in the mathematics program, normally on entering the fourth quarter of the Honours program.

The Honourable George S. Henry Prize

This prize, in memory of 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 to the

leading undergraduate in the first-year course in Politics.

Graham Hartley Prize

This award, presented by the Chemical Institute of Canada (Peterborough Section) in honour of Graham Harry Hartley, Ph.D., M.C.I.C., is given to first and second year students who have shown excellence in the field of General Chemistry.

The Arnold Hyson Prize in Maritime Studies

This prize is awarded to the student with the most outstanding research paper in *Canadian Studies-History 307*.

The David Sutherland Irwin Prize

Established in memory of the late Professor David Irwin, this prize is awarded on completion of *Chemistry-Biology 330* to a student with outstanding performance in biochemistry.

The Richard B. Johnston Memorial Prize

A prize, donated by the family of Professor Richard B. Johnston of the Department of Anthropology in his memory is awarded to a deserving student in Ontario archaeology.

The K.E. Kidd Awards in Native Studies

These prizes are awarded each year to graduating students who have demonstrated the highest degree of ability and achievement in the Diploma Program of the Department of Native Studies.

F. Alan Lawson Memorial Prize

Sponsored by the Central Ontario Chartered Accountants Association, this award is made annually to the student majoring in the Administrative Studies Program, who achieves the highest combined mark in Fundamentals of Financial Accounting and Fundamentals of Management Accounting (*Administration 201a* and *202b*).

Robert Lightbody Prize

This prize was established by the Alumni Association to honour the contributions to the University of alumnus Robert Lightbody, a member of Trent's first class. It is awarded annually to an upper-year Peter Robinson College student.

The Helen E. MacNaughton Prize

This prize is awarded to an outstanding student in Philosophy entering fourth year.

The J. Percy MacNaughton Prize

This prize is awarded to the student achieving the highest academic standing in Environmental and Resource Studies entering fourth year.

The Makhija Prize in Chemistry

This prize, the gift of R & R Laboratories, is awarded to the student with the best overall performance in 300-level courses in chemistry.

The McColl Turner Prize in Accounting

Presented by McColl Turner, Chartered Accountants, to the leading undergraduate student in *Administration 300*, who intends to pursue a career as a Chartered Accountant.

David N. McIntyre Conservation Award

Presented by the Otonabee Region Conservation Authority to the outstanding Geography student who has demonstrated an interest in conservation.

Jane McLarty Memorial Prize

This prize, given in memory of Jane McLarty, a member of Lady Eaton College from 1987-1990, is awarded annually to a deserving student entering the third or fourth quarter of studies in English Literature.

Midwives' Prize

This prize is the gift of three members of the Universities Liaison Committee who assisted at the birth of Trent University. The late Professor J.M. Blackburn, then of Queen's University; the late Dean Frank Stiling, then of the University of Western Ontario; and the late Dr. M.St.A. Woodside, former vice-president of the University of Toronto, were named by their universities to act as a liaison committee between these three universities and the Founding Board of Trent University. The prize is awarded to the student with the highest overall standing in the first year.

The Norma Miller Essay Prize

This prize, administered jointly by Catharine Parr Traill College and the Department of Classical Studies, is in memory of Norma P. Miller, an Honorary Fellow of Traill and frequent visitor to the Classics department. The prize is awarded annually for the best essay submitted by students enrolled in *Classical Literature 100*.

Joyce Moonias Memorial Awards

These awards, donated by Frances Six in memory of Joyce Moonias, Native Studies student 1982-83, are offered annually to the student with the highest academic standing in *Native Studies* 280 and 380 (Ojibway language).

W.L. Morton Essay Prize in History

Awarded to the second- or third-year student writing the best essay.

National Council for Geographic Education Excellence of Scholarship Award

Awarded to the outstanding graduating Geography major.

The Native Studies Award

These prizes, in memory of Harvey G. Greene of Peterborough, are awarded to outstanding students in Native Studies.

The Norman Townsend Prize in Anthropology

An annual award, in memory of the late Professor Norman Townsend, presented by the Department of Anthropology on the basis of high academic standing to a student pursuing studies in cultural anthropology.

Peterborough Historical Atlas Foundation Prize

This prize is to be awarded to the undergraduate whose essay or project on a Canadian subject is deemed outstanding. An interdisciplinary panel will select the winner from the entries submitted by faculty in appropriate disciplines.

Peterborough Professional Engineers Wives' Association Prize

This prize, a gift of the association is awarded to an undergraduate who shows excellence in *two-hundred* series courses in Physics or Chemistry.

John Pettigrew Prizes

These prizes, established in memory of the late Professor John Pettigrew, are awarded annually for the best student essays submitted in each first-year English course.

Department of Physics Prize

This prize, a gift of the Department of Physics, is awarded to the student achieving the highest academic standing in the first-year Physics course.

The R & R Laboratories Prize in Analytical Chemistry

This prize, the gift of R & R Laboratories, is awarded to a student with outstanding performance in analytical chemistry on completion of a 300-level course in chemical analysis.

The Denis Smith Essay Prize

This prize, the gift of the Department of Political Studies, is awarded each year to a fourth-year student submitting an outstanding Politics essay.

Department of Psychology Prizes

These prizes, a gift of the Department of Psychology, are awarded to outstanding students in Psychology.

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 to the leading undergraduate in first-year Mathematics.

J.J. Robinette Prize

The J.J. Robinette Prize is awarded in honour of Dr. John J. Robinette, an eminent constitutional and criminal lawyer, and Trent University's fifth Chancellor. The prize is awarded to the scholastically outstanding graduate of Trent University in any year who undertakes the study of law at another Canadian university.

John Rymes Book Award

The book prize is awarded by the Senior Tutor of Champlain College to a student of the College who has benefitted most from a Trent University education.

J. Paul Scott Jr. Memorial Prize

Established in memory of J. Paul Scott Jr., to be awarded to a deserving student entering Honours Psychology.

The Honourable Sidney Smith Prize

This prize is named in honour of Hon. Sidney Smith, Member of the Legislative Assembly of the United Province of Canada from 1854 to 1861, Postmaster General of the United Province of Canada from 1858 to 1862, and elected Member of the Legislative Council from 1861 to 1863. It is the gift of Hon. S. Bruce Smith, Chief Justice of Alberta, and of Muriel Turner and H.G.H. Smith, Q.C., of Winnipeg and is awarded annually to the leading undergraduate majoring in Politics and History in the second year.

The Society of Chemical Industry Student Merit Award

This award is given to the student having the highest standing in the final year of his or her course. The student must have a minimum average of 75% and have completed the course in the normal number of years.

The Society of Management Accountants Prize

This prize is awarded to the student proceeding to fourth year in the Administrative Studies Program who has achieved the highest overall standing in all accounting subjects.

Rodney F. White Prize

Two prizes of \$100 each are awarded annually by the Department of Sociology majors who demonstrate excellence in the study of Sociology.

Symons Essay Prizes in Canadian Studies

These prizes were established through a gift from T.H.B. Symons, the founding president of Trent University, to recognize excellence in performance in courses of the Canadian Studies Program. Three prizes are awarded annually for outstanding essays in second-, third- and fourth-year courses.

Trent Alumni Summer Session Prizes

These two prizes, the gift of the Trent University Alumni Association, are awarded annually for outstanding academic achievement by Julian Blackburn College students in the on-campus and the Oshawa Summer Session (including Intersession).

Trent Science Fair Award

This award of the value of \$100 to be applied against first-year tuition fees, is offered to a senior secondary school student whose project is judged outstanding at the annual Peterborough Regional Science Fair.

Alan Wilson Prize in History

Awarded to the Honours History student achieving the highest record in fourth year.

Women's Studies Book Prize

This prize, the gift of the Peterborough Women's Committee, will be awarded annually based on academic achievement as well as contributions to the vitality of the program.

College Prizes

Catharine Parr Traill College Scholar

The title of College Scholar is conferred upon the student in his or her graduating year who has achieved academic excellence and who has also made an all-round contribution to the college.

Catharine Parr Traill College Principal's Prize

This prize is awarded to the Catharine Parr Traill College student with the best academic performance in the freshman year.

Champlain College Master's Prize

The prize is awarded to the graduating student of the college with the highest overall standing in fourth quarter, Honours.

Champlain College Fellows' Prize

The prize is awarded to the graduating student of the college with the highest overall average in the third quarter, General.

Champlain College Senior Tutor's Prize

Awarded annually to the Champlain College student who has achieved the highest average at mid-year.

Christopher Greene Award

Awarded annually in honour of Christopher Greene, former Senior Tutor of Champlain College, to a graduating student within the College who has demonstrated considerable academic improvement while studying at Trent University.

Lady Eaton College Fellows' Prize

An award given by the Fellows of Lady Eaton College to a graduating student of the college for academic excellence over his or her university career.

Otonabee College Prize

This prize, to a value of \$50, is awarded to the Otonabee College student with the best academic performance over a three year period, not including an Honours year.

Otonabee College Senior Common Room Prize

This prize, the sum of \$100, is awarded to the Otonabee College student with the best academic performance in the freshman year.

The Eileen Gallagher Otonabee College Spirit Award

This prize, the gift of alumni, friends and family (and companion to the Scott Rennie Award) is awarded to a deserving female Otonabee College member.

The Scott Rennie Otonabee College Spirit Award

This prize, the gift of alumni, friends and family (and companion to the Eileen

Gallagher Award) is awarded to a deserving male Otonabee College member.

Julian Blackburn College Student Association Prizes

These prizes are awarded to students with overall academic excellence and involvement in University, college and/or community affairs.



Academic Regulations

Admissions

Application and Admission Procedures for Full-time Studies

Students currently in the Ontario school system should apply to Trent University on the forms developed by the Ontario Universities' Application Centre. These forms are available through the secondary schools and should be completed according to accompanying instructions.

By agreement among the universities, current Ontario Secondary School candidates are notified of acceptance on an agreed upon date in mid-June. Other applicants, including those who complete their secondary school studies in January, may have their applications considered as soon as documentation is complete.

Candidates for admission from outside Ontario, or who are not currently in an Ontario Secondary School, may obtain forms from the Registrar's Office. Applicants must submit official transcripts to the University, or certified copies thereof, showing their standing in each subject.

All applicants are required to declare their intention to pursue either a four-year Honours or three-year General program as part of the admission process.

Candidates for admission may be asked to attend an interview with the Committee on Admissions and Scholarships. They will be notified of the University's decision concerning their applications as early as possible, within limits of the intra-university agreement cited above.

Normal Admission Requirements

Ontario Secondary School Requirements

In order to be eligible for admission to Trent University, an applicant is required to achieve standing at a level acceptable to the University in a full Ontario Secondary School program. An applicant is required to have the Ontario Secondary School Diploma (OSSD) including a minimum of six Ontario Academic Courses (OACs); or equivalent qualifications from other provinces or countries. For admission consideration, the *minimum* overall average required on six Ontario Academic Courses is 60%. *However, because of enrolment limitations, applicants presenting the best qualifications will be given preference.*

No minimum number of years taken to achieve this standing is specified. Although the length of time taken by an applicant to complete the Ontario Secondary School Diploma will not in itself be a determining factor in the admission decision, applicants who have spent more than five years in secondary school may be required to present a higher level of achievement.

Applicants to all programs must have successfully completed an unspecified OAC in English as well as having OAC's in a minimum of four different subject areas. English OAC 1 is highly recommended, particularly for applicants to programs in the Humanities and Social Sciences.

Specific Program Course Prerequisites

Administrative Studies

Grade 12 Advanced Math is required for admission to the Bachelor of Administrative Studies degree program. OAC Calculus or equivalent is required for the completion of the degree.

Biology

OAC Biology is strongly recommended. Students may major in Biology without OAC Biology. Refer to the Biology Section of the Calendar for further information.

Chemistry

OAC Chemistry, OAC Calculus and OAC Physics are strongly recommended for Chemistry majors.

Environmental and Resource Studies (B.Sc. Option)

OAC Chemistry and OAC Biology are strongly recommended for students in the B.Sc. option. OAC Physics or OAC Geography is recommended.

Mathematics

OAC Calculus with a minimum 60% or successful completion of Trent's *Mathematics 100* is required to major in Mathematics. OAC Algebra is strongly recommended.

Physics

OAC Calculus or OAC Algebra is required to enrol in *Physics 100* at Trent. OAC Calculus and OAC Physics are strongly recommended.

For more detailed program requirements please consult the appropriate section of the Calendar.

Equivalents to Ontario Secondary School Requirements

Alberta, British Columbia, Manitoba, New Brunswick, Newfoundland, Northwest Territories, Nova Scotia, Prince Edward Island, Saskatchewan, Yukon—Grade 12.

Quebec—Completion of year one of a CEGEP program or equivalent.

England and Wales, West Indies, East and West Africa, Hong Kong. General Certificate of Education (or equivalent) with (a) passes in at least five subjects, two of which must be Advanced Level, or (b) passes in four subjects of which three must be Advanced Level.

Advanced Standing may be considered for appropriate Advanced Level subjects with C grades or better.

International Baccalaureate (IB)

Completion of the IB Diploma with at least six subjects (three of which must be at the higher level) with a minimum grade total of 28 on final grades. Advanced Standing may be considered for appropriate subjects at the higher level with grades of 5 or better.

USA—High School Graduation Diploma. Applicants are required to submit College Entrance Examination Board scores and a letter of reference from a high school teacher or counsellor.

For those countries not listed, written requests regarding admission require-

ments may be directed to the Registrar's Office.

Colleges of Applied Arts and Technology

Candidates with satisfactory standing in at least two years of study in appropriate diploma programs will have their transcripts individually evaluated for admission. Those admitted with satisfactory standing and a sufficient number of academic courses in appropriate three-year diploma programs may receive advanced standing for up to five courses. Candidates admitted with satisfactory standing and a sufficient number of academic courses in appropriate two-year diploma programs may receive advanced standing for up to three courses. Applicants are asked to write to the Office of the Registrar for specific information.

Bible Colleges

Candidates transferring from Bible Colleges accredited by the American Association of Bible Colleges may receive advanced standing for up to five credits depending on the candidate's standing in secondary school, the nature and number of courses taken at Bible College and the grades obtained. Each case will be assessed on an individual basis; however, no credits below a grade of B- will be deemed acceptable for transfer. The candidate seeking to exercise this option must submit course outlines for the courses for which credit is sought.

Students from areas other than those listed above should submit full details and academic documents to the Office of the Registrar for evaluation.

Possession of the minimum requirements does not, in itself, guarantee admission.

English Language Proficiency

(a) Candidates from areas where English is not the language of instruction will be required to provide evidence of a knowledge of English sufficient to enable them to profit from their university studies. All such International students must write the Test of English as a Foreign Language (TOEFL) and obtain a minimum score of 550; or alternatively, write the Michigan English Language Assessment Battery (MELAB) test and obtain an overall score of 85.

Exceptions to the Normal Requirements

The University is prepared to consider other candidates who, while failing to meet the regular requirements, can satisfy the University that they are likely to be successful in university work. Applicants may apply as mature students if they are at least 21 years of age and have been out of a full-time educational program for a minimum of two years. Maturity, motivation, and experience will be taken into account. Any candidate who wishes to apply for admission and who does not possess the normal requirements should write to the Registrar's Office, outlining academic qualifications experience and the grounds on which admission is requested. In some instances, the Committee on Admissions and Scholarships may require the applicant to be present for an interview. Mature student candidates may be admitted outright or to probationary status in the full-time or part-time program.

Part-time Studies

Candidates considering a program of part-time studies are subject to the same admission requirements as those applying to full-time studies. However, application is made directly to Trent University on the form available in the appropriate part-time studies session brochure. Refer to the Julian Blackburn College for Continuing Education section of the Calendar for information regarding the different entry points for part-time applicants.

Transferring from Part-time to Full-time Studies

Part-time students must apply to the Registrar's Office by June 15 if they wish to transfer to full-time status for the next Fall/Winter Session. Students placed on probation will not normally be considered for admission or re-admission to the full-time program.

The Committee on Admissions and Scholarships reviews all applications in late June. Notifications are mailed to students the first week of July. The

minimum academic requirements are the same as those for re-admission to full-time studies; refer to the Re-admission section for details.

Possession of the minimum requirements does not, in itself, guarantee admission to full-time studies.

Re-admission

Students who have not completed a course at Trent during the previous 12-month period must apply for re-admission. The deadlines for submitting an application for re-admission are the same as those for admission.

The minimum requirements for re-admission to full-time studies include a current academic status of 'Eligible to Proceed' and a cumulative average of 65 percent or higher over three or more courses completed for credit. Applicants who do not meet these requirements will be considered for re-admission to part-time studies. Applicants whose previous academic standing is 'Probation' may be limited to one course.

Applicants who have completed fewer than three full course equivalents for credit will be considered for re-admission to full-time studies on an individual basis based upon the same criteria used for new applicants to Trent University.

Applicants for re-admission, who have previously been rusticated or debarred, are required to provide a letter with their application indicating the grounds on which re-admission is requested and to attend an interview.

Students who have graduated with a General (3-year) degree and wish to pursue an Honours degree must apply for re-admission to the University. Enrolment limits may determine the number of available spaces. Students who are re-admitted and meet the requirements for continuation in an Honours program will be eligible to enter the fourth quarter to pursue a single- or joint-major program *provided* at least one of the majors for their Honours program is either the same as the single-major or one of the joint-majors from the General degree.

Students who have graduated with a General (3-year) degree and are permitted to pursue a General or Honours degree in a single- or joint-major which does *not*

incorporate the single, or at least one of the joint-majors from the previous degree, will be deemed to be pursuing a second undergraduate degree and should refer to 'Second Degree' in the Admissions section of the Calendar.

Possession of the minimum requirements does not, in itself, guarantee re-admission.

Second Degree

Students wishing to pursue a second B.A or B.Sc. must formally apply for re-admission to the second degree program. All such applications will be considered by the Committee on Admissions and Scholarships as part of the normal re-admission process. If the student elects to pursue a General degree, up to 7.5 full-courses from the first degree program may be credited to the second program. If the student elects to pursue an Honours degree, up to ten full courses from the first degree may be credited to the second program. The maximum number of credits that may be credited from the first degree program to the second program must not exceed half of the degree requirements. Students are required to declare their intentions to pursue either a General or an Honours degree upon admission to the second degree program.

Refusal of Admission

The University reserves the right to refuse admission to any candidate.

The University also reserves the right to refuse re-admission to candidates who have not achieved an acceptable academic standing as determined annually by the Committee on Admissions and Scholarships.

Application Deadlines

Applications will not normally be considered unless received, accompanied by complete documentation, by June 15. Teacher Education applications and documentation must be received by April 15.

Advanced Standing

Students transferring into Trent from other post-secondary institutions may receive credit for work satisfactorily completed at the sole discretion of Trent University, in conformance with criteria established by the Senate of Trent University.

Advanced standing will be assessed by the Committee on Admissions and Scholarships prior to the student's admission to the University. Specific course equivalencies will be determined by the Committee on Admissions and Scholarships in consultation with Academic Department/Program Chairs, following the student's acceptance of an offer of admission.

Eligible students will be assessed for transfer credits for both the Honours and General degree programs. A maximum of seven and one-half full-course equivalents may be credited towards a General degree. A maximum of ten full-course equivalents may be credited towards an Honours degree. The maximum number of non-Trent courses that may be counted toward either Trent degree must not exceed half of the degree requirements.

In exceptional circumstances, students with high standing at another university, applying for entrance to the final quarter of the Honours program, may be given transfer credit for up to fifteen full courses.

The last five courses of a degree program should be completed at Trent. *Three-hundred* and *four-hundred* level course credits in major(s) obtained at another university may be accepted for credit at Trent. However, individual departments may require that all or most of the courses at these levels be taken at Trent.

Unassigned credits up to a maximum of five courses may be granted for courses which are equal in standard but not comparable in content to courses offered at Trent. Not more than three courses at the first-year level may be unassigned.

Advanced standing will be granted only if that course is not needed to qualify for admission. If the course in question constitutes part of admission requirements, prerequisite standing only can be granted. Prerequisite status in a discipline means that the Trent prerequisite will be waived to enable the student to go on to more advanced work in that discipline, instead

of having to repeat subject matter satisfactorily completed at another institution.

Students will not be accepted for transfer from another university during a period in which they have been suspended, debarred, or are otherwise ineligible for re-admission to their home university.

Any questions regarding advanced standing must be forwarded to the Registrar's Office in writing by the end of the third week of classes in the Fall term.

Registration

Note: Registration and pre-registration procedures are subject to change subsequent to the printing of this Calendar.

1. Academic Adviser

Each full-time student is assigned an academic adviser. Ultimate responsibility for course selection and conformance to the academic regulations of the University does rest with the student, but the adviser can assist on matters of course selection, academic regulations, the selection of majors, university deadlines, etc. Students are advised to make maximum use of their adviser in planning their university program.

2. New Full-time Students

New full-time students who have been offered and who have accepted admission to the University will register in person during the Introductory Seminar Week, the week prior to the beginning of classes in September. This is intended to introduce new students to university life at Trent and to complete registration.

During the Introductory Seminar Week students have an opportunity to attend lectures and information sessions in many disciplines and to consult their academic advisers before registering in their courses. In addition, College committees plan a varied program of athletic and social events for the week in order to facilitate new students' integration into both their Colleges and the University as a whole.

It is hoped that each student will take full advantage of the opportunities provided to become familiar with the courses offered, the services and the facilities available, and the workings of the University and College system.

3. Pre-Registration for Returning Students

In order to facilitate academic planning and to ensure a long-term enrolment balance at the University, returning students intending to continue studies at the University in the Fall/Winter session are required to pre-register. This process involves the completion of the Course Preference Selection (CPS) form, preferably in consultation with the academic adviser during the Winter Term. The CPS form must be submitted to the Registrar's Office by the last day of classes of the Winter Term. Students submitting the CPS form after this date will incur a \$50 processing fee.

Returning students must also complete and return the Confirmation of Intent to Register (CIR) form, which they will receive with their final grades in June. The CIR form together with a **non-refundable deposit** against tuition must be submitted by July 15 to the Registrar's Office. Returning students who fail to submit the CIR form or tuition deposit by the due date will incur a \$100 processing fee.

Payment of fees or deposits related to tuition or residence, does not obviate the need to comply with deadlines and procedures related to admission, pre-registration and registration. *Financial eligibility does not guarantee academic eligibility.*

Please refer to the "Academic Time-table, Pre-Registration and September Registration Guidelines for Full-time and Part-time Students" and also to the Fees Section of the Calendar under "Ineligibility to Return for Financial Reasons" for complete details about the pre-registration process.

4. Completion of Registration

Course registration is complete only when the student has paid fees, has provided required documentation regarding citizenship and eligibility to study in Canada, and has submitted a completed registration form at the course registration desk. Students should register in all half-courses regardless of suffix during course registration in September.

New students are required to register by the Friday of Introductory Seminar Week. All other students are required to register by the following Friday. Please refer to **Important Academic Dates** for specific dates. Late registrants will be

charged an incremental late fee based upon the date that the registration form is received by the Registrar's Office.

Please refer to the "Academic Timetable, Pre-Registration and September Registration Guidelines for Full-time and Part-time Students" for complete details about the registration process.

5. Registration for New and Re-admit Part-time Students

Registration for new and re-admit part-time students is conducted in person or by mail on application forms available from Julian Blackburn College. Please see part-time summer or winter brochures for further details.

Academic Programs and Standings

Academic Programs

Note: It is the responsibility of each student to ensure that the courses required for the granting of a degree have been completed. Students are therefore cautioned to make absolutely certain that the number and combination of their courses meet all university and departmental requirements for the granting of a degree.

Trent University offers the following degree programs:

- Bachelor of Administrative Studies (Honours)
- Bachelor of Arts (Honours)
- Bachelor of Science (Honours)
- Bachelor of Arts (General)
- Bachelor of Science (General)

1. Enrolment Status

Any student registered in 3.5 or more courses is a full-time student. A student registered in three or fewer courses is classified as a part-time student.

2. Changing from Full-time to Part-time Studies

Full-time students who drop to a part-time load during the Fall/Winter Session may continue in the full-time program in the following Fall/Winter Session as long as their academic status is 'eligible to proceed' at the completion of the current session. Students who have dropped to

a part-time load and whose status is probationary at the completion of the Fall/Winter Session will not normally be considered for re-admission to the full-time study program.

3. Transferring from Part-time to Full-time Studies

Part-time students must apply to the Registrar's Office by June 15 if they wish to transfer to full-time status for the next Fall/Winter Session. Students placed on probation will not normally be considered for admission or re-admission to the full-time program.

The Committee on Admissions and Scholarships reviews all applications in late June. Notifications are mailed to students the first week of July. The minimum academic requirements are the same as those for re-admission to full-time studies; refer to the Re-admission section of the Calendar for details.

Possession of the minimum requirements does not, in itself, guarantee admission to full-time studies.

4. Definition of Full-time/Part-time Course Load

In defining a full course load, for the Fall/Winter Session an 'a' or 'b' half course is equivalent to a full course in either the Fall or Winter Term; a 'c' half course is equivalent to a half course in either the Fall or Winter Term.

The maximum number of full course equivalents a full-time student may take in any term without overload approval is five. The maximum number of full course equivalents a part-time student may take in any term is three. Part-time students may not exceed this load in any term in the Fall/Winter Session. Specific regulations related to overload for students taking courses in the Spring Session are specified in the Spring Session Brochure.

5. Overload Programs

Full-time students who have achieved a 70% average over a minimum of the last five full courses in the most recent Fall/Winter Session will be routinely approved for overload by the Senior Tutor on the registration form. Full-time students wishing to enrol in more than five full courses or equivalent in the Fall/Winter Session who do not obtain approval on the registration form must obtain special permission to do so from the Committee on Undergraduate Standings and Petitions.

Appeals to the committee must be submitted through the Senior Tutor of the student's college.

6. Course Changes

Students wishing to change or drop courses must submit Course Change forms to the Registrar's Office. These forms must be signed by the instructor of the course which is being dropped, by the instructor of the course which is being added, and by the academic adviser. Part-time students require only the signature of the instructor of the course being added.

Once a student registers in a course a grade will be assigned in that course unless the student withdraws from the course in writing prior to the deadline for withdrawal.

Deadlines

Deadlines for course changes and withdrawals are listed in the University Diary following the Table of Contents in this Calendar.

Students are responsible for making sure that all copies of change forms are received at the Registrar's Office by the deadlines stated in the University Diary.

Students who miss deadlines because of extraordinary circumstances may petition the Committee on Undergraduate Standings and Petitions for special consideration.

7. Withdrawal from the University

Full-time students wishing to withdraw from the University should obtain an official withdrawal form from their College Head. In all cases, the actual date of withdrawal for both financial and academic purposes will be the date the official withdrawal form is received in the Registrar's Office. Part-time students withdrawing from courses must notify the Registrar's Office in writing.

If formal notice of withdrawal is not received, the student will be responsible for financial obligations. Failing grades may also appear on the students official academic record.

8. Retroactive Withdrawal

Retroactive withdrawal may be granted by petition to the Committee on Undergraduate Standings and Petitions (CUSP) when it can be shown that compelling and unforeseen circumstances, which adversely affected the student's work arose *after* the deadline for dropping courses. In such cases the student must

show that on the last date for dropping courses he or she would be reasonably certain of a passing mark in the course(s), had these circumstances not intervened. When retroactive withdrawal is requested after the end of an academic session, any such request will apply to all courses in which the student was registered unless it can be shown that the circumstances affected adversely only a particular course or courses. The final dates for receipt of such petitions in the Registrar's Office is March 19 for an *a* half-course, July 15 for a full course or a *b* half-course and September 30 for a Summer Session course.

9. Letters of Permission

Students may be permitted to take a limited number of courses at other universities on Letters of Permission. These must be obtained from the Registrar's Office *before* courses are taken. Letters of Permission are issued under the authority of the Committee on Undergraduate Standings and Petitions. It may be necessary to obtain department approval in advance and such approval will be required for all courses in a student's major.

Students wishing to undertake summer courses at another university on a Letter of Permission may not attempt more than two full courses (or equivalent). Students on probation may take only one course at a time on a Letter of Permission.

The maximum number of full courses which may be taken for credit on Letters of Permission is normally five. In the case of transfer students it may be fewer than five, depending on how many transfer credits they have received.

The total number of non-Trent credits may not normally exceed one-half of the total degree requirements. It should also be noted that the last five courses taken by a candidate for a degree should be completed at Trent.

For the Fall/Winter Session, requests for Letters of Permission must be received no later than August 15. For the Summer Session, requests for Letters of Permission must be received no later than two weeks after Spring Convocation. For all Letters of Permission, one week to ten days must be allowed for processing. A fee is charged for each Letter of Permission.

10. Study at Foreign Universities

All students wishing to take a full year of study at a foreign university must apply

through the Trent International Program and have their plans of study approved by the appropriate academic departments. *A Letter of Permission must be obtained in advance.*

Normally this year of study abroad will constitute the third quarter of an Honours program. A number of departments and programs encourage students to spend a year studying abroad and formal arrangements with foreign universities exist.

Students granted permission to study abroad will be charged an administrative fee.

Assessment of Performance

In determining an undergraduate's final standing in each course, the following criteria will be considered:

- (a) oral and written work completed during term;
- (b) any mid-year or other term tests or examinations;
- (c) any final examinations.

At the beginning of each session students will be informed of the method of assessment in each course. Students' attention will also be directed to the course syllabus at the start of each session. This course syllabus may be subject to some modifications as the work of the year progresses.

1. Course Credit

Subject to the regulations concerning academic programs and the maximum number of D grades, students retain credits for every course and every half-course successfully completed. Two half-courses count as the equivalent of one full course. Each full course is equivalent to 3.0 academic credits, each half-course is equivalent to 1.5 academic credits. The student's transcript will show each course and half-course attempted and the grade achieved. Withdrawal from the University without academic penalty will be recorded on the student's transcript.

All Calendar references to D grades and D standing refer to all grades in the D range (50-59).

2. Mid-Year Review

At the beginning of the Winter Term, a mid-year progress report summarizing academic performance will be produced for each student. The Academic Adviser and the Senior Tutor of the college

will also receive copies of this report. Although the reports are useful in assessing a student's progress, they do not represent official grades and mid-year marks will not appear on any formal document.

3. Grades

Prior to June 1982, there were five passing grades, and one failing grade:

A = 100-80	C = 69-60
B+ = 79-76	D = 59-50
B = 75-70	F = 49-0

Precise numerical equivalents to the above letter grades appear for the 1982-83 Winter Session only.

Since June 1982, the following grading scheme has been in effect:

A+ = 100-90	C = 66-63
A = 89-85	C- = 62-60
A- = 84-80	D+ = 59-57
B+ = 79-77	D = 56-53
B = 76-73	D- = 52-50
B- = 72-70	F = 49-0
C+ = 69-67	

Numerical equivalents appear on students' transcripts.

4. Dean's Honours List

All students who achieve an average of A- (80%) or better over their most recent five courses will have their names placed on the Dean's Honours List. This list is published as a special issue of *Fortnightly* in the autumn of each year. Graduating students who are eligible for the Dean's Honours List will have that fact noted in the convocation program.

5. Supplemental Examinations

There are no supplemental examinations.

6. Aegrotat Standing and Incomplete Standing

Requests for special consideration because of illness or misfortune should be made as soon as circumstances arise. In all instances, the student should approach the instructor(s), and requests for extensions or special examinations may be granted. In more serious cases the Academic Adviser or Senior Tutor should be consulted. In certain circumstances, students may appeal for Retroactive Withdrawal (see the section on Withdrawal), for Aegrotat or Incomplete Standing. Students are advised that all requests for special consideration must be documented fully by medical certificates or other supporting evidence.

Aegrotat Standing exempts the student from writing the final examination in a course, and is granted on the grounds of physical or emotional disability. Students seeking Aegrotat Standing must consult the appropriate instructor(s). Because Aegrotat Standing depends upon the completion of all required term work throughout the year, it is not appropriate in cases of prolonged illness and is granted only when the student is unable to write the final examination.

Incomplete Standing permits the student to submit any remaining work in a course at a specified date following the end of the academic term. Incomplete Standing will be granted only when a student is unable to complete in the prescribed time the required work in a course for reasons beyond the individual's control, such as illness, physical or emotional disability, or loss or damage to work already done or in progress. Failure by a student to organize the workload will not be considered an adequate reason. Petitions for Incomplete Standing must be made through the academic department concerned and must be accompanied by adequate supporting documentation.

Students with Incomplete Standing from the Fall/Winter Session must have the Incomplete resolved by June 30. Students with Incomplete Standing from the Summer Session must have the Incomplete resolved by September 30.

A student wishing an extension beyond the final deadline must submit a petition to the Committee on Undergraduate Standings and Petitions outlining any compelling or extenuating circumstances that would warrant such an extension. Appropriate supporting documentation including a letter of support from the Department Chair must accompany the petition. In cases where a petition is not submitted by the deadline or the petition is rejected, the mark assigned will be the mark indicated on the Incomplete form or zero if no mark is indicated.

Appeals of University Regulations

1. Appeals of Academic Regulations

Students who believe that academic regulations have imposed undue hardship on them may appeal to the Committee on Undergraduate Standings and Petitions through the Senior Tutor of their college.

2. Appeal of Grades

Appeals of Term Work

A student may appeal the assessment of term assignments and tests during the course of the year. Such appeals should be directed to the course instructor and subsequently, if necessary, to the Chair of the Department or Program.

Appeals of Final Marks

Final marks in individual courses will be reviewed by the Department concerned and submitted to the Registrar's Office, countersigned by the Chair.

Every student has a right to appeal final standing in any course, regardless of the grade. However, in considering such appeals only the final examination will normally be reassessed. In courses where there are no final examinations, an appeal will be based upon a re-assessment of the final written assignment in the course. All appeals should be made in writing to the Registrar's Office before March 19 for an *a* half-course, July 15 for a full-course, a *b* half-course, or a *c* half-course, and September 30 for a course in the Summer Session. *Students who have not received final grades because of outstanding financial obligations to the University are subject to the same deadlines.* A fee of \$25 will be charged for the handling of an appeal, refundable if the mark is raised. **Marks cannot be lowered as a result of such an appeal.**

3. Special Appeals

If, after exhausting all other areas of appeal, students still feel that undue hardship has been worked on them, they may appeal directly to the Special Appeals Committee. Such appeals should be made in writing to the Chair of the Special Appeals Committee. All decisions of the Special Appeals Committee are final and take effect when issued.

Plagiarism

Plagiarism is defined in Trent's Notes on the Preparation of Essays as "passing off someone else's words or thoughts as your own", and Notes continues:

The worst kind of plagiarism, of course is submitting an essay written in whole or in part by someone else. Even a short passage copied directly constitutes plagiarism unless the student encloses the passage in quotation marks and acknowledges his source. But the student who changes only the odd word in someone else's sentences is also (perhaps unwittingly) committing plagiarism, as is one who relies heavily on secondary sources for the argument, organization, and main points of his paper. Even proper paraphrasing of someone else's writing constitutes plagiarism if the facts or ideas thus presented are not commonly known or held in the field.

Although the reference to "an essay" highlights the problem of plagiarism in the arts and social sciences, the main definition's use of "words or thoughts" makes quite clear the broader concern over plagiarism and acknowledges the unhappy fact that lab reports, problem sets, and even computer programs may be subject to plagiarism.

Since plagiarism is theft and fraud combined, and strikes at the very roots of the University by threatening the integrity of its degree, it is obvious that it must be treated as a very serious academic offense and the plagiarist be dealt with accordingly. This is not, of course, to say that every student who inadvertently omits to footnote a brief quotation from a work which s/he has carefully acknowledged in a list of works consulted should be charged with plagiarism. On the contrary, most instructors will certainly continue to judge many such situations as examples of ignorance rather than deceit and will deal with them as they have always done with repeated explanation and with minor penalties (subject to the usual appeal procedures) such as reducing the mark for the assignment or requiring that it be resubmitted.

This policy does not pretend to deal with such cases which should continue to be dealt with at the pedagogical level—between the instructor and the student.

What the Policy does do is to set out the procedures to be followed when an instructor wishes to make a formal accusation of plagiarism against a student, and the penalties which are to be imposed if that accusation proves justified.

Procedures

- a) When an instructor wishes to make a formal accusation of plagiarism s/he shall report the matter to the Departmental Chair, at the same time informing the student of what s/he has done. (Where the instructor involved is the Departmental Chair, then the Chair's role shall be taken by a past Chair or other senior member of the department.)
- b) The Chair shall review the evidence with the instructor and if the Chair agrees that there is a case to be answered s/he shall write to the student, enclosing a copy of this *Policy*, to inform the student that s/he has been formally accused of plagiarism, outlining the evidence on which the accusation is based, and pointing out the penalty which will be imposed in the event of a judgement or guilty, as well as of the fact that, should the student have previously been punished for plagiarism, a further penalty would follow automatically.
The Chair shall offer to meet with and/or to receive a written submission from the student and shall request a reply within two weeks of the date of the letter, failing which the penalty will be imposed.
- c) If the student fails to respond to the Chair's letter or declines to make any defense, and the Chair determines that plagiarism has occurred, s/he shall inform the student in writing and, by copy of the letter the secretary of CUSP, that the penalty of a grade of F (0) in the assignment without the right to repeat the assignment is being imposed.
- d) Upon receipt of the copy of the Chair's letter the secretary of CUSP shall place it in the student's file in the Registrar's Office. The secretary of CUSP shall at the same time consult the student's file and if s/he finds that the student has already been penalized for plagiarism shall report the matter to the next meeting of CUSP for CUSP to impose

the appropriate penalty for a second (or third or fourth) offense.

- e) If CUSP finds that because of previous plagiarism a penalty beyond that imposed by the departmental Chair is required they shall impose it, informing the student in writing of the additional penalty which is being imposed, and of the consequences which will result from any further plagiarism. If CUSP finds that no additional penalty beyond that imposed by the Departmental Chair is warranted they shall nevertheless inform the student in writing of the fact that the copy of the Chair's letter has been received and included in the student's file, and shall inform the student of the consequences which will result from any further plagiarism.

Appeals

Any student accused and judged guilty of plagiarism may appeal the judgement and the penalty imposed. Appeals against the judgement of a departmental Chair shall be to CUSP and against the judgement and penalty imposed by CUSP, to the Special Appeals Committee whose decision shall be final.

Penalties

- i) For a first case of plagiarism the penalty shall be a grade of F(0) in the assignment concerned without the right to repeat the assignment.
- ii) For any case of plagiarism committed after the student has already received the penalty outlined in (i) above, the normal penalty shall be a grade of F(0) in the course concerned. (Being assigned as a *penalty* the grade of F(0) will be entered on the student's transcript whether or not the student has since withdrawn or subsequently withdraws from the course.)
- iii) For any case of plagiarism committed after the student has already received the penalty outlined in (ii) above, the normal penalty shall be a grade of F(0) in the course concerned and rustication from the University for a minimum period of one year from the end of the academic session in which the offense occurred.
- iv) For any case of plagiarism committed after the student has already received the penalty outlined in (iii) above the normal penalty shall be a grade of F(0) in the course concerned and immediate debarment from the University.

Publication of Policy

All course syllabuses should contain the following statement:

Plagiarism: Plagiarism is an extremely serious academic offense and carries penalties varying from failure in an assignment to debarment from the University.

Uniformity of Policy

This present *Policy on Plagiarism* as approved by Senate at its meeting of March 22, 1988 supersedes all previous University policies on plagiarism and all policies on plagiarism previously established by any department or program of the University or by any individual instructor.

Passed by Senate March 22, 1988

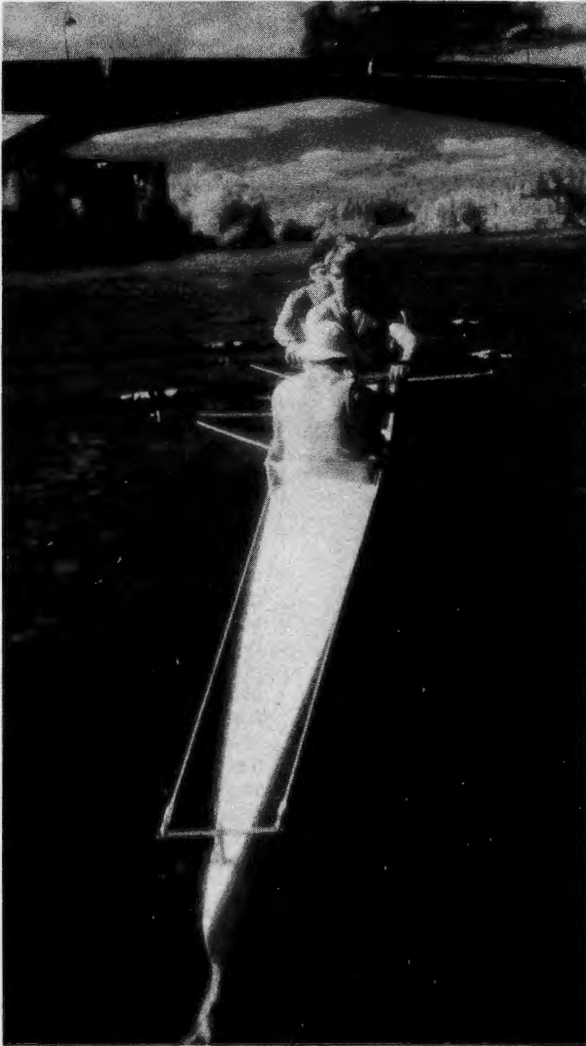
Academic Penalties

Three academic penalties may be imposed upon a student as a result of weak academic performance:

- (a) **Probation** may be imposed either as a condition of admission to the University or after unsatisfactory performance. Probation is a warning of a poor academic situation which, if not corrected, can lead to a more serious penalty.
- (b) **Rustication**, a minimum of one year's absence from the University may be imposed with or without a period of probationary status.
- (c) **Debarment**, a minimum of three year's absence from the University, will normally occur as a result of a weak academic performance subsequent to the imposition of rustication.

Assessment Average

In determining a student's academic status, an assessment average will be employed. This assessment average is defined as the mean grade earned in a minimum of three full courses (or equivalent) taken either concurrently, or consecutively. All courses completed during one such period will be counted in determining the assessment average. The Committee on Undergraduate Standings and Petitions may reconsider and alter the implications of an assessment average which is unduly affected by extremes in course grades.



In evaluating the assessment average, the following criteria will normally be employed:

- (a) students with a minimum average of 60% will be *eligible to proceed*;
- (b) students with an average of 50% to 59.9% will be *placed on probation*;
- (c) students with an average of less than 50% will be *rusticated*.

Students on Probation

Students may not proceed on probation for a second assessment period. In the case of a student on probation, an assess-

ment average of 60% or better will clear the student's probation, and the student will be eligible to proceed. Students on probation failing to maintain an average of 60% will be rusticated.

A student returning must apply for re-admission to the University. If readmitted, the individual will be placed on probation. If such a student fails to achieve 60% upon the next assessment, the penalty will be debarment. An assessment average of 60% or more will clear the probation and the student will be eligible to proceed.

Academic Degree Programs

Honours Program

Trent University encourages students to plan programs leading to single-major or joint-major Honours degrees.

The Honours degree provides a broad education with specialization in one or two disciplines (single- or joint-major). It is the basic qualification for entry to graduate programs and generally enhances employment opportunity upon graduation.

The University offers the following Honours degree programs:

- Bachelor of Administrative Studies (Honours)
- Bachelor of Arts (Honours)
- Bachelor of Science (Honours)

Students seeking the Bachelor of Administrative Studies degree are normally admitted at the beginning of their first quarter of study. Students seeking the Bachelor of Arts (Honours) or Bachelor of Science (Honours) who have completed four or more full courses must indicate their intent to enter or continue in the Honours program at each registration period. No formal application is required for the Bachelor of Arts (Honours) program or the Bachelor of Science (Honours) program. Students are encouraged to contact the appropriate department(s) for further information on planning individual Honours programs.

Students with a General degree, who wish to complete an Honours degree program, should apply for re-admission to the University indicating their intent to pursue an Honours degree on the Application for Re-Admission.

1. Academic Standings Required for Entry or Continuation in the Honours Program (B.A. and B.Sc.)

All references to courses relate to full course equivalents.

- At any registration period, a minimum cumulative average of 65% on courses completed for credit is required, either to enter or continue in an Honours program. Normally, only those students who have achieved the minimum cumulative average required for the Honours

program will be allowed to register in *four-hundred* series courses.

- Any student who has completed more than six courses for which credit was not granted (NCR) is ineligible to enter or continue in an Honours program.

In order to facilitate student planning, at the end of every academic session, the Registrar's Office calculates the cumulative average for all students who have completed at least four courses. The cumulative average is printed on each student's Grade Report.

Academic Standings Required for an Honours Degree

An Honours degree is awarded upon the successful completion of 19, 19.5 or 20 courses as necessary to meet the requirements of the major- or joint-major subject to the qualifications below:

- no more than seven *one-hundred* level courses may be counted;
- at least three courses must lead to majors in different disciplines;
- at least four distinct disciplines must be included in the student's degree program;
- at least seven courses at the *three-hundred* and *four-hundred* levels (combined) must be included;
- a minimum grade of 60% in the specified introductory course is required in order to major in a given discipline;
- at least nine courses in the major discipline are required in a single-major program. Students in the Bachelor of Administrative Studies program should refer to Administrative Studies under the Programs of Study section of the Calendar for specific requirements;
- at least seven courses are required in each discipline of a joint-major program;
- no more than twelve courses of a nineteen course degree, or thirteen courses of a twenty course degree, may be in any one discipline;
- specific additional major requirements are listed by academic department in the Programs of Study section of this Calendar;
- no more than three D grades may be counted toward the Honours degree;
- only one course with a D standing may be counted for credit in a student's major. One D grade may be counted

in each discipline of a joint-major program;

- a course may be repeated for credit only once, and then only if the grade on the preceding attempt was below 60%;
- a minimum cumulative average of 65% on all courses completed for credit is required;
- no more than six courses for which credit was not granted (NCR) are permitted.

Students who do not meet the final two requirements will be awarded a General degree, providing all requirements for the General degree have been met.

2. Bachelor of Science (Honours)

In order to receive a B.Sc. degree, a student must have completed either a Grade 13/OAC course (or equivalent) in Mathematics or a university-level Mathematics course.

Students will automatically qualify for a Bachelor of Science (Honours) degree on completion of one of the following programs of study:

- a single-major Honours program in Biology, Chemistry, Environmental and Resource Studies (B.Sc. option) Mathematics, Physics, or Psychology (thesis-based option);
- a joint-major in any two of Anthropology, Biology, Chemistry, Computer Studies, Economics, Environmental and Resource Studies (B.Sc. option), Geography, Mathematics, Physics or Psychology (thesis-based option).

Students may petition to receive a B.Sc. (Honours) degree on completion of the following programs of study:

- a single-major in Anthropology, Economics, Geography or Psychology (course-based option);
- a joint-major in Biology, Chemistry, Environmental and Resource Science (B.Sc. option), Mathematics, Physics or Psychology (either thesis- or course-based option) and in another discipline not listed in this section
- in each case, the student's program must include at least fourteen courses from the disciplines listed in this section
- the student will require the support of the department(s) concerned.

The petition will be made on the Application for Graduation and will be reviewed by the Committee on Under-

graduate Standings and Petitions.

Students who complete successfully a joint-major Honours program in *one* of Anthropology, Computer Studies, Economics, or Geography and in another discipline not listed in this section will normally receive a Bachelor of Arts (Honours) degree.

3. Bachelor of Administrative Studies (Honours)

- Students seeking the B.A.S. degree are normally admitted to the Program at the beginning of the First Quarter. Later admission is possible upon application. Applications by students from other programs or by transfer students from other universities will be considered on their individual merits. Upon admission, these students will be assisted by the Director of the Program in developing an appropriate course of study. Admission is not permitted after the completion of more than 17 courses if taking further courses is necessary to attain the required minimum average.
- Successful completion of Grade 12 advanced Mathematics or the equivalent is required for admission.
- To remain in the Program a cumulative average of 70% in Administrative courses must be maintained. Students who are unable to maintain this average must transfer to a B.A. or B.Sc. program in another discipline.
- To complete the Program successfully, students will be required to obtain twenty full-course credits or their equivalents with a 70% average in the courses required by the program.
- Upon successful completion of the Third Quarter, students who have met the requirements for a single-major General degree in Economics may convocate with that degree. Students who exercise this option should apply for re-admission to the University indicating their intent to pursue a Bachelor of Administrative Studies (Honours) degree on the Application for Re-Admission. Students should note that the B.A. must be returned before the B.A.S. can be awarded. In other words, the same work can be presented for obtaining one degree only.
- It is not possible to combine Administrative Studies with any other discipline in a joint-major program.

General Degree Program

1. Academic Standings Required for a General Degree

A General degree is awarded upon the successful completion of fifteen full courses (or equivalent) subject to the qualifications below:

- no more than seven *one-hundred* level courses may be counted for credit;
- at least three courses must lead to majors in different disciplines;
- at least four distinct disciplines must be included in the student's degree program;
- at least four courses at the *three-hundred* level must be included;
- a minimum grade of 60% in the specified introductory course is required in order to major in a given discipline;
- at least six courses in the major discipline are required in a single-major program;
- at least five courses are required in each discipline of a joint-major program;
- no more than eight courses in any one discipline may be counted for credit in a single-major program;
- no more than twelve courses in the two disciplines combined may be counted for credit in a joint-major program. No department can require a student to take more than six courses in that discipline;
- specific additional major requirements are listed by academic department in the Programs of Study section of this Calendar;
- a student must obtain a minimum of 60% in at least twelve courses;
- a student must obtain a minimum of 60% in at least seven *two-hundred* or *three-hundred* level courses;
- no more than three D grades may be counted toward the General degree;
- only one course with a D standing may be counted for credit in a student's major. One D grade may be counted in each discipline of a joint-major program;
- a course may be repeated for credit only once, and then only if the grade on the preceding attempt was below 60%.

2. Bachelor of Science (General)

In order to receive a B.Sc. degree, a student must have completed either a Grade 13/OAC course (or equivalent)

in Mathematics, or a university-level Mathematics course.

Students will automatically qualify for a Bachelor of Science (General) degree on completion of one of the following programs of study:

- a single-major in Biology, Chemistry, Environmental and Resource Studies (B.Sc. option), Mathematics, or Physics;
- a joint-major in any two of Anthropology, Biology, Chemistry, Computer Studies, Economics, Environmental and Resource Studies (B.Sc. option) Geography, Mathematics, Physics or Psychology.

Students may petition to receive a B.Sc. (General) degree on completion of one of the following programs of study:

- a single-major in Anthropology, Economics, Environmental and Resource Studies (B.A. option), Geography or Psychology;
- in each case, the student's program must include at least eleven courses from the disciplines listed in the Bachelor of Science (General) section.

The petition will be made on the Application for Graduation form and will be reviewed by the Committee on Undergraduate Standings and Petitions.

Students who complete a joint-major in one of Biology, Chemistry, Computer Studies, Environmental and Resource Studies (B.Sc. option), Mathematics or Physics, and in another discipline not listed in this section will normally receive a Bachelor of Arts (General) degree.

Special Emphasis Program

The Special Emphasis option exists in both the Honours and General programs in order to accommodate students whose academic needs cannot be met by majors in any of the existing disciplines. While the Special Emphasis Program allows considerable scope for students to define their own program, each student must provide an integrating rationale or theme by which the choice of courses may be justified. Examples of such integrating themes have been studies in religion and medieval studies.

An application will not normally be approved which seems to be simply a

major or joint-major without one or two of the courses required by the departments or programs concerned. Nor will an application be approved which is simply a collection of courses without a unifying theme.

Students wishing to pursue a Special Emphasis Program should consult the Senior Tutor of the college early in their program. The Senior Tutor will advise the student in drawing up a proposal, in obtaining the approval of the academic departments concerned, and in ensuring that the program will meet University degree requirements.

Special Emphasis programs are approved and monitored by the Committee on Undergraduate Standings and Petitions. Application to this Committee is made through the Senior Tutor. Once a program is approved, changes in course selection can be made only by petition to the Committee.

Students should submit applications for the Special Emphasis Program on completion of the First Quarter for both Honours and General programs. The student's proposal should outline the integrating rationale of the program and identify the remaining courses required for the degree in question. In exceptional cases only will the Committee consider applications for the Special Emphasis Honours program from students with ten courses completed. In such instances, the second year courses already completed must be consistent with the rationale behind the program.

Students should note that after enrolment in the program only two D grades among the ten final courses may be counted for credit for both the Honours and General degree. No more than three D grades may be counted for credit overall.

Students considering an Honours Special Emphasis Program must prepare a statement of the work which they intend to carry out upon entry to the program at the end of the First Quarter of study. At least two of the final four or five courses must be at the *four-hundred* level. Following consultation with the Senior Tutor, the statement should be submitted to the Committee on Undergraduate Standings and Petitions. The proposal must be approved by the Chairs of all the departments and programs involved prior to its presentation to the Committee. Students must also meet the University requirements for entry and continuation in an

Honours program. The Committee on Undergraduate Standings and Petitions will make the recommendation to Senate for the awarding, deferring, or withholding of the Honours degree.

Special Emphasis — International Studies

A Special Emphasis Program in International Studies is available as an interdisciplinary Honours degree to meet the needs of students whose interests cannot be accommodated within a major in a particular department or program. Students must provide a rationale for their course choices.

Students interested in International Studies should write to the Director of the Trent International Program for information and guidance in selecting their courses. Applications for entry into Special Emphasis, International Studies, are to be made by November 30th to the International Studies Advisory Committee. The Committee advises the student in drawing up the proposal, obtains departmental approval for courses where required, and ensures that the program meets University degree requirements. The Advisory Committee makes recommendations for program approval to the Committee on Undergraduate Standings and Petitions (CUSP).

Students participating in this program are required to participate in a work/study abroad program during their studies at Trent (see International Program).

International Program

The Trent International Program offers an unusual opportunity for students from many countries to live and study together in an international community. Students in the program, many of whom are interested in pursuing international careers, are committed to deepening their understanding of world issues, to increasing their sensitivity to different cultures, and, in the long term, to promoting international learning and understanding. This year there are 500 students in the program, representing 70 countries and most Canadian provinces.

Students who enrol in the program have a normal choice of course offerings at

Trent: they may major in any field they choose. An International Studies academic program is available to students whose international interests cannot be accommodated within a major in a particular department or program (See Special Emphasis, International Studies). Once a week, TIP students gather together to explore international issues in a World Affairs Colloquium. The program also organizes many social, education and cultural events.

International Opportunities

Students are encouraged to spend one year of their undergraduate program in a foreign country, either as an exchange student or through one of the many Trent's Year Abroad Programs.

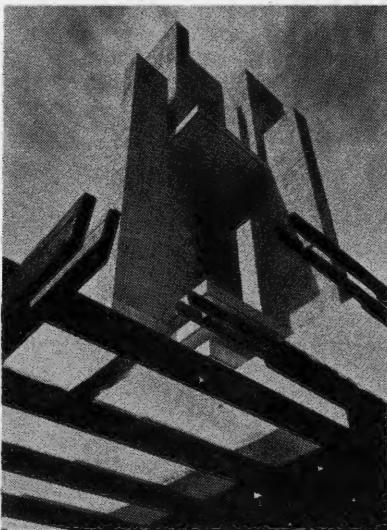
Trent has cooperative and exchange agreements with various universities and higher education institutions all over the world.

To make application

1. The regular application procedure for entry into the University is to be followed.
2. Students must write a letter to the Director, International Program, explaining why they wish to take part in the program.

Scholarships

The University will actively apply itself to the task of financing scholarships and bursaries in the hope of providing some help to outstanding and needy students.



Convocation and Transcripts

Students who intend to graduate must complete an Application for Degree/Diploma Assessment form by the deadlines listed in the University Diary. Only those students completing the application by the published deadline will be considered for evaluation of eligibility to convocate. Students missing the deadline will not be considered and must apply again for any subsequent convocation. In addition to academic qualifications, students must have cleared all financial obligations to the University.

Students who anticipate completing their degree/diploma requirements at the end of Summer Session should also complete the application in order to be reviewed for eligibility. A notation as to the degree/diploma completed will appear on the transcript once eligibility has been confirmed by Senate. Students who have applied and are eligible to graduate may participate in the Convocation ceremonies in the spring of the following year and will receive their degree or diploma at that time.

Students with Incomplete Standing in certain courses or on Letters of Permission which have been duly approved should refer to the University Diary for the final date for receipt of such grades for spring and fall eligibility. Students whose final grades have not been received by the published final submission date will be required to delay their convocation and/or will not have the degree or diploma noted on their transcript.

Official copies of a student's academic transcript are transmitted by the Registrar's Office directly to other institutions only at the *student's written request*. Transcript charges are \$4.00 for the first copy and \$3.50 for each additional copy. *Payment of the fee is required in advance of the release of the transcript.* Grade Reports are provided free of charge to the student upon completion of each session. *However, neither transcripts nor Grade Reports will be released for students having a financial obligation to the University.*

Part-time Studies

(See Julian Blackburn College)

Programs of Study

Explanation of Course Identification

Courses are identified by three digits. Generally, the first digit indicates the year in which the course is normally taken, and the second digit usually indicates an area of study within a discipline. Half courses are indicated by the suffix *a*, *b*, or *c*; indicating courses taught in the fall term, winter term, or throughout the year respectively. Half-courses equal one and one-half credits. Full courses equal three credits. Any two half courses equal one full course for credit purposes.

Animal Care Course

This course deals with the ethical principles, legal aspects and practical considerations regarding animal research. There are no prerequisites and the course is not credited towards a degree. The course is mandatory for all students whose work involves handling and experimentation with live vertebrate animals. The course will be offered only once in the academic year at the beginning of the Fall Term. For details of when the course will be offered, contact the secretary of Biology, Chemistry, Environmental and Resource Studies or Psychology.

Administrative Studies

Associate Professor and Director of the Program

D. Torgerson, B.A. (CALIFORNIA-BERKELEY), M.E.S. (YORK), M.A., PH.D. (TORONTO)

Professor

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

Associate Professors

B. Ahlstrand, B.A. (TORONTO), M.Sc. (L.S.E.), D.Phil. (OXFORD); K.L. Campbell, B.A. (TRENT), M.B.A. (TORONTO); D. Newhouse, B.Sc., M.B.A. (WESTERN ONTARIO)

Conjunct Associate Professor

R. Blackmore, B.Sc. (BIRMINGHAM), M.B.A. (WESTERN ONTARIO), C.A.

Assistant Professors

J. Bishop, B.A. (NEW BRUNSWICK), M.A., M.B.A. (MCMASTER), Ph.D. (EDINBURGH); M. Quaid, B.A. (MCGILL), M.Sc. (L.S.E.),

D.Phil. (OXFORD)

Adjunct Faculty

R. Beninger, B.A. (TRENT), LL.B. (OTTAWA), LL.M. (LONDON); I. Henniger, M.A. (MCGILL); R. Taylor, B.A. (TRENT), LL.B. (QUEEN'S)

Associated Faculty

Computer Studies, J.W. Jury; *Economics*, M. Arvin, D. Curtis, H. Kitchen, J. Muldoon, K.S. Murthy; *History*, B. Hodgins, D. McCalla, *Mathematics*, E.A. Maxwell; *Political Studies*, M. Gunther, V. Lyon, R. Paehlke, J. Wearing; *Sociology*, P. Bandyopadhyay, C. Huxley; *Vanier Professor*, T.H.B. Symons.

Administrative Studies is a four-year (twenty course credits) Honours Program leading to the degree of Bachelor of Administrative Studies (B.A.S.). This Program is intended for students with an interest in careers in management in the public and private sectors.

The objective of the Administrative Studies Program is to provide students with a generalist rather than a specialist program of study. The administration courses are designed to expose the student to the various administrative techniques (accounting, marketing, management science, computer science, commercial law, etc.) while the policy courses are concerned with strategic decisions affecting the long-range directions of organizations in business and government.

Students entering the B.A.S. degree program in first year must have completed Grade 12 mathematics at the 5th level or its equivalent with a good standing.

To remain in the B.A.S. degree program, a cumulative average of B- (70%) in courses completed (excluding electives) must be maintained. Students who are unable to maintain a B- average may transfer to a B.A. or B.Sc. program in another discipline, provided they can make up any degree requirements for a major. Students who have completed fifteen courses but are academically ineligible to enter the fourth year of the B.A.S. degree program may consult with the Director of the Program concerning special consideration for the completion of a degree outside the Administrative Studies Program.

Students entering the fourth year must indicate their course choices to the Director before registering, preferably by May 1 of the previous academic year.

Required Courses**Year I**

Administration 105, Economics 101a or b and Economics 102a or b, one of Politics 100, Sociology 100 or 110; and two electives (at least one first year course from History, Philosophy, English, or Modern Languages is recommended). Mathematics 100 is required of students who have not passed Grade 13 calculus or an equivalent course in calculus. Upper year core courses are not open to first year students.

Year II

Administration 201a and 202b, Administration 250, Economics 225a and 220b, one course in either Policy or Administration (or either Economics 200 or Economics 201), and one elective.

Year III

Administration 350, a further course in Administration, one Policy course, one additional course in either Policy or Administration, and one elective.

Year IV

Administration 400, Administration 410, one Policy course, one additional course in either Administration or Policy, and one elective.

Administration Courses**Administration 105**

Introduction to managerial communications. The course examines the theory and practice of communications in an organizational context with particular emphasis on written communications. The lectures and workshops stress a strategic approach to management communications in order to enhance the effectiveness of professional writing and the understanding of organization situations. Enrolment normally limited to Administrative Studies students.

I. Chapman and staff

Administration-Native Studies 190

Introduction to management and management decision-making in contemporary aboriginal organizations. The course examines the basic tasks, responsibilities, and practises of management in aboriginal organizations and by aboriginal managers.

Staff

Economics 101a or b

Introductory microeconomic analysis. (See Economics)

Economics 102a or b

Introductory macroeconomic analysis. (See Economics)

Administration 201a

Fundamentals of financial accounting. An introduction to the basic concepts and principles underlying financial accounting and to the practices followed in the preparation of financial records and statements required for public reporting. Problems related to different types of business and to the various legal forms of business are considered. *Enrolment limited to 70, but guaranteed to students formally registered in the B.A. S. degree program. Not open to first-year students.*
D. Newhouse

Administration 202b

Fundamentals of management accounting. An introduction to the basic concepts and procedures used in the collection and manipulation of accounting data for on-going management decision-making. Topics include: manufacturing accounting; cost accounting and variance analysis; cost allocation; cost-volume-profit analysis; introduction to budgeting. *Prerequisite: Administration 201a. Excludes previous Administration 305b.*
Staff

Administration-Native Studies 206b

Management control and guidance systems in contemporary aboriginal organizations. This course provides a thorough discussion and examination of the principles, concepts and practices of management control and their use in contemporary aboriginal organizations. The main focus is upon building a framework to approach the design, implementation, operation and change of a control and guidance system.
D. Newhouse

Administration 222a

Organizational behaviour. A conceptual and methodological analysis of how individuals react to their employment environment. Topics include motivation, job satisfaction, leadership, group dynamics and decision-making, personnel selection and training, conditions of work, and the effects of technological change. *Co-requisite: Administration 250, or any full (or equivalent) two-hundred series Psychology course, or permission of the instructor. (Excludes Administration 322a).*

M. Quaid

Administration 250

Organization theory. An introduction to organizational theory and an examination of specific organizations. Structure, process, environment, and other aspects

of organizations are approached through multiple-frame analysis. Prerequisite: One of *Politics 100*, *Sociology 100* or *Sociology 110*.
B. Ahlstrand

Computer Studies 202a
Intermediate computer science.
(See Computer Studies)

Computer Studies 203b
Data structures and processing.
(See Computer Studies)

Computer Studies-Mathematics 241a
Computational algebra with applications.
Prerequisite: *Mathematics 110* or *130*.
(See Mathematics)

Computer Studies 300a
Information management and data base design. Prerequisite: *Computer Studies 203b*. (See Computer Studies)

Economics 225a
Introduction to mathematical economics.
(See Economics)

Economics 220b
Introduction to econometrics.
(See Economics)

Administration-Native Studies 270
Organizational behaviour in contemporary aboriginal organizations. This course provides a basic grounding in the general issues involved in managing people in organizations and in the particular issues confronting managers of contemporary aboriginal organizations. The major concern of the course is to develop an understanding of the basic dynamics of human behaviour in organizations and their implications for managerial decisions and actions. Prerequisite: *Administration 190*.
Staff

Administration 300
Financial accounting. (Not offered 1993-94)

Administration 310a
Introduction to marketing (Part 1). This course examines the nature of the marketplace, and introduces basic strategy for adapting a marketing mix to the external environment. Students are invited to create independent projects. The development of ideas through interactive learning is encouraged. Prerequisite: *Administration 201a/202b*.
J. Bishop

Administration 315b
Introduction to marketing (Part 11): Promotion. This course, a continuation of

Administration 310a, focuses on advertising and the media as well as marketing research and strategy. Students are invited to create independent projects and to present their findings. Prerequisite: *Administration 310a*.
J. Bishop

Administration 320a
Financial management. A systematic survey of the fundamental concepts of financial management including: the tax environment, ratio analysis, financial planning and control, inventory models, cash and marketable securities management, capital budgeting, the market for long term securities, debt and preferred shares, valuation and rates of return, the cost of capital, international business finance. Attention will be given to applying these concepts to particular cases. Prerequisites: *Economics 101a* or *b* and *Economics 102a* or *b*, *Administration 201a* or *Administration 293a* (or other accounting deemed sufficient by the instructor).
J. Bishop

Administration 324a
An introduction to law. (Not offered 1993-94, but offered in Summer 1993.)

Administration 325a
The legal environment of management. The course will direct itself to the legal limits within which management operates and the laws with which business decision-making must comply. The use of law for protection of the competitive market place, of the consumer and of the businessman will be reviewed and explained through the primary sources of law: cases and statutes. Prerequisite: *Administration 250*, or permission of the instructor. May be subject to course enrolment limitation. (Also offered in Summer 1993.)
Staff

Administration-Sociology 333a
Social organization and bureaucracy. An overview of different approaches to the analysis of complex organizations including classical theories of bureaucracy, the managerial tradition and perspectives drawn from contemporary sociology. Selected case studies are examined with special emphasis on the analysis of the modern business enterprise. Prerequisite: *Sociology 100* or *110*, or *Administration 250* or permission of the instructor. Lecture, seminar weekly.
Staff

Administration 340

Entrepreneurship and small business. Students learn about the challenges facing a small business within the Canadian social, economic, political and regulatory environments. Prerequisites: *Third- or fourth-year standing in B.A.S. degree program and Administration 310a/315b* (the latter may be taken concurrently).
K. Campbell

Administration 341b

Communications in organizations. Theory of organizational communications. Strategies and skills applicable to communications in an organizational setting—interviews, group meetings and presentations. One lecture and one two-hour practice lab weekly. Prerequisite: *Administration 105 and Administration 222a or 322a or permission of the instructor.*

I. Chapman

Administration 350

Managerial planning and control. The processes and problems of planning and control with particular attention to budgeting. The course will focus critically on traditional and innovative budget procedures for organizations in both the private and the public sectors. Emphasis will be placed on the vital role of the budget process in management. Prerequisite: *Administration 201a/202b and Administration 250.*
K. Campbell

Economics 350a

Economics of trade unions.
(See Economics)

Economics 351b

Labour economics. (See Economics)

Administration 397b

Special topic: Human resource management. A survey of the concepts and practices in the major functions of human resource management. Topics include human resource forecasting, recruitment, selection, human rights, training and development, performance appraisal and compensation. Prerequisite: *Administration 222a or 322a or permission of the instructor. Open to students with second-year standing.*

M. Quaid

Administration 400

Strategic management. The course focuses on the definition and analysis of strategic problems faced by business and govern-

ment organizations in adapting to changes in their internal and external environments. Students will be expected to draw broadly on knowledge and skills developed over their first three years. *Restricted to students with fourth-year standing in the B.A. S. degree program.*
B. Ahlstrand and staff

Administration 410

Management thought. The course will focus on leading ideas and figures in the development of management thought, particularly through a close reading of some of the 'classics' in the field. Emphasis will be placed on developing individual student skills and on examining in depth selected topics. Prerequisite: *Fourth-year standing in the B.A.S. degree program or permission of the instructor.*
D. Torgerson

Administration 420

Professional ethics. A seminar on the ethical issues of professional life, especially as encountered in business and government. The primary purpose of the course is to promote an understanding of professional ethics which enlarges the capacity for careful reflection on moral problems. The course will proceed through an identification of concrete moral problems to an application of ethical concepts and a clarification of issues. Students are expected to play a large part in designing their projects. Prerequisite: *Fourth-year standing in the B.A.S. degree program; or third-year standing with permission of the instructor.*
J. Bishop

Administration 490

Reading course. By individual arrangement, normally by May 1 of the preceding academic year. Prerequisite: *Permission of the instructor.*

Administration 495

Special topics. For 1993-94 the following courses will be offered.

Administration 4951

Special topic. Organizational change. This course will examine organizational change, particularly as a response to changing organizational environments. The course will address three main questions. Why do organizations change? How do they manage change? What constitutes successful change? Combining theory with practical cases from both private and public sectors, the course will throughout consider 'organizations

as culture' in order to demonstrate the depth and complexity of the change process. Prerequisite: Fourth-year standing in the B.A.S. program or permission of the instructors.

I. Chapman and D. Newhouse

Administration 4952

Special topic. Current issues in human resource management. Canada is experiencing dramatic changes in the composition of its workforce. The new workforce will include more women visible minorities, aboriginals, disabled and the aged. This course addresses some of the workplace problems and opportunities that arise from the demographic reality of the 1990s and beyond. The course will also examine the human resource implications of conducting business on an international basis. As business becomes more global, Canadians will increasingly work with others from different countries, cultures, ethnic groups and races. Prerequisite: *Administration 222a* or *Administration 322a* or permission of the instructor.

M. Quaid

Administration 499

Research project. Research based on a project developed with a local organization. Details must normally be arranged with the Director by May 1 of the preceding academic year.

Policy Courses (see Calendar description in the respective departments or programs). Students are advised to check prerequisites and the pertinent department regulations for courses in planning their academic programs.

Canadian Studies-E.R.S. 310: Public policy and the Canadian environment
Canadian Studies 370: (Not offered this year.)

Canadian Studies-Cultural Studies 413: Cultural policy in Canada
Comparative Development-Economics 330: Economics of developing countries

Comparative Development 400:

Modernity and development

Comparative Development 450: Problems of underdevelopment

Economics-Canadian Studies 260a:

Canadian economic growth and development I: up to 1929

Economics-Canadian Studies 261b:

Canadian economic growth and development II: after 1929

Economics 301a: Monetary theory
(Not offered this year)

Economics 302b: Monetary institutions and policy (Not offered this year)

Economics 311a: International trade

Economics 312b: International finance

Economics 316a: Government expenditure analysis

Economics 317b: Canadian tax policy

Economics 341a/b: Industrial organization
(Not offered this year)

Economics 350b: Economics of trade unions

Economics 351b: Labour economics

Economics 360a:

Economics 361: An economic history of the Industrial Revolution

Economics-Canadian Studies 384b:

Health economics

Environmental and Resource Studies 306:

Environmental impact assessment

Environmental and Resource Studies 307:

Risk assessment

Geography-Canadian Studies 371b:

Urban planning

Geography 380b: (Not offered this year)

History-Canadian Studies 235: History of Canada since 1914

History-Canadian Studies-Politics 301:

Canadian federalism

History-Canadian Studies 308: Business history

Native Studies 200: Politics and native communities

Native Studies 260: Social service and native people

Native Studies 290: Native economic development

Native Studies-Comparative Development

305: Native community development

Native Studies 320: Urbanization and the native people

Native Studies 330: Education and the native people

Native Studies 340: Native law

Native Studies 381a: Theory of community-based research and planning

Native Studies 385b: Program planning and evaluation

Philosophy 232: Philosophy of law, justice and the state (Not offered this year)

Politics-Canadian Studies 201: Canadian politics

Politics 220: International politics

Politics 260: An introduction to political analysis and public policy

Politics-Canadian Studies 309: Ontario politics

Politics 320: Conflict and co-operation in international relations

Politics 321: (Not offered this year)

Politics-Canadian Studies 362: Public policy and administration in Canada

Politics 420: Contemporary problems in international politics
Politics-ERS 460: (Not offered this year)
Sociology 230: Self and society
Sociology-Comparative Development 280: (Not offered this year)
Sociology 334a: Industrial sociology
Sociology-Canadian Studies 340:
 Sociology of education
Sociology-Women's Studies 342:
 Women, men and society
Sociology 366: (Not offered this year)
Sociology 480: Comparative social analysis

Anthropology

Chair of the Department
 To be named

Professors Emeriti

K.E. Kidd, M.A. (TORONTO), LL.D. (TRENT), F.R.A.I.; K.A. Tracey, B.Sc. (HOWARD), DSC. (KIEL)

Professors

R.S. Hagman, B.A., PH.D. (COLUMBIA); P.F. Healy, B.A. (CALIFORNIA-BERKELEY), M.A., PH.D. (HARVARD); H.W. Helmuth, D.Sc., DR.HABIL. (KIEL); L.J. Hubbell, M.A., PH.D. (CALIFORNIA-BERKELEY); J.K. So, M.S., PH.D. (SUNY, BUFFALO); E.M. Todd, B.A. (TORONTO), PH.D. (NORTH CAROLINA); J.R. Topic, M.A., PH.D. (HARVARD) (on leave); T.L. Topic, M.A., PH.D. (HARVARD) (on leave Winter term); J.M. Vastokas, M.A. (TORONTO), PH.D. (COLUMBIA)

Associate Professors

S.M. Jamieson, M.A. (MANITOBA), PH.D. (WASHINGTON STATE); R.D. Powell, LIC. EN HISTORIA (CORDOBA), PH.D. (MCGILL); M.J. Tamplin, B.A. (TORONTO), M.A. (LONDON), PH.D. (ARIZONA) (on leave Winter Term); R.K. Vastokas, M.A. (TORONTO), PH.D. (COLUMBIA); B.W. von Graeve, M.A., PH.D. (TORONTO)

Assistant Professors

O. Roesch, M.A. (MCMASTER), PH.D. (TORONTO) (on leave); J. Solway, B.A. (OAKLAND), M.A., PH.D. (TORONTO)

Conjunct Professor

P.L. Storck, PH.D. (WISCONSIN); D. Pendergast, PH.D. (CALIFORNIA-BERKELEY)

Post Doctoral Fellow

G. Graffam, M.A., PH.D. (TORONTO)

Research Associate

K. Cassavoy, M.A. (TEXAS A&M)

Required Courses

The single-major Honours program consists of twenty courses. Minimum nine courses in Anthropology, including
Anthropology 100
 200
 212
 230
 240
 420

and two other four-hundred series courses in Anthropology.

Joint-major Honours program. Minimum seven courses in Anthropology, including
Anthropology 100

200 and
 one of 212, 230, 240

and two other four-hundred series courses in Anthropology.

Single-major General program. Minimum six courses in Anthropology, including
Anthropology 100

200 and
 two of 212, 230, 240

Joint-major General program. Minimum five courses in Anthropology including
Anthropology 100 and
 two of 200, 212, 230, 240

Note: In order to be eligible to graduate with a B.Sc. degree, a student must have completed a Grade 13/Ontario Academic courses in Mathematics, or equivalent, or a university level Mathematics course.

Special Provisos

- Anthropology Honours students who joint-major in a Department or program which offers a 19-course Honours degree must include at least 19-1/2 courses in their overall program.
- Students who have taken all four of *Anthropology 200, 212, 230, and 240* may recognize one of these courses as equivalent to a three-hundred series course.
- Students undertaking a single- or joint-major Honours program should consult the Chair of the Anthropology Department for advice in preparing their programs of study.
- Students with a joint-major in Anthropology and Comparative Development Studies should consult the requirements listed under Comparative Development Studies. Such students may substitute *Anthropology 221* for

Anthropology 212, 230, or 240 in their required Anthropology program.

- Students are limited to no more than one full reading course in Anthropology or its equivalent, for the General degree and one additional full reading course in Anthropology, or its equivalent, for the Honours degree. Only students who have a B (73%) average will be allowed to enroll in reading courses.
- 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.

Anthropology 100

Introductory anthropology. Understanding and explaining humanity in all its variety. An interdisciplinary, comparative study of the people and their cultures throughout the world (cultural anthropology), of human evolution, adaptation, and genetics (physical anthropology), the recovery and development of prehistoric societies (archaeology), and language as an aspect of culture (linguistics). Two-hour lecture weekly, optional film hour weekly, and fortnightly tutorial.

J. So, T. Topic, L. Hubbell, E. Todd

Anthropology 200

Cultural anthropology. Cross-cultural analysis of religion, gender, economics, change, political and social organization, etc. Ethnography, theory, and method. Prerequisite: *Anthropology 100* or *Sociology 100* or permission of the instructor. Two-hour lecture weekly, seminar fortnightly.

L. Hubbell and staff

Anthropology-Native Studies 201

Native societies of Canada. Traditional societies in several areas of Canada, as well as factors leading to socio-cultural change. Lecture, seminar weekly. Prerequisite: *Anthropology 100*, *Native Studies 100* or permission of instructor. Staff

Anthropology 211

Field methods and techniques in archaeology. An introduction to the recovery, analysis, and interpretation of archaeological evidence in a field situation. Occasional summers only; confirm with the Department Office. Prerequisite: *Anthropology 100* or permission of the instructor. Enrolment may be limited.

Staff

Anthropology 212

Introduction to archaeology. An introduction to the methods used by archaeologists to recover and analyze their data, and a survey of selected culture histories in the Old and New World. No prerequisite. Two-hour lecture weekly, tutorial fortnightly.

M. Tamplin, P. Healy

Anthropology-Comparative Development 221

Development anthropology. An application of the resources of anthropology to the study of modern societies in transition. Analysis of programs of development and research at local, regional and national levels in Africa, the Caribbean, Latin America and Canada. No prerequisite. Lecture, seminar weekly.

B. von Graeve

Anthropology 230

Introduction to language. How to develop an understanding of any language through linguistic analysis of sounds, words, and sentences; how languages change and language classification; acquisition of language, language in society, and writing; human vs. non-human forms of communication. No prerequisite. Two-hour lecture weekly, seminar fortnightly.

E. Todd and R. Hagman

Anthropology 240

Introduction to physical anthropology. The study of human evolution, the physical characteristics of the living varieties of mankind, and the genetics and growth of the human species. Prerequisite: *Anthropology 100* or permission of the instructor. Two-hour lecture weekly, two-hour seminar in the laboratory fortnightly.

H. Helmuth

Anthropology-Canadian Studies-Native Studies 253

Art of the Americas. A survey of the visual arts and architecture of the First Nations of North, Central, and South America from prehistory to the present. No prerequisite. Three-hour lecture weekly.

J. Vastokas

Anthropology-Comparative Development 301

Peoples and cultures of Africa. An introduction to contemporary African culture and society, focusing on culture history and indigenous institutions, the impact of colonial rule, and present-day

problems of development. Prerequisite: *Anthropology 100, Comparative Development 100* or permission of instructor. (Offered this year and in alternate years.) Two-hour seminar weekly.

J. Solway

Anthropology 302

Cultures of the Pacific. Prerequisite: *Anthropology 200* or permission of instructor. (Offered in alternate years, but not this year.)

Anthropology 303

Caribbean societies. Prerequisite: *Anthropology 100*. (Not offered this year.)

Anthropology-Comparative Development 304

Latin America. Examination of ethnic and historical foundations of Latin American society. Problems of modernization with special emphasis on peasant movements and interethnic relations. Prerequisite: *Anthropology 100* or permission of instructor. Two-hour lecture, one hour seminar weekly.

D. Powell

Anthropology 305

Kinship and social organization. Prerequisite: *Anthropology 200* or permission of the instructor. (Not offered this year.)

Anthropology 309

Ethnographic method in cultural anthropology. Prerequisite: *Anthropology 200*. (Not offered this year.)

Anthropology 311

Prehistory of North America. Prerequisite: *Anthropology 212* or permission of instructor. (Offered in alternate years, but not this year.)

Anthropology 312

Old World prehistory. Prerequisite: *Anthropology 212*. (Not offered this year.)

Anthropology 313b

Agriculture and urbanism. Agricultural origins around the world and factors that affect agricultural intensification in complex society. Prerequisite: *Anthropology 212* or permission of the instructor. Two-hour lecture/seminar weekly. (Offered this year and in alternate years.)

Staff

Anthropology 314

Archaeology, ethnohistory, and ethnography of South America. Prerequisite: *Anthropology 100* or

permission of instructor. (Not offered this year.)

Anthropology 315b

Underwater archaeology. Prerequisite: *Anthropology 100*. (Not offered this year.)

Anthropology 320

Anthropology of religion. Cross-cultural study of religion, including early Christianity. Myth, symbolism, ritual, etc. Prerequisite: *Anthropology 100* or permission of instructor. Lecture, seminar weekly.

Staff

Anthropology 330a

Language history. Prerequisite: *Anthropology 230* or permission of the instructor. (Not offered this year.)

Anthropology 331b

Languages of the world. Prerequisite: *Anthropology 230* or permission of the instructor. (Not offered this year.)

Anthropology 332a

Language in society. Prerequisite: *Anthropology 200* or *230*. (Not offered this year.)

Anthropology 333b

Language and culture. Prerequisite: *Anthropology 200* or *230*. (Offered in alternate years, but not this year.)

Anthropology 334

Linguistic analysis. Morphological and syntactic analysis of several samples of non-Indo-European languages. A major research project involves the study of a single language (in the second term) with the goal of producing a grammar based on selected texts. There is a special focus on aspects of syntactic theory. Prerequisite: *Anthropology 230*. Lecture, seminar weekly.

E. Todd

Anthropology-Biology 340

Primateology. Prerequisite: *Anthropology 240* or permission of instructor. (Offered in alternate years, but not this year.)

Anthropology-Biology 341

Comparative osteology and human evolution. Prerequisite: *Anthropology 240* or permission of instructor. (Offered in alternate years but not this year.)

Anthropology 342

Issues in social biology. Prerequisite: *Anthropology 100* permission of instructor. (Not offered this year.)

Anthropology-Biology 343

Human genetics, growth and adaptability. A survey of genetic principles as applied to Man with special emphasis on clinical and population aspects. It deals with the human life cycle from conception to death, focusing on individual growth, adaptation to the environment, and aging. Prerequisite: *Anthropology 240* or permission of instructors. Two-hour lecture, one-hour seminar weekly. (Offered this year and in alternate years.)

H. Helmuth and J. So

Anthropology-History 345

Slavery in the Americas. (See History)

Anthropology 348

Medical anthropology. An intensive and comparative survey of the fundamental aspects of the anthropology of health; research methodology, biological, ecological and sociocultural factors influencing disease patterns; the cross-cultural differences in medical systems. Prerequisite: *Anthropology 240*. One-hour lecture and two-hour seminar weekly.

J. So

Anthropology-Canadian Studies 351

Art, architecture and society. A cross-cultural, thematic approach to the visual arts from the point of view of symbolic, semiotic, and dialogic anthropology. Themes: art as visual communication, cultural conditions of creativity, artist's role in society, economics and art, politics and art, values, universals. Seminar options a) 19th and 20th century Canadian art or b) 19th and 20th Century European Art and Architecture. No prerequisite. Two-hour lecture weekly, two-hour seminar fortnightly.

J. Vastokas

Anthropology 360a/b

Ceramics in Archaeology. Prerequisite: *Anthropology 212* or permission of instructor. (Not offered this year.)

Anthropology 361b

Lithic Technology. Introduction to the recognition, analysis, and interpretation of stone artifacts from archaeological contexts. Stress will be placed upon the identification of technological and, to a lesser degree, functional and stylistic indicators and what these can tell us about past human behaviours, societies, and cultures. Prerequisite: *Anthropology 212*. Two-hours of lecture/lab and one-hour seminar weekly.

S. Jamieson

Anthropology 362a

Zooarchaeological Analysis. Prerequisite: *Anthropology 212, 240* or permission of Instructor. (Not offered this year.)

Anthropology 363a

Computer Applications in Anthropology. This course explores the use of computers in the four fields of anthropological research, accessing or creating and using anthropological databases, social simulation studies and the anthropology of computer-human interaction. Prerequisite: Either one of *AN200, 212, 230, 240* and *Computer Studies 100* (or proposed *CS101a*) OR *CS210* and Permission of Instructor. Two-hour lecture, one-hour lab weekly.

M. Tamplin

Anthropology 365a

Archaeological Settlement and Spatial Studies. Prerequisite: *Anthropology 100* or permission of instructor. (Not offered this year.)

Anthropology-Women's Studies 369a

Feminist Archaeology. An examination of gender roles and ideologies in the prehistoric and protohistoric past; examples will be drawn from Paleolithic and Neolithic cultures, and from early civilizations of both Old and New World. Prerequisite: *Anthropology 212*. Two-hour seminar weekly. (Offered in alternate years.)

T. Topic

Anthropology-Biology 370b

Genetics. (See Biology)

Anthropology 371a

The Maya. Survey of the ancient and modern Maya of Central America. Examines the culture of the contemporary Maya, one of the largest native groups of the Americas, as well as the archaeology of Pre-Columbian Maya civilization. Course will explore Maya religion, health, economic and subsistence practices, political and social structure, artistic traditions, the collapse of ancient Maya civilization, and the role of Spanish influence. Prerequisite: *Anthropology 212* or permission of the instructor. Two-hour lecture weekly. One-hour seminar fortnightly.

P. Healy

Anthropology 390, 391a, 392b

Reading course. A course designed to pursue special interests, largely through independent study. Signature of department required. Details to be

arranged in consultation with faculty in Anthropology and proposals to be submitted before registration.

Anthropology-Comparative Development 407

Politics, economics and culture. Prerequisite: *Anthropology 200* or permission of instructor. (Support course for *Comparative Development Studies*). (Not offered this year.)

Anthropology 411

Andean prehistory. Prerequisite: *Anthropology 212* or permission of instructor. (Not offered this year.)

Anthropology 412

Prehistory of Mesoamerica. Prerequisite: *Anthropology 212* or permission of the instructor. (Not offered this year.)

Anthropology 413

Prehistory of the Intermediate Area. A detailed survey of the ancient native cultures of lower Central America and northern South America from the earliest settlement to the 16th century. The course will examine the Precolumbian evolution of quite diverse cultures from Honduras to Ecuador, focusing upon aboriginal arts and technologies (such as elaborate stone carving, ceramics, and early metallurgy), contacts with the native civilizations of the Mesoamerican and Andean areas, trade, subsistence, and ceremonialism. Prerequisite: *Anthropology 212* or permission of instructor. Lecture and seminar weekly.
P. Healy

Anthropology-Canadian Studies 415

Prehistory of Ontario. A detailed survey of Ontario prehistory within the context of general Northeastern archaeology. The course will focus upon both local and regional development from the first human entry to European contact. Prerequisite: *Anthropology 212* or permission of instructor. Three-hour lecture/seminar weekly.
S. Jamieson

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: evolutionism, historicism, diffusionism, structural-functionalism, neoevolutionism and componential analysis, etc. Prerequisite: *Anthropology 200*. Two-hour seminar weekly.
R. Vastokas and staff

Anthropology-Women's Studies 422

Women: an anthropological perspective. A methodological and theoretical re-evaluation of anthropology's approach to women. Cross-cultural approaches to biology, sex roles, ideology, politics, economics, kinship, etc. Prerequisite: *Anthropology 200*. Three-hour seminar weekly.
L. Hubbell

Anthropology 423

Culture and communication. Prerequisite: *Anthropology 200* or *230* or permission of instructor. (Not offered this year.)

Anthropology 424a

Social Movements and Cultural Change in Africa. Prerequisite: *Anthropology 200* or permission of the instructor. (Not offered this year.)

Anthropology 425b

Social movements and cultural change in Eastern Europe. An analysis of the social and political transformations taking place in Eastern Europe with particular emphasis on the continuity of traditional elements, the emergent systems, ethnicity, nationalism, and class. Prerequisite: *Anthropology 200* or permission of the instructor. Two-hour seminar weekly.
R. Vastokas

Anthropology 430

Field methods in linguistics. Prerequisite: *Anthropology 230* or permission of the department. Open to third year students. (Offered in alternate years, but not this year.)

Anthropology 432a

Phonetics. A survey of articulatory and acoustic-phonetics emphasizing the attainment of practical skills in the recognition and the recording of speech sounds. Two-hour seminar weekly. Prerequisite: *Anthropology 230* or permission of the instructor. (Offered this year and in alternate years.)
R. Hagman

Anthropology 433b

Grammatical theory. An examination of modern theories of grammatical structure and their application to problems in linguistic analysis. Prerequisite: *Anthropology 230* or permission of the instructor. Two-hour seminar weekly. (Offered this year and in alternate years.)
R. Hagman

Anthropology-Biology 441

Comparative primate anatomy.
Prerequisite: *Anthropology 340* or permission of instructor. (Not offered this year.)

Anthropology 442b

Applied anthropometry in modern societies. The methods of static, spatial and dynamic-functional measurements of the human body. The application of anthropometry in providing better relationships between humans and their technological innovations, i.e. tools, clothing, workspace, sports and medicine. Prerequisite: *Anthropology 240* or permission of instructor. One-hour lecture and two-hour lab session per week. (Offered this year and in alternate years.)
H. Helmuth

Anthropology-Native Studies-Canadian Studies 450

Native art of Canada. Prerequisite: *Anthropology-Native Studies 253* and permission of the instructor. (Not offered this year.)

Anthropology-Comparative Development 475b

Perspectives on ethnicity. (See Comparative Development)

Anthropology 490, 491a, 492b

Reading course. A course designed to pursue special interests largely through independent study. Signature of department required. Details to be arranged in consultation with faculty in Anthropology and proposals to be submitted before registration.

Anthropology 495, 496a, 497b

Special topics in Anthropology. (Not offered this year.)

Biochemistry

Program Co-ordinators

Chair of the Department of Biology

M. Berrill, B.Sc. (MCGILL), M.Sc. (HAWAII), PH.D. (PRINCETON)

Chair of the Department of Chemistry

J.M. Parnis, B.Sc., PH.D. (TORONTO)

Professors

See listing of faculty in Biology and Chemistry.

Required Courses

Because it rests on the disciplines of Chemistry and Biology, Biochemistry can be studied only as a single-major. No joint-major programs exist.

The General program consists of a minimum of seven Biology, Chemistry, and Chemistry-Biology courses, including *Biology 150* or *101*

Chemistry 120 and *130*

or *113a*, *123b*, and *133b*

Biology-Chemistry 203

one other two-hundred level Chemistry course

Biology 325a and *326b* or *382*

Chemistry-Biology 330

The Honours Program

Requirements for the General program must be met, plus; two of the *Chemistry-Biology 431a*, *432b*, *433b* half-courses, three other four-hundred level courses in Chemistry or Biology.

Notes

—For more detailed information, see separate Calendar entries for Biology and Chemistry.

Biology

Professor and Chair of the Department

M. Berrill, B.Sc. (MCGILL), M.Sc. (HAWAII), PH.D. (PRINCETON)

Professor Emeritus

R.L. Edwards, M.A., D.PHIL. (OXON)

Professors

R. Jones, B.Sc. (WALES), M.Sc. (KANSAS), PH.D. (WALES); T.C. Hutchinson, B.Sc. (MANCHESTER), PH.D. (SHEFFIELD); D.C. Lasenby, B.Sc. (TRENT), PH.D. (TORONTO); P.M. Powles, B.A. (MCGILL), M.Sc. (WESTERN ONTARIO), PH.D. (MCGILL) (on leave Winter Term 1993-94); I.M. Sandeman, B.Sc. (ST. ANDREWS), F.L.S.

Associate Professors

M. Havas, B.Sc., PH.D. (TORONTO); T.R. Matthews, B.Sc. (SOUTHAMPTON); C.D. Maxwell, B.Sc. (WALES); C.D. Metcalfe, B.Sc. (MANITOBA), M.Sc. (NEW BRUNSWICK), PH.D. (MCMASTER); E. Nol, B.Sc. (MICHIGAN), M.Sc. (GUELPH), PH.D. (TORONTO); J.F. Sutcliffe, B.Sc. (WATERLOO), M.Sc., PH.D. (TORONTO) (on leave Winter Term 1993-94)

Adjunct Faculty

G. Mitchell, B.Sc. (TRENT), A.R.T.

Senior Demonstrator

D. Buelow, B.Sc. (TRENT), M.Sc. (TORONTO)

Note

The curriculum of the Biology Department has been designed to allow students to specialize in one or more major approach to biology; A) physiology and medical biology, B) plant biology, C) animal biology, and/or D) ecology and evolution. Most of the courses offered by the Department are included in one or two of four categories, representing these four approaches. A series of other, cross-listed courses, offered by other departments, are also available.

First-year Course**Biology 101****Upper-year Courses****Categories**

(See note above for descriptions)

A	B	C	D
203	201	204	202
310b	321a	309a	305
325a	322a	310b	321a
326b	324b	312	327a
382	327a	314a	328a
405	328a	336b	350b
410a		382	360
			403a
			404

In some years, a half courses may be offered as *b* half courses and *b* half courses may be offered as a half courses.

The following cross-listed courses may be taken as Biology courses, but do not fulfill category requirements.

CE-BI 230b	AN-BI 340	ES-BI 304
CE-BI 330	AN-BI 341	ES-BI 412a
CE-BI 430	AN-BI 343	ES-BI 406a
CE-BI 431a	AN-BI 441	ES-BI 407b
CE-BI 432b		PS-BI 376b
CE-BI 433b		PS-BI 375a

Further specialization is possible through supervised independent study in *Biology 390, 490, 401 and 402*.

Required Courses

Note: Courses appearing in two or more categories may only be counted in one of those categories.

The single-major Honours program consists of twenty courses of which a minimum of ten in Biology, include: *Biology 101* and the equivalent of at least

one full course from each of the four categories above. At least eight of the ten courses must be selected from the four categories. It is recommended that fourth quarter courses be at the *three- or four-hundred level*.

The joint-major Honours program consists of twenty courses, of which a minimum of seven in Biology, include: *Biology 101* and the equivalent of at least one full course from two of the four categories above. At least five of the seven courses must be selected from the four categories.

The single-major General program consists of fifteen courses of which at least six are in Biology, including: *Biology 101* and the equivalent of at least one full course from three of the four categories above. At least four of the six courses must be selected from the four categories.

The joint-major General program consists of fifteen courses of which at least five are in Biology, including: *Biology 101* and the equivalent of at least one full course from two of the four categories above. At least three of the five courses must be selected from the four categories.

*Students entering third or fourth quarter may substitute *Biology 150* or *Biology 100* for *Biology 101*, and may complete their degrees by either satisfying the above requirements or by satisfying the requirements that applied when they began their degrees (described in the 1991-92 Calendar).

Note: In order to be eligible to graduate with a B.Sc. degree, a student must have completed a Grade 13/Ontario Academic Credit course in Mathematics, or equivalent, or a university level Mathematics course.

Highly Recommended Additional Courses

Chemistry 113a, 123b, 133b
Mathematics-Statistics 150
Chemistry 210a, 230b

Recommended Further Courses

Environmental and Resource Science 100
Geography 101
Mathematics 100 or 110
Physics 100
Science 350

Biochemistry

For a program in biochemistry see the Chemistry section.

Notes

- Students with a strong background in high school biology should consider taking a second year Biology course concurrently with *Biology 101*.
- Students without OAC Biology may major in Biology. Concurrently with *Biology 101*, students will be expected to attend extra classes which will provide some of the OAC Biology content. Additional required OAC material can be obtained from OAC textbooks.
- If fewer than ten students enrol in a course the format may be changed. If fewer than five students enrol in a course, it may be cancelled.
- All *three-hundred* and *four-hundred* series courses except *Biology 401/402*, and *490* can be taken in either the third or the fourth quarter of the Honours program, and some will be offered only in alternate years. Second year students wishing to register in a *three-hundred* or *four-hundred* series course may do so if they have the necessary prerequisites, otherwise they must obtain the permission of the instructor.
- Students planning to take *Biology-Environmental and Resource Science 202* should take *Mathematics-Statistics 150* in their first year.
- Where students lack the necessary prerequisites for a course, and are admitted on the instructor's permission, they should expect to carry a much heavier work load.
- Transfer students should consult with the Department Chair before selecting courses.
- Charges may be made for field trips in some courses.
- The following courses may require the completion of the Animal Care course: *Biology 336b*, *382*, *401/402*, *410a*. (See course descriptions.)
- Students intending to take the Graduate Record Examinations (GRE) Advanced Biology Test, required by some Canadian and American Graduate Schools, should include the following courses in their program: *Mathematics 100*, *Chemistry 113a* and *133b*, *Biology-Environment and Resource Science 202*, and *Biology 203* and *360*.
- Students intending to pursue graduate studies should take *Biology 401/402*.

Biology 101

Biological interactions. An introduction to selected aspects of biology, including ecology, plant and animal associations, cell biology and molecular genetics, illustrated by examples of current biological interest, and providing the foundations for the four categories of upper-year courses. Two lectures and one three-hour laboratory period or workshop weekly. Fortnightly workshop for students lacking OAC biology or its equivalent.

J.F. Sutcliffe and staff

Biology 201

Biology of plants. An introduction to the diversity of plants, focusing on their evolution, design, nutrition, water relations, growth and reproductive biology. Two lectures and three-hour laboratory weekly, tutorials every three weeks.

C.D. Maxwell and R. Jones

Biology-Environmental and Resource Science 202

A study of the interactions between organisms and their environment; the study of individuals, populations and communities within various ecosystems, energy flow, nutrient cycling and succession. Prerequisite: One of *Biology 100*, *101* or *150*. Recommended: *Mathematics-Statistics 150*. Two lectures weekly, three-hour laboratory fortnightly and seminar every three or four weeks.

E. Nol and R. Jones

Biology-Chemistry 203

Development, physiology and genetics of cells and tissues. Prerequisite: one of *Biology 100*, *101* or *150*. Highly recommended: *Chemistry 130*. Two lectures per week; laboratory fortnightly.

Biology 204

Biology of invertebrates. An introduction to the diversity of invertebrate animals emphasizing their evolutionary relationships and focusing on functional, behavioral and ecological aspects of their biology. Two lectures and one three-hour laboratory period weekly; tutorial every two to three weeks.

I.M. Sandeman and T.R. Matthews

Biology-Chemistry 230b

Elementary biochemistry.
(See Chemistry)

Biology-ERS 304

Aquaculture (See Environmental and Resource Studies)

Biology 305

Limnology. Ecology of freshwater ecosystems. Biology, geochemistry and physics of freshwater lakes, rivers and streams. Prerequisite: *Biology 100, 101 or 150* and *Biology/ERS 202*. Highly recommended: *Chemistry 120 or 130*. Lecture, seminar or tutorial weekly; three-hour lab fortnightly; field trips for which there will be no charge.

D.C. Lasenby

Biology 309a

Biology of insects. An introduction to the diversity of the insect world. Lectures emphasize insect behaviour, physiology and anatomy. Labs provide a taxonomic overview of insects. Prerequisite: *Biology 100, 101 or 150*. Two lectures, tutorial, three-hour laboratory period weekly. An insect collection is required for this course. Equipment and materials for collecting will be available from the Biology department after the end of classes in the second term.

J.F. Sutcliffe

Biology 310b

Medical entomology (Not offered this year.)

Biology 312a

Vertebrate zoology. The evolution, structural and functional morphology of the lower vertebrates. Prerequisite: *Biology 100, 101 or 150*; Recommended: *Biology 202*. Lecture, three-hour laboratory weekly with required dissections; tutorial every three weeks.

P.M. Powles

Biology 314a

Fish biology. The biology and population dynamics of marine and fresh water fishes and management of fisheries. Prerequisites: one of *Biology 100, 101 or 150*; *Biology-Environmental Resource Studies 202*. Highly recommended: *Mathematics-Statistics 150*. Two lectures weekly. Two-hour laboratory and one-hour workshop every three weeks.

P.M. Powles

Biology 321a

Plant ecology. A study of the relationships of plants to one another and to their environment. Prerequisite: *Biology 100, 101 or 150* or permission of the instructor. Lecture and three-hour laboratory or field studies weekly. Seminar or tutorial every three weeks.

R. Jones

Biology 322a

Biology of seed plants. The biology of seed producing plants including topics such as identification, growth, development, reproduction, distribution and resource use. Prerequisite: *Biology 100, 101 or 150* or permission of instructor. Two lectures weekly; weekly field trips for the first 6 weeks; seminar or tutorial every three weeks. There will be a total charge of \$35 for field trips.

R. Jones

Biology 324b

Biology of the algae and cyanobacteria. An introduction to these important groups of plants which are often considered a nuisance but which are also one of the world's important natural resources. Their ecological role in both the marine and freshwater environments will be emphasized as well as their economic importance. Prerequisite: *Biology 100, 101 or 150*. Lecture, three-hour laboratory and seminar or tutorial weekly.

C.D. Maxwell

Biology 325a

Microbiology. An introductory course in microbiology with consideration given to the diversity of microscopic forms, their presence in various habitats, and their impact on mankind. This course places heavy emphasis on laboratory work. Prerequisite: *Biology 100, 101 or 150* and permission of instructor. Recommended: *Biology-Chemistry 203*. Two-hour lecture/tutorial and three-hour laboratory weekly, evenings only. Enrolment will be restricted to 30, and preference will be given to Biology students in third and fourth years.

G. Mitchell

Biology 326b

Advanced microbiology. This course consists of an in-depth study of the ecological aspects of the discipline. The laboratory sessions examine and identify the normal flora bacteria which colonize man in addition to the bacterial flora of the aquatic and lake sediment environments. This course places heavy emphasis on laboratory work and students are required to be present in the laboratory twice per week. Prerequisite: *Biology 325a*. Recommended: *Biology-Chemistry 203*. Three-hour lecture/tutorial/laboratory set-up and three-hour laboratory weekly, evenings only.

G. Mitchell

Biology 327b

Plant population biology. (Not offered this year.)

Biology 328a

Stress ecology of plants. An examination of the ways in which plants, including individuals, populations and ecosystems, respond to stresses in the environment. Prerequisite: *Biology 100, 101 or 150*. Recommended: *Biology 202 and 203*. Lecture and seminar or tutorial weekly.

T.C. Hutchinson

Biology-Chemistry 330

General biochemistry. (See Chemistry)

Biology-Psychology 336b

Animal behaviour. An introduction to the ecological, physiological and evolutionary mechanisms which influence the behaviour of animals, with particular emphasis on animal societies. Prerequisite: *Biology 100, 101 or 150* and Animal Care Course for those involved in projects using vertebrates. Recommended: *Biology 202*. Lecture, film-seminar weekly, tutorial fortnightly, and projects equal to a three-hour laboratory weekly.

M. Berrill

Biology 339a

Wildlife biology. (Not offered this year.)

Biology-Anthropology 340

Primatology. (See Anthropology)

Biology-Anthropology 341

Comparative osteology and human evolution. (See Anthropology)

Biology-Anthropology 343

Human genetics, growth and adaptability. (See Anthropology)

Biology 350b

Biogeography. Major patterns of distribution and abundance of animal and plant species as affected by geological, ecological and evolutionary processes. Prerequisite: At least one of *Biology 100, 101 or 150*, and *Biology 202*. Two hours of lectures, one-hour seminar weekly.

Biology 360

Population genetics and evolution. A study of the biological processes and events of evolution, including modes of selection, sources of genetic variation, coevolution and tempo of evolution. Prerequisite: *Biology 100, 101 or 150*. Recommended: *Biology 202*. Two lectures per week, one lab every two weeks, seminar or tutorial every two or three weeks.

M. Berrill and staff

Biology-Psychology 375a

Principles of the nervous system. (See Psychology)

Biology-Psychology 376b

Neuropsychology. (See Psychology)

Biology 382

General physiology of animals. The general principles governing physiological processes in animals. Prerequisite: *Biology 100, 101 or 150* and Animal Care Course. Recommended: *Chemistry 230b* and *Biology 203*. Lecture, three-hour laboratory weekly and tutorial or seminar fortnightly.

T.R. Matthews

Biology 390, 391a, 392b, 393c

Reading course. This course provides an opportunity for more intensive or broader study of a selected topic under the guidance of a faculty member. Open to students who have obtained credits in at least two full courses taught by members of the department of Biology and who have an average of at least 75% in the Biology courses they have taken. Students wishing to enrol in this course must complete an application form available from the Department Secretary. It is the responsibility of the applicant to find a course supervisor and a second reader. All University deadlines as specified in the University Calendar apply.

T.R. Matthews and staff

Biology 3951, 396a, 397b, 398c

Special topics in biology. These courses are not established as part of the regular biology program and are offered when staffing is available. The topics are in the fields of interest and expertise of the instructor. If offered, the courses will be advertised in the Biology Department.

Biology 401, 402

Research thesis. *Biology 402* is a double credit in Biology. *Biology 401* is a single credit involving the same thesis as submitted to the other department/program in a joint major. In this research course students will investigate a specific field of interest under the guidance of a faculty member. The Animal Care Course is a prerequisite, if applicable. To qualify for research theses courses (*Biology 401* and *402*) students should have a 75% average in Biology courses, and the willingness of a faculty member to supervise the project. (In some cases, it may be possible to take *Biology 402* with a 70% average in Biology courses if recommended by a

faculty member willing to supervise it.) To be accepted into a joint thesis course the student must meet the requirements of both departments/programs.

Biology 403b

Research design and data analysis. Practical instruction in design of research projects, data collection and analysis, and presentation of results. The course will be strongly oriented to tutorials and workshops. Prerequisite: *Biology 202* and *Mathematics-Statistics 150*, or permission of instructor. Seminar, tutorial and two-to three-hour laboratory weekly. Enrolment will be limited to 30.

E. Nøl

Biology 404

Marine biology. An introduction to the ecology and physiology of marine organisms and communities from tropical, temperate and polar regions. Compulsory week-long field trip to Jamaica in the Fall Term at cost to student. Prerequisites: *Biology 202* and at least one other course in Biology or permission of instructor. Lecture, seminar weekly. Field trip represents the equivalent of about three hours work weekly. Enrolment may be limited.

T.R. Matthews and staff

Biology 405

Electron microscopy. The biological applications of light microscopy as well as transmission and scanning electron microscopy. Practical instruction in histological and other techniques that are used in the study of plant and animal tissues. Prerequisite: at least one of *Biology 100*, *101* or *150*. Recommended: *Biology 203*. Lecture, tutorial, three-hour laboratory weekly. Enrolment will be restricted, with preference given to fourth year students. Registration will be by written permission of the instructor.

J.F. Sutcliffe

Biology 410a

Parasitology. The ecology, life cycles, physiology and host interactions of the major groups of animal parasites. Prerequisite: *Biology 150*. The Animal Care Course will be required for those intending to study vertebrates. Lecture, three-hour laboratory period and tutorial weekly.

I.M. Sandeman

Biology-Chemistry 431a

Development of Enzymology. (See Chemistry)

Biology-Chemistry 432b

Theoretical aspects of enzymology. (See Chemistry)

Biology-Chemistry 433b

Secondary-metabolism. (See Chemistry)

Biology-Anthropology 441

Comparative primate anatomy. (See Anthropology)

Biology 490, 491a, 492b, 493c

Reading course. This course provides an opportunity for more intensive or broader study of a selected topic under the guidance of a faculty member. Open to students in their fourth quarter who have obtained credits in two full courses taught by members of the Department of Biology and who have an average of at least 75% in the Biology courses they have taken. Students wishing to enrol in this course can obtain an application form from the Departmental Secretary. It is the responsibility of the applicant to find a course supervisor and a second reader. All University deadlines as specified in the University Calendar apply.

T.R. Matthews and staff

Biology 4951, 496a, 497b, 498c

Special topics in biology.

Biology 496a

Conservation Biology. This course will focus on the causes and consequences of reductions to biodiversity and the design of strategies to counterbalance these reductions. It will attempt to provide a balanced overview of the discipline outlining both its biological and its human oriented dimensions. Prerequisites: *Biology 101* and *202*. Two lectures and seminar weekly.

Canadian Studies

Associate Professor and Chair of the Program

C. Verduyn, B.A. (TRENT), M.A., PH.D. (OTTAWA)

Professors Emeriti

G. Roper, M.A., PH.D. (CHICAGO);
A. Wilson, M.A. (DALHOUSIE), PH.D. (TORONTO)

Professors

J.E. Struthers, M.A. (CARLETON), PH.D. (TORONTO); J.H. Wadland, M.A. (WATERLOO), PH.D. (YORK)

Associate Professors

D. Clarke, B.A. (TRENT), M.A. (MCMASTER),
PH.D. (CARLETON); M. Lacombe, M.A., PH.D.
(YORK)

Conjunct Professor

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

Adjunct Faculty

S.D. Grant, M.A. (TRENT); J. Favreau,
M.A. (TRENT); M. McGraw, M.S.W.
(CARLETON)

Associated Faculty

Anthropology, S.M. Jamieson, J.M. Vastokas; *Comparative Development Studies*, D.R. Morrison; *Cultural Studies*, J. Bordo; *Economics*, J. Muldoon, P. Wylie; *English Literature*, G.A. Johnston, S.H.W. Kane, O.S. Mitchell, J.E. Neufeld, M.A. Peterman, Z. Pollock; *Environmental and Resource Studies*, T. Whillans; *French*, J.-P. Lapointe; *Geography*, W.P. Adams, A.G. Brunger, F.M. Helleiner, J.S. Marsh; *History*, B.W. Hodgins, J.N. Jennings, E.H. Jones, P.D.W. McCalla, J. Sangster, S.D. Standen, K. Walden; *Native Studies*, P. Kulchyski, J.S. Milloy; *Philosophy*, J.W. Burbidge; *Political Studies*, R. Campbell, K.R.V. Lyon, R.C. Paehlke, J. Wearing; *Sociology*, R.A. Lockhart, G. Thibault; *Vanier Professor*, T.H.B. Symons.

Required Courses

The Canadian Studies Program is not founded upon a single department, but is the product of co-operation by members of several departments and programs within the University. At all levels the Program encourages the *interdisciplinary* examination of Canadian experience. A detailed brochure explaining options available to students in the Canadian Studies Program may be obtained at the Office of the Chair.

N.B. Students must have completed at least three courses before enrolling in any Canadian Studies course. Exceptions by permission of the instructor only.

The single-major Honours program consists of nineteen courses. Minimum nine courses in Canadian Studies. These courses will include *Canadian Studies 200*, *Canadian Studies 250* or *252*, *Canadian Studies 300* and at least three *four-hundred* series Canadian Studies courses.

Joint-major Honours program. Minimum seven courses in Canadian Studies. These

courses will include *Canadian Studies 200*, *Canadian Studies 250* or *252*, *Canadian Studies 300* and at least two *four-hundred* series Canadian Studies courses.

Joint-major General program. Minimum five courses in Canadian Studies. These courses will include *Canadian Studies 200*, *Canadian Studies 250* or *252*, and *Canadian Studies 300*.

Canadian Studies-Environmental and Resource Studies 200

Canada: The land. An interdisciplinary enquiry into the function and idea of the land in Canadian culture; concepts of the land in history, geography, literature, art, economics, politics and philosophy; settlement and resource development, land policy, aboriginal rights, bioregionalism and social ecology. Lecture weekly; tutorial weekly.

J.H. Wadland

Canadian Studies-Politics 201

Canadian politics. (See Political Studies)

Canadian Studies-History 221

Modern Ontario. (Not offered this year.)

Canadian Studies 230

Canada: Economic policy. (Not offered this year.)

Canadian Studies-History 235

Canada since 1914. (See History)

Canadian Studies-French 250

La civilisation québécoise. A general survey of the social and cultural history of the Quebec people, illustrated by readings on the arts, letters, religious social and political life. It attempts to synthesize the history of ideas in Quebec to promote a better understanding of contemporary Quebec culture. Prerequisite: *French 110* or by permission of the instructor. Lecture weekly; seminar weekly.

J.-P. Lapointe

Canadian Studies 252

La Francophonie: French identities in Canada. (Not offered this year.)

Canadian Studies-Anthropology-Native Studies 253

Art of the Americas. (See Anthropology)

Canadian Studies-History 254

Canada and the modern experience. (See History)

Canadian Studies-Native Studies-History 255

History of the Indians of Canada. (See Native Studies)

Canadian Studies-Economics 260a
Canadian economic growth and development I: up to 1929. (See Economics)

Canadian Studies-Economics 261b
Canadian economic growth and development II: after 1929. (See Economics)

Canadian Studies-Geography 263a
Historical Geography. (See Geography)

Canadian Studies-English 265
English Canadian Prose. (See English Literature)

Canadian Studies-English-Women's Studies 266

Canadian Women's Writing. Fiction writing by women in both English Canada and Quebec with special emphasis on contemporary works and on new feminist literary and linguistic theories. Lecture weekly; seminar weekly.

C. Verduyn

Canadian Studies-Native Studies-History 270

History and politics of the Metis and non-status Indians of Canada. (See Native Studies)

Canadian Studies-Women's Studies 275
Women in Canada. An interdisciplinary introduction to the study of women in Canada in relation to developing social, economic, technological, political and cultural contexts. Lecture weekly; seminar weekly.

Staff

Canadian Studies-Native Studies 285
Native People and the North. (See Native Studies)

Canadian Studies 290
Religion in Canada. A consideration of the role religious traditions have played in Canadian culture. Two-hour seminar weekly.

J. Burbidge

Canadian Studies-History 300
Canada: Communities and identities. An interdisciplinary study of regionalism ethnicity and community in Canadian life. First Term: regional identity in Western, Atlantic, Central and Northern Canada. Second Term: immigration, multiculturalism, minority rights, and ethnic identity. Lecture weekly; seminar fortnightly.

J.E. Struthers

Canadian Studies-History-Politics 301
Canadian political culture, 1864 to the present. (See History)

Canadian Studies-History 302
The emergence of modern Quebec, 1886-1970. (See History)

Canadian Studies-History 303
Early French Canada: economic, social, institutional and ideological foundations of Quebec. (See History)

Canadian Studies-Politics 305
Politics and society in Quebec. (See Political Studies)

Canadian Studies-History 307
The Atlantic provinces. (Not offered this year.)

Canadian Studies-History 308
Business history: The Canadian experience in international perspective, 1650-1960. (See History)

Canadian Studies-Politics 309
Ontario politics. (See Political Studies)

Canadian Studies-Environmental and Resource Studies 310
Public policy and the Canadian environment. (See Environmental and Resource Studies)

Canadian Studies-History-Women's Studies 316
Women in North America. (See History)

Canadian Studies-Politics 322
Canadian-American relations since World War II. (See Political Studies)

Canadian Studies-French 325
Théâtre et poésie du Québec. (See MLL-French section)

Canadian Studies-Geography 332b
Settlement Geography. (See Geography)

Canadian Studies-Environmental and Resource Studies-Geography 333a
Wilderness resources. (See Geography)

Canadian Studies-Sociology 340
Sociology of education. (See Sociology)

Canadian Studies-Anthropology-Native Studies 351
Art, architecture and society. (See Anthropology)

Canadian Studies 355
English Canadian and Quebec prose literature. (Not offered this year.)

Canadian Studies-English-Native Studies 360

Native peoples in literature. (See English Literature)

Canadian Studies-Geography 361

Geography of Canada. (See Geography)

Canadian Studies-Politics 362

Public policy and administration in Canada. (See Political Studies)

Canadian Studies-Geography 363b

Historical Geography of Canada before 1900. (See Geography)

Canadian Studies-Geography 364 (a/b)

Geography of the Polar regions. (See Geography)

Canadian Studies-English 365

English-Canadian Poetry (See English Literature)

Canadian Studies-Politics 366

Canadian political economy. (See Political Studies)

Canadian Studies 370

Science in Canadian society. (Not offered this year.)

Canadian Studies-Geography 371 (a/b)

Urban planning. (See Geography)

Canadian Studies-Geography 376 (a/b)

The Urban-Rural fringe. (See Geography)

Canadian Studies-French 383

Le roman québécois. (See MLL-French Section)

Canadian Studies-Economics 384b

Health economics. (See Economics)

Canadian Studies-Sociology 389

The social structure of Canada. (See Sociology)

Canadian Studies 390, 391a, 392b, 393c

Reading course. A structured course arranged between student and instructor, approved by the Program Chair, involving independent study of material. Regular meetings and detailed written work.

Canadian Studies 395, 396a, 397b, 398c

Special topic. A structured course arranged by a group of students and an instructor, approved by the Program Chair.

Canadian Studies 401

Single credit Honours thesis. Arrangements to be made through the Program Chair.

Canadian Studies 402

Double credit Honours thesis.

Arrangements to be made through the Program Chair.

Canadian Studies-History 403

Canadian intellectual and cultural history. (See History)

Canadian Studies-Politics 405

Contemporary Canadian problems. (See Political Studies)

Canadian Studies-History 406

Upper Canada. (See History)

Canadian Studies-History 407

The Canadian-American frontier. (See History)

Canadian Studies-History 410

Social and political traditions and ideas in the United States and Canada, since 1896. (See History)

Canadian Studies-Cultural Studies 413

The Vanier Seminar

Cultural policy in Canada. Studies in the formulation and operation of Canadian public policy in the fields of culture, education, research and human rights. Seminar fortnightly.

T.H.B. Symons

Canadian Studies-Anthropology 415

Prehistory of Ontario. (See Anthropology)

Canadian Studies-History 422

Canada: The North. (See History)

Canadian Studies-History-Native Studies 425

The evolution of the settlement commonwealth. (See History)

Canadian Studies-Sociology 445

The media and communications in Canada. An examination and analysis of the communications industries and policies of Canada. The growth and development of newspaper, periodical and book publishing, and of film, radio, television, and new communications technologies. Two-hour seminar weekly.

D. Clarke

Canadian Studies-Anthropology-Native Studies 450

Native Art of Canada. (See Anthropology)

Canadian Studies-Comparative

Development 460

Canada and the Third World. (See Comparative Development Studies)

Canadian Studies-English 465

Advanced studies in Canadian Literature.
(See English Literature)

Canadian Studies-English 466

Canadian literary pluralities. An introduction to work by writers of immigrant or ethnic minority identification in Canada. After an initial exploration of the theoretical issues involved in the study of this literature, the course will examine a selection of literary works.

C. Verduyn

Canadian Studies-History 475

History of everyday life. (See History)

Canadian Studies-History 476

Studies in Canadian labour. (Not offered this year.)

Canadian Studies-History 477

Studies in Canadian social policy. This research course examines the evolution of social policy from the early 19th to the late 20th century; governmental, professional and organizational responses to poverty, disease, old age, mental illness, physical disability, family fragmentation. Seminar fortnightly.

J.E. Struthers

Canadian Studies 485, 486a, 487b, 488c

Field course. A structured course of supervised activity in the field, including detailed written work. Arrangements to be made through Program Chair.

Canadian Studies 490, 491a, 492b, 493c

Reading course. For 1993-94, one formal reading course, *Canadian Studies-Environmental and Resource Studies 4901* will focus on Bioregionalism: The Otonabee River Watershed, Haliburton Section. Ecology, history and culture; sustainable development; appropriate technology; regional planning.

J.H. Wadland, T. Whillans

Canadian Studies 495, 496a, 497b, 498c

Special topic. A structured course arranged by a group of students and an instructor, approved by the Program Chair. For 1993-94 two formal special topics courses, *Canadian Studies-Sociology-Native Studies 496a* and *Canadian Studies-Sociology-Native Studies 497b* will be offered. (See Sociology)

Diploma Program in Canadian Studies

The Canadian Studies Program offers a special Diploma for students who wish to undertake a single academic year (September-April) focused directly upon Canadian political economy, society, environment and culture. Individuals wishing to enrol in the diploma program must apply, in writing, to the Chair of the Canadian Studies Program, indicating course preferences. As the number of spaces is limited, *acceptance is not automatic*. A committee made up of faculty members teaching in the Canadian Studies Program, will select the successful candidates in consultation with the Admissions Committee.

Eligibility

Applicants must either be students registered in, or graduates of an accredited post-secondary educational institution other than Trent University. An official transcript, including evidence of the content of courses completed and grades received must accompany the application.

Language Requirements

In accordance with University regulations applicants must have a competence in written and spoken English. Facility in the French language is desirable but not compulsory.

Special Events

All students admitted to the Diploma program will attend field trips, films, special lectures and conferences as part of their curricular activity.

Visas, Fees and Accommodation

International students admitted to the Diploma program are expected to make their own arrangements for visas, financing and accommodation during the year at Trent. Nevertheless, every effort will be made to assist in this process.

The Diploma

The official Diploma will be awarded in the Spring. With it will be included an official Trent University transcript identifying all courses undertaken and grades received.

Course Requirements

All students admitted to the Diploma program will be required to take four courses and the Canadian Studies Colloquium. One course must be selected from each of columns A, B and C (for a total of three courses):

A Studies in the Social Sciences	B Studies in Regionalism and the Environment	C Studies in Culture
201	200	250
230	221	252
235	285	253
255	300	254
260a	302	265
261b	303	266
270	305	290
275	307	325
301	309	351
308	310	357
316	332a/b	360
322	333a/b	365
340	361	383
362	364a/b	403
366	371a/b	413
370	376a/b	445
375	406	450
384b	407	465
389	415	466
405	422	
410		
425		
460		
475		
476		
477		

All students *must* enroll in either *Canadian Studies 200* or *Canadian Studies 300* and in the *Canadian Studies Colloquium*. The *Colloquium* is not a graded course but is offered as a venue for special seminars and lectures on subjects of interest to students in the Diploma program. It will also function as a vehicle for sorting out areas of difficulty and for integrating material from the various courses. Students must complete formal courses with a mark of 60% or better in order to qualify for the Diploma.

Chemical Physics

Program Co-ordinators

Chair of the Department of Chemistry
J.M. Parnis, B.Sc., Ph.D. (TORONTO)

Chair of the Department of Physics
P.C. Dawson, M.Sc. (TRENT), Ph.D.
(VICTORIA)

Professors

See listing of faculty in Chemistry, Mathematics and Physics

Required Courses

The program in Chemical Physics is a sequence of mutually supportive courses offered by the Departments of Chemistry, Physics and Mathematics that comprise an integrated whole. Not available as a joint-major.

The General program consists of a minimum of ten courses in the three disciplines, including

Chemistry 113 and 123b

200

300

Physics

100

202a

302a

321

Mathematics

110

200

301

either *Chemistry 130* or a two-hundred or three-hundred level Physics course.

The Honours Program

Requirements for the General program must be met, plus: two of *Chemistry 403a, 404b, 405b*; *Physics 400*; three more courses in Chemistry, Physics or Mathematics, of which two must be at the four-hundred level.

Notes

- For more detailed information, see separate Calendar entries for Chemistry and Physics.
- Students wishing to transfer to a single-major program should consult the appropriate Department Chair before commencing the third quarter.

Chemistry

Assistant Professor and Chair of the Department

J.M. Parnis, B.Sc., PH.D. (TORONTO)

Professors Emeriti

S.A. Brown, B.S.A. (TORONTO), M.S., PH.D. (MICHIGAN STATE); A.H. Rees, M.A., PH.D. (CAMBRIDGE), M.A. (OXFORD), PH.D. (LONDON), F.C.I.C., Assoc. R.C.S.; R.A. Stairs, B.Sc. (MCGILL), M.Sc. (WESTERN ONTARIO), PH.D. (CORNELL), F.C.I.C.

Professors

P.F. Barrett, M.Sc. (QUEEN'S), PH.D. (TORONTO), F.C.I.C. (on leave); E.G. Lewars, B.Sc. (LONDON), PH.D. (TORONTO); R.E. March, B.Sc. (LEEDS), PH.D. (TORONTO), F.C.I.C.; K.B. Oldham, PH.D., D.S.C. (MANCHESTER), F.C.I.C. (on leave)

Associate Professor

R.G. Annett, B.Sc., PH.D. (WINDSOR)

Assistant Professor

J.F. Cormier, B.Sc. (ST. FRANCIS XAVIER), PH.D. (MCGILL)

Conjunct Associate Professors

R.C. Makhija, M.Sc., PH.D. (LUCKNOW), C.CHEM., F.C.I.C.; A.M. Zobel, M.Sc., PH.D. (WARSAW)

Demonstrators

H. Al-Haddad, B.Sc. (BAGHDAD), PH.D. (STRATHCLYDE), M.C.I.C.; S. Landry, B.Sc. (TRENT)

Required Courses

The single-major Honours program consists of twenty courses of which at least ten must be Chemistry courses, including *Chemistry 120 and 130*; or *Chemistry*

103a, 113a and 123b

200

210a and 211b

240a

three *three-hundred* level Chemistry courses

four *four-hundred* level courses, of which one may be from another discipline, including at least three Chemistry lecture half-courses and no more than two credits from project courses.

Joint-major Honours program. To arrange an appropriate program, early consultation with both departments is urged. A minimum of seven courses in Chemistry is required, including

Chemistry 120 and 130; or *Chemistry 103a, 113a and 123b*

three *two-hundred* level or *three-hundred* level Chemistry courses
two *four-hundred* level Chemistry courses.

Single-major General program. Minimum six Chemistry courses, including *Chemistry 120 and 130*; or *Chemistry 103a, 113a and 123b*

200

210a

240a

two *three-hundred* level or *four-hundred* level Chemistry courses.

Joint-major General program. Minimum five Chemistry courses, including *Chemistry 120 and 130*; or *Chemistry 103a, 113a and 123b*

three *two-hundred* level or *three-hundred* level Chemistry courses.

See also listings under Biochemistry and Chemical Physics.

Special Provisos

—Students who had successfully completed two or more full Chemistry courses at the *two-hundred* level prior to September 1992 are not required to take *Chemistry 240a* for the purpose of fulfilling single-major, General or Honours Chemistry degree requirements.

—The combination of *Chemistry 240a* and *Chemistry-Environmental and Resource Science 341b* may be regarded as a full *three-hundred* series course in Chemistry.

—Departures from the normal pattern of courses may sometimes be permitted. Apply to the Chair.

Notes

—First year students who intend to major in Chemistry or Biochemistry are encouraged to take all of *Chemistry 103a, 113a, 123b and 133b* in the first year.

—First year students who wish to take one Chemistry credit only, and whose principal interest is in Physics or Mathematics or Environmental and Resource Studies, should enroll in *Chemistry 113a and 123b*.

—First year students who wish to take one Chemistry credit only, and whose

principal interest is in the life sciences should enroll in *Chemistry 113a* and *133b*.

- First year Chemistry courses proceed at a pace appropriate to students with an O.A.C. or equivalent in Chemistry. Students without this background may need to undertake extra studies; they should contact the instructor prior to registration, so that special arrangements can be made.
- Students who intend to major in Chemistry should note that a grounding in Physics and in Mathematics is essential.
- All students taking one or more Chemistry courses pay a laboratory deposit of \$60 for one laboratory course or \$100 for two or more laboratory courses. This deposit may be returned wholly or in part depending on breakages incurred.
- Laboratory manuals or other course material, where provided are subject to a charge.

Chemistry 103a

Quantitative tools in chemistry. Basic quantitative skills as are encountered in chemistry and applications of computers to chemistry. Three lectures weekly; problem session or computer lab fortnightly.

Chemistry 113a

Introductory general and organic chemistry. An introduction to chemistry of an inherently qualitative nature. Essential aspects of general and organic chemistry to serve as a foundation for further courses in chemistry, biochemistry and biology. Two lectures weekly; laboratory and problem session in alternate weeks.

J.F. Cormier

Chemistry 123b

Introductory physical and inorganic chemistry. The chemical structure of the three states of matter and of solutions. An introduction to how such systems behave thermodynamically and kinetically. Prerequisite: *Chemistry 113a*. Three lectures weekly; laboratory and problem session in alternate weeks.

R.E. March

Chemistry 133b

Introductory biochemistry. Of interest to both biologists and chemists, this course introduces the chemical concepts under-

lying biologically-important compounds and processes. Prerequisite: *Chemistry 113a*. Two lectures weekly; laboratory and problem session in alternate weeks.

R.G. Annett

Chemistry 200

Elementary physical chemistry. The kinetic theory of gases; thermodynamics of physical and chemical processes chemical kinetics; electrochemistry.

Prerequisites: *Chemistry 120* and *Mathematics 110* or permission of instructor, possibly requiring a special examination to be held in the first week of term. First half year: one tutorial and three lectures weekly; second halfyear: one tutorial and two lectures or three lectures, and one laboratory weekly.

Chemistry-Biology 203

(See Biology)

Chemistry 210a

Elementary organic chemistry. Chemical techniques and the chemistry of those important classes of organic compounds that form the basis of both organic chemistry and biochemistry. Prerequisite: *Chemistry 130*. Two lectures and laboratory weekly tutorial to be arranged.

J.F. Cormier

Chemistry 211b

Continuing organic chemistry. Main classes of compounds including some with more than one functional group. Synthetic methods and mechanisms; spectroscopy; qualitative organic analysis; laboratory preparations. Prerequisite: *Chemistry 210a*. Two lectures and laboratory weekly; tutorials to be arranged by instructor.

J.F. Cormier

Chemistry-Biology 230b

Elementary biochemistry. (Not offered this year.)

Chemistry 240a

Analytical chemistry. The theory of chemical equilibrium as it applies to analysis; experiments in gravimetric and volumetric analysis. Prerequisite: *Chemistry 120* or, with the permission of the instructor, *Chemistry 130*. Two lectures and laboratory weekly; tutorials to be arranged by instructor.

J.M. Parnis

Chemistry 300

Physical chemistry. Introduction to quantum chemistry, chemical bonding, statistical mechanics, spectroscopy and reaction rate theory. Prerequisite:

Chemistry 200. Recommended: *Mathematics 200*. Two lectures weekly, tutorials fortnightly; laboratory weekly. Seminars to be arranged.

R.E. March

Chemistry 310

Organic chemistry. A survey of organic chemistry, including heterocycles and some natural products. Mechanistic aspects and modern spectroscopic methods will be emphasized. Prerequisite: *Chemistry 211b*. Two lectures or tutorials and one laboratory weekly.

E.G. Lewars

Chemistry 320

Inorganic chemistry. (Not offered this year.)

Chemistry-Biology 330

General biochemistry. Chemical processes in animals, higher plants and micro-organisms; composition of tissues biocatalysis and the nature of enzymes; energy relationships; the formation and degradation of metabolically important compounds and the control of metabolism. Prerequisite: *Chemistry-Biology 230b* or with the permission of the instructor *Chemistry 211b*. Two lectures and laboratory weekly; tutorial or seminar in alternate weeks.

R.G. Annett

Chemistry-Environmental and Resource Science 341b

Instrumental analysis. Theory and practice of electrochemical, spectroscopic and chromatographic methods in analysis; sampling theory and strategies; trace analysis. Prerequisite: *Chemistry 240a*.

Laboratory and two lectures weekly, tutorials to be arranged by instructor.

J.M. Parnis and C.D. Metcalfe

Chemistry 403a

Electrochemistry. Prerequisite: *Chemistry 300*. Two lectures, tutorials or seminars weekly.

Chemistry 404b

Gas phase reaction dynamics. Prerequisite: *Chemistry 300*. Two lectures, tutorials or seminars weekly.

R.E. March

Chemistry 405b

Quantum mechanics in chemistry. (Not offered this year.)

Chemistry 411b

Retrosynthetic analysis. Prerequisite: *Chemistry 310*. Two lectures, tutorials or seminars weekly.

J.F. Cormier

Chemistry 412a

Modern organic synthesis. Prerequisite: *Chemistry 310*. Two lectures, tutorials or seminars weekly.

E.G. Lewars

Chemistry 413b

Molecular orbital theory. Prerequisite: *Chemistry 200* and *Chemistry 211b*.

E.G. Lewars

Chemistry 421a

Organometallic chemistry. (Not offered this year.)

Chemistry-Physics 422b

Principles and applications of group theory. Prerequisite: *Chemistry 320* or *Physics 302a*. One two-hour lecture or discussion meeting weekly.

Chemistry 423a

Advanced topics in inorganic chemistry. (Not offered this year.)

Chemistry-Biology 431a

Development of enzymology. Prerequisite: *Chemistry-Biology 330*. Lecture weekly, tutorial and seminar in alternate weeks.

R.G. Annett

Chemistry-Biology 432b

Theoretical aspects of enzymology. (Not offered this year.)

Chemistry-Biology 433b

Secondary metabolism. Prerequisite: *Chemistry-Biology 330*. Lecture weekly, tutorial and seminar in alternate weeks.

Chemistry 451

Project course in chemistry or biochemistry. Study, usually involving experimental research, under the supervision of a faculty member. Seminars and written report. About eight hours per week. Prerequisite or corequisite: two chemistry lecture half-courses at the four-hundred level. Permission required. Contact Coordinator as soon as possible and no later than the beginning of the previous term.

Coordinator: J.F. Cormier

Chemistry 452

Double-credit project course in chemistry or biochemistry. About 16 hours per week; otherwise, as *Chemistry 451*.

Coordinator: J.F. Cormier

Chemistry 453a, 454b, 455c

Half-credit project courses in chemistry or biochemistry. As *Chemistry 451*; about eight hours per week (about four hours for *Chemistry 455c*).

Coordinator: J.F. Cormier

Chemistry 490

A reading course on topics from one of the following fields: analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, physical chemistry, and theoretical chemistry. Project work outside the laboratory may be involved. Offered only by prior arrangement.



Classical Studies

Professor and Chair of the Department

I.C. Storey, B.A. (UNIV. TRIN. COLL.),
M.A., PH.D. (TORONTO), M. PHIL. (OXFORD)

Professors

J.P. Bews, B.A. (QUEEN'S), M.A., PH.D.
(LONDON); K.H. Kinzl, DR. PHIL. (VIENNA)

Associate Professors

D.F.R. Page, B.A. (SHEFFIELD); A.M.
Young, M.A. (MELBOURNE, TORONTO),
PHIL.M. (TORONTO)

Adjunct Faculty

J.M. Tinson, B.A. (TRENT), M.A. (QUEEN'S)

The department contains three distinct fields, which for the purpose of degree regulations are treated as separate disciplines. Courses are offered towards majors in:

- A. Latin Language and Literature
- B. Greek Language and Literature
- C. Classical Studies
 - a. Classical History
 - b. Classical Studies

Required Courses

The single-major Honours program consists of nineteen courses, for which the minimum requirements are:

- A. Latin Language and Literature: eight, courses in Latin which must include:

Latin 200 and 220

Two four-hundred level courses in Latin

plus one course in Roman History.

- B. Greek language and literature: eight courses in Greek which must include:

Greek 200 and 220

Two four-hundred level courses in Greek

plus one course in Greek History.

- C. a. Classical History: nine courses

Classical History 100
201

Four two-hundred level or three-hundred level courses in

Classical History (one course in Classical Civilization may be substituted).

Classical History 410 or 420
490

One two-hundred level course in Latin or Greek.

- b. Classical Studies: ten courses in the Department of Classical Studies, of which six must be beyond the one-hundred level and at least two at the

three-hundred level. The program must include:

Two of *Classical Literature* 490, *Classical Civilization* 490, *Classical History* 410 or 420 or 490.

Students who propose to include more than two Greek or Latin courses in their program will need to obtain the permission of the Department.

The minimum requirements for the joint-major Honours program are:

A. Latin language and literature: seven courses in Latin, which must include:

Latin 200 and 220

Two *four-hundred* level courses in Latin.

B. Greek language and literature: seven courses in Greek, which must include: *Greek* 200 and 220

Two *four-hundred* level courses in Greek.

C. a. Classical History: seven courses
Classical History 100
201

Two other *two-hundred* level or *three-hundred* level

Classical history courses (one *Classical Civilization* course may be substituted).

One *two-hundred* level course in Greek or Latin

Classical History 410 or 420
490.

b. Classical Studies: seven courses in the Department of Classical Studies, of which six must be beyond the *one-hundred* level and at least one at the *three-hundred* level.

The program must include:

Two of *Classical Literature* 490, *Classical Civilization* 490
Classical History 410 or 420
or 490.

Single-major in the General program.

A. Latin Language and Literature: six courses in Latin, including *Latin* 200 and 220.

B. Greek Language and Literature: six courses in Greek, including *Greek* 200 and 220.

C. a. Classical History: six courses in Classical History, two at the *three-hundred* level, including:

Classical History 100 and 201

One course in *Classical Civilization* may be substituted for a course in Classical History.

b. Classical Studies: seven courses in the Department of Classical Studies, of which four must be beyond the *one-hundred* level and two at the *three-hundred* level. Students who propose to include more than two courses in Latin or Greek must obtain the permission of the Department.

Joint-major in the General program.

A. Latin Language and Literature: five courses in Latin, including *Latin* 200 and 220.

B. Greek Language and Literature: five courses in Greek, including *Greek* 200 and 220.

C. a. Classical History: five courses in Classical History, of which one must be at the *three-hundred* level, including:

Classical History 100 and 201
One course in *Classical Civilization* may be substituted for a course in Classical History.

b. Classical Studies: five courses in the Department of Classical Studies, of which four must be beyond the *one-hundred* level and at least one at the *three-hundred* level. Students who propose to include more than one course in Latin or Greek will need to obtain the permission of the Department.

Notes and Special Provisos

—A joint-major in two of the separate programs offered by the Department (Latin; Greek; Classical History or Classical Studies) is permitted under the regulations of the University.

—Students are not limited to a maximum of twelve courses within the Department (eight in a General program), as long as they do not exceed the maximum of twelve (or eight) within a particular discipline.

—Students who propose to pursue a single or joint-major within the Department should consult the Chair at the end of their first year or very early in their second year.

—Students may take both *Classical History* 100 and *Classical History* 201 in their first year.

—Courses at the *four-hundred* level are normally limited to students in the fourth quarter of the Honours program.

—*Philosophy* 210 may be counted as a credit toward programs in Classical Studies.

- One of *Classical Literature 100* or *200* may be counted for credit toward a major in English.
- Classical Civilization 231a* and *232b* are core courses in the Program of Women's Studies.
- Students are not restricted to one special-topic or reading course (*Latin 395/495*, *Greek 395/495*, *Classical Literature 395/495*, *Classical History 390*, *Classical Civilization 390/490*) either in one year or in their overall program. Indeed completion of more than one such special-topic course will be essential for certain programs within the Department.
- Only one course in New Testament Greek may be counted toward a major in Greek.
- Students in the Honours program in Classical Studies are strongly advised to include one course in Latin or Greek.
- Students considering graduate work in any branch of Classical Studies are strongly encouraged to begin their study of the ancient languages as early as possible. An upper-year course in French or German is also recommended.

Latin Language and Literature

Latin 100

Elementary Latin. Latin through reading. For students with little or no previous knowledge of the language. No prerequisite. Four hours weekly.

D.F.R. Page

Latin 200

Intermediate Latin. Continuation and completion of Latin grammar, with reading of relatively easy selections from prose and verse, republic to silver age. Prerequisite: *Latin 100* or OAC Latin. Three hours weekly, including language study.

J. P. Bews

Latin 220

Myths and legends of the origins of Rome, as illustrated in the works of Vergil and Livy, writers of the Augustan Period. Prerequisite (or corequisite): *Latin 200*, or permission of the Department. Three hours weekly, including language study.

J.P. Bews, D.F.R. Page

Latin 395, 396a, 397b

Special-topic course in Latin language and literature, to be arranged in March of the preceding academic year in consultation

with the Department. Prerequisite: *Latin 200* or *220*. Three hours weekly, including language study.

Staff

Latin 495

Special-topic course in Latin language and literature, to be arranged in March of the preceding academic year in consultation with the Department.

Staff

Greek Language and Literature

Greek 100

Elementary Greek. An introduction to the basic elements of ancient Greek providing the fundamentals of grammar and vocabulary to allow the student to read ancient Greek literature in the second year. Some easy selections of ancient Greek will be read in this course. No prerequisite. Four hours weekly.

Staff

Greek 200

Intermediate Greek. Continuation and completion of classical Attic syntax and grammar, with readings from Lysias (*Against Eratosthenes*), Euripides (*Alceste*), Lucian (*'Real' History*). Prerequisite: *Greek 100* or OAC Greek. Three hours weekly, including language study.

Staff

Greek 220

(Not offered this year.)

Greek 240

New Testament Greek. Designed to offer two or three of the New Testament texts in the original (*John*, *Acts*, *Galatians*). Prerequisite: *Greek 100*. Two hours weekly.

I.C. Storey

Greek 395, 396a, 397b

Special-topic course in Greek language and literature, to be arranged in March of the preceding academic year in consultation with the Department. Prerequisite: *Greek 200* or *220*. Three hours weekly, including language study.

Staff

Greek 495

Special-topic course in Greek language and literature, to be arranged in March of the preceding academic year in consultation with the Department.

Staff

Courses in Translation**Classical History***Classical History 100*

Ancient Greek society and institutions: the history of Greece from the beginnings to the decline of the city-states. An introduction to the study of ancient history illustrated by the problems of the period 600-323 B.C. (early Sparta, the reforms of Solon and Kleisthenes, Greek tyranny, the emergence of democracy, the Athenian Empire, the world empire of Alexander). Two lectures weekly, fortnightly seminar.
K.H. Kinzl

Classical History 201

Rome from the Republic to the Caesars c. 150 B.C. - A.D. 69. A study of republican institutions, Roman imperialism, the crisis which witnessed the collapse of the republic in the last century B.C., the monarchy of Julius Caesar, the "restored republic", the new order of the principate of Augustus, and the administrative, military, economic and social developments under the Julio-Claudian dynasty. Two lectures weekly, fortnightly seminar. Open to first-year students.
D.F.R. Page

Classical History 205a

International relations in the Greek world c. 500-146 B.C. This course examines such aspects as national and 'racial' attitudes, imperialism, alliances and diplomacy, political propaganda, etc. Special attention will be given to the original documents of the time, to be studied in translation. Weekly two-hour meetings. Open to students beyond first year.

*K.H. Kinzl**Classical History 207b*

Alexander the Great and his age. A course offering both a survey of the life and deeds of Alexander and an examination of the background, the ancient sources, and modern assessments. Weekly two-hour meetings. Open only to students in the second quarter or beyond. Students not majoring in Classical History or History should consult the instructor for permission.

*K.H. Kinzl**Classical History 305*

Government and politics in the Greek city-states, c. 600-300 B.C. A course examining such forms of government as

democracy, tyranny, oligarchy, etc. Open only to Classical History students beyond the second quarter, except with the permission of the instructor. Two-hour meeting weekly.

*K.H. Kinzl**Classical History 331*

The Augustan principate. (Not offered this year.)

Classical History 351a

The Roman Empire, A.D. 69-305. A course studying the empire during the Flavian period (69-96) and at the peak of its power during the second century; the militarization after A.D. 200 and the crisis of the third century; the militarization after A.D. 200 and the crisis of the third century; the new order of Diocletian's tetrarchy. Two lectures weekly, fortnightly tutorial. Prerequisite: *Classical History 201*, or permission of the instructor.

*D.F.R. Page**Classical History 352b*

The Late Roman Empire, A.D. 305 to c. 600. A course studying the autocracy of the Late Empire, the emergence of Christianity to its role as state religion under Constantine, the collapse of the empire in the west and its replacement by Germanic kingdoms, the survival of the empire in the east and the birth of Byzantine civilization. Two lectures weekly, fortnightly seminar. Open to students in the second quarter and beyond with at least one half-course in Classical History or History, or by permission of the instructor.

*K.H. Kinzl**Classical History 390*

Reading course in classical history, to be arranged in March of the preceding academic year in consultation with the Department. Open to students in the third and fourth quarter. Prerequisite: two courses in Classical Studies in translation one of which must be at the upper-year level.

*Staff**Classical History 410*

The Athenian Empire. (Not offered this year.)

Classical History 420

The Principates of Nerva, Trajan, and Hadrian (A.D. 96-138). (Not offered this year.)

Classical History 490

Reading course in classical history, to be arranged in March of the preceding academic year in consultation with the Department. Open only to students in the fourth quarter. Prerequisite: *Greek 100* or *OAC Greek*, or *Latin 100* or *OAC Latin*.
Staff

Classical Literature

Classical Literature 100

Greek drama in translation. Selected plays of the three major tragedians (Aeschylus, Sophocles, Euripides), and of the two comic poets (Aristophanes, Menander). Lectures will present also the role of drama in classical Greek society. Two lectures weekly, fortnightly seminar.
I.C. Storey and staff

Classical Literature 200

Mythological themes in Greek and Latin literature, e.g. gods and demi-gods, the hero, epic and tragic; the quest theme; and literary archetypes. This course will also deal with modern theories concerning the nature and function of myth. Weekly lecture and fortnightly seminar. Open to students beyond the first quarter.
J.P. Bews

Classical Literature 395 396a, 397b

Special-topic course in classical literature to be arranged in March of the preceding academic year in consultation with the Department. Open to students in the third and fourth quarter. Prerequisite: two courses in Classical Studies in translation, one of which must be at an upper-year level.
Staff

Classical Literature 495 496a, 497b

Special-topic course in classical literature to be arranged in March of the preceding academic year in consultation with the Department. Open only to students in the fourth quarter.

Classical Civilization

Classical Civilization-Women's Studies 231a

Women in the Greek world. The experience of women in Greek archaic and classical periods (c. 700-300 B.C.) as seen through literature, philosophical and medical treatises, law codes, and the visual arts. The material will be considered within the context of current trends of approach (feminist, sociological, anthropological, literary). Weekly two-hour lecture and fortnightly seminar. Open to students in the second quarter and beyond.
J. Tinson

Classical Civilization-Women's Studies 232b

Women in the Roman world. The role in society of Roman women in the late republican and imperial periods (100 B.C.-A.D. 300). Topics will include the status of women in Roman law, the Roman family, sexuality and motherhood, feminine religious cults, women in Roman literature. The material will be considered within the context of current trends of approach (feminist, sociological, anthropological, literary). Weekly two-hour lecture and fortnightly seminar. Open to students in the second quarter and beyond.
J. Tinson

Classical Civilization 390, 391a, 392b

Reading course in classical civilization to be arranged in March of the preceding academic year in consultation with the Department. Open to students in the third and fourth quarter. Prerequisite: two courses in Classical Studies in translation, one of which must be at an upper-year level.
Staff

Classical Civilization 490, 491a, 492b

Reading course in classical civilization to be arranged in March of the preceding academic year in consultation with the Department. Open only to students in the fourth quarter.
Staff

Ancient Philosophy

See the entry under *Philosophy 210*.

Comparative Development Studies

Associate Professor and Chair of the Program

R.D.Powell, LIC.EN HISTORIA (CORDOBA),
PH.D. (MCGILL)

Professors

P. Bandyopadhyay, B.A. (CALCUTTA), M.A.
(OXFORD, MANCHESTER), PH.D.
(MANCHESTER); J. Hillman, M.A. (OXFORD),
PH.D. (SUNY,BUFFALO); D.R. Morrison, M.A.
(SASKATCHEWAN), D.PHIL (SUSSEX)

Associate Professor

C.V. Huxley, B.A. (YORK, ENGLAND),
M.A.(SIMON FRASER), PH.D. (TORONTO).
(On leave Fall 1993)

Assistant Professors

J.Solway, B.A. (OAKLAND), M.A., PH.D.
(TORONTO); W. Lem, M.A., PH.D. (TORONTO)

Associated Faculty

Anthropology: O.Roesch; *Economics*:
S. Choudhry, K.S.R.Murthy; *Cultural
Studies*: A. O'Connor; *Geography*:
J.S.Marsh; *Hispanic Studies*: T.Noriega;
History: D. Sheinin, P. Zeleza; *Native
Studies*: D.N. McCaskill; *Political
Studies*: A. Pickel, E. Helleiner

Honorary Professor

L.A. Costa Pinto, LIC.SOC. (BRAZIL)

Conjunct Professor

B. Beck, B.A. (CHICAGO), B.LITT. (OXFORD),
D.PHIL.(OXFORD)

The Program in Comparative Development Studies involves the comparative examination of societies and cultures undergoing rapid change, and of the complex global relations between industrialized countries and the developing areas of Africa, Asia, the Caribbean, and Latin America. It is offered with the cooperation of the following Departments and Programs: Anthropology, Cultural Studies, Economics, Environmental and Resource Studies, Geography, History, Hispanic Studies, Native Studies, Political Studies, Sociology and Women's Studies.

Students are strongly encouraged to enrol in some cognate courses. *Economics 101a/b, 102a/b, Anthropology 100, Politics 100, and Sociology 100* are recommended. Students are also advised that some Program courses offered by participating departments carry pre-requisites.

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine courses in Comparative Development Studies, including:

CD 100
CD 200
CD-Economics 331a, 332b
(prerequisite: *Economics 101a/b*
and *102a/b*)
one of CD 300, CDAN 301,
CDAN 304, CDHI 340
CD 400

at least three other core courses, two of which must be at the four-hundred level.

Joint-major Honours program. Minimum seven courses in Comparative Development Studies, including:

CD 100
CD 200
one of CD 300, CDAN 301, CDAN
304, CDHI 340
CD 400

at least one other course in the four-hundred series

General joint-major. Minimum five core and support courses, including:

CD 100
CD 200
one of CD 300, CDAN 301, CDAN
304, CDHI 340

Notes

Only one support course can be counted towards the minimum requirements of each degree program. Courses from the student's other joint-major cannot be included among the minimum five courses for a General degree.

Anthropology students: Students undertaking joint-majors in Anthropology and Comparative Development Studies are advised that they may substitute *Anthropology-Comparative Development 221* for one of *Anthropology 212, 230 or 240* in their Anthropology requirements. Depending upon their area of interest, students are encouraged to enroll in French or Spanish language courses.

Year Abroad Program

This program is offered in Ibarra, Ecuador and is designed primarily for CDS and Anthropology majors. The program consists of the following courses: *Spanish 201, Intermediate Spanish CD 380, Community Development CD 387, Introduction to Quechua CD 388 Ecuador Seminar*

CDAN 389*, Andean economy, society and culture

*meets 300 level requirement for CDS majors

Spanish 100 and high academic standing is a prerequisite.

For further information, please contact the Chair of the Program.

Core Courses

Comparative Development 100

Human inequality in global perspective. An interdisciplinary introduction to the basic ideas and perspectives of development analysis including issues of population growth, food, transformation of rural life, gender, the environment, urbanization and industrialization. The investigation of development and under-development proceeds from comparative and historical perspectives with illustrations from widely differing societies.

W. Lem and staff

Comparative Development 200

Development analysis. An examination of the strengths and limitations of the major perspectives that have informed development studies. Consideration of selected monographs which address critical issues on the basis of well-defined models and sound empirical research.

J. Solway

Comparative Development 250

Technology and Development. (Not offered this year.)

Comparative Development 300

South Asian development. An Examination of the structure of agrarian production systems, role of land tenure and market relations in selected Asian societies. The process of social change from precapitalist, precolonial to colonial and contemporary institutions and the development of political and ideological movements will be analyzed. Two-hour lecture, seminar fortnightly. Prerequisite: *Comparative Development 200* or permission of instructor.

P. Bandyopadhyay

Comparative Development-Sociology 382

Historical sociology. An introduction to the comparative study and analysis of past societies. Elements of social structure, economic practices, political authority and the cultural symbols, beliefs and products will be studied. This year the focus is on Ancient Israel and Medieval Islamic

societies. Prerequisite: C- or higher in *Sociology 100* or *Comparative Development 200*.

P. Bandyopadhyay

Comparative Development 385c

Field course. An examination of the development strategies shaped by both governmental and non-governmental agencies in a Caribbean country in the context of structural adjustment. Particular attention given to the role of Canadian assistance. The course involves a ten-day field trip during the Winter Reading Break at cost to the student. In 1993-94 the focus will be on Jamaica. (Offered this year and in alternate years.)

P. Zeleza and staff

Comparative Development 400

Modernity and Development. A study of the problems developing countries face in the passage from local or national traditions, cultures, and relations to modernity and global integration and hierarchy. This year the focus will be on indigenization and westernization with regard to industry, law and national institutional development in various regions. Prerequisite: *Comparative Development 300* or permission of the instructor.

P. Bandyopadhyay

Comparative Development 421c

Assessment of development projects. An examination of techniques for analyzing and assessing projects for industrial, rural and social development, and of selected case studies. Case studies will include Canadian projects for development assistance in third world countries. Introductory lectures and weekly seminars. Prerequisite: *Comparative Development 300* or permission of the instructor.

R.D. Powell

Comparative Development-Canadian Studies 460

Canada and the Third World. Canada's relations with developing countries - economic, political and socio-cultural - and Canada's role in North-South issues, especially the debt crisis and structural adjustment, human rights, immigration and refugees, ecologically-sustainable development, and regional conflicts. Also applies theoretical perspectives on comparative and international development to Canada and its place within the global political economy. Two-hour seminar weekly. Prerequisite: *Canadian*

Studies 200 or Comparative Development 200 or permission of the instructor. Open only to students in the fourth quarter of the Honours degree. Enrolment limited to 12.

D.R. Morrison

Comparative Development-Sociology 470a

Social Movements - religion in development. An examination of the religious movements within the Catholic tradition generated by social upheaval in contemporary Latin America, with particular attention given to new forms of religious organization, and theology, together with the revitalization of popular religion. Weekly seminar. Prerequisite: *Comparative Development 200* or permission of the instructor.

J. Hillman

Comparative Development-Anthropology 475b

Perspectives on Ethnicity. (Not offered this year.)

Comparative Development 496b

Special topic: Protestantism in Latin America and the Caribbean. An examination of the impact of Evangelical Protestantism, with particular attention given to the political consequences of the indigenization of Pentecostalism and millenarian movements such as Rastafarianism. Weekly seminar. Prerequisite: *Comparative Development 200* or permission of the instructor.

J. Hillman

Other Core Courses

Comparative Development-Anthropology 221

Development anthropology. (See Anthropology)

Comparative Development-Sociology 280
Society and economy. (See Sociology)

Comparative Development-Anthropology 301

Africa. (See Anthropology)

Comparative Development-Anthropology 304

Latin America. (See Anthropology)

Comparative Development-Economics 331a

Economics of developing countries. (See Economics)

Comparative Development-Economics 332b

The international economics of development. (See Economics)

Comparative Development-History 340
The emergence of modern Africa. (See History)

Comparative Development-Economics 370a

Comparative economic systems and planning. (See Economics)

Comparative Development-Native Studies 305

Native community development. (See Native Studies)

Comparative Development-Women's Studies 325

Women and development. (See Women's Studies)

Comparative Development-Cultural Studies 332

Special Topic: Media and development. (See Cultural Studies)

Comparative Development-Environmental and Resource Studies 360

Environment and development. (See Environmental and Resource Studies)

Comparative Development 390, 391a, 392b

Reading course in comparative development. Open only to students taking a major in Comparative Development Studies, and designed to provide an opportunity for specialized studies on selected topics. Periodic tutorials. Prerequisite: Permission of the Chair and the instructor concerned.

Comparative Development 402

Honours thesis. A specific scholarly project on a well-defined topic for which double credit will be given.

Comparative Development-Anthropology 407

Politics, economy and culture. (See Anthropology)

Comparative Development-Anthropology 424a

Social movements and cultural change in Africa. (See Anthropology)

Comparative Development-Politics 440

Political economy and comparative politics. (See Political Studies)

Comparative Development-Politics 450
Problems of underdevelopment: building democracy. (See Political Studies)

Comparative Development-Native Studies 482

Indian responses to cultural interaction.
(See Native Studies)

Comparative Development 490, 491a, 492b

Reading courses in comparative development open to students in the fourth quarter of the Honours program in Comparative Development Studies.

Periodic tutorials. Prerequisite:

Permission of the Chair and the instructor concerned.

Support Courses

Economics 311a: International trade

Economics 312b: International finance

English 315: Commonwealth fiction

Geography 380b: Regional economic development

History-Anthropology 345: Slavery in the Americas

History 347: Latin America

History 444: African labour history

History 447: Mexican history

Native Studies 385b: Program planning and evaluation research

Politics 220: International politics

Politics 240: Comparative politics

Spanish 326: Contemporary Latin-American novel

Computer Studies**Professor and Chair of the Program**

J.W. Jury, M.Sc., Ph.D. (TORONTO)

Associate Professors

S.B. Regoczei, M.Sc. (TORONTO); M.J.

Tamplin, B.A. (TORONTO), M.A. (LONDON),

Ph.D. (ARIZONA) (on leave Winter Term 1994)

Assistant Professors

M. Green, M.Sc., Ph.D. (NORTHEASTERN);

R.T. Hurley, B.Sc. (NEW BRUNSWICK), Ph.D. (WATERLOO)

Associated Faculty

Geography, J.G. Cogley; *Mathematics*,

D.G. Poole, E.A. Maxwell; *Philosophy*,

B. Hodgson, R.M. Neumann

Laboratory Demonstrator

M.E. Soper, B.A. (WESTERN ONTARIO), B.Sc. (TRENT)

The Program offers study of computers and their application from a generalist, humanist and liberal arts point of view. It combines courses in computer science

with courses in mathematics, philosophy and social and behavioral studies. The intent is to provide students with a sound basis in computer studies along with a comprehensive education in areas where the application of computer technology is having a major influence. To meet these goals, many courses in the program deal with advanced technical material from a humanist perspective. Students in the Program pursue General or Honours Joint-major Degrees by combining core and cross-listed Computer Studies with courses in another area of study, either in the arts or the sciences.

Required Courses

Joint-major Honours program. Minimum of eight courses in Computer Studies of which at least five must be core courses and include:

Computer Studies 102b, 202a and 203b,
300b or 301a
330
400

At least two courses must be at the four-hundred level. Joint-major Honours in Science requires a minimum of 20 courses. Joint-major Arts requires a minimum of 19.5 courses. Commencing in the 1995-96 academic year, at least one university-level mathematics credit (i.e. one of *Mathematics 110, 130 or 150* or a course in another discipline with an equivalent mathematics content).

Joint-major General program. Minimum five courses in Computer Studies including *Computer Studies 102b, Computer Studies 202a, Computer Studies 203b* and three and a half other courses in Computer Studies, at least two of which must be core courses. At least two core courses or cross-listed courses must be at the third year level.

Notes: 1. Only one of the half courses *Computer Studies 102b* or *Computer Studies 150b* may be taken by students in their first quarter of study. 2. In order to be eligible to graduate with a B.Sc. degree, a student must have completed an Ontario Academic course in Mathematics, or equivalent, or a university level Mathematics course.

Core Courses**Computer Studies 101a**

Introduction to computer science with applications. This course provides students with a general knowledge of

the important principles in computer science and hands-on experience with some modern applications. Topics to be covered include the impact of computers on society, history of computing, computer organization, data communications, operating systems, and modern applications, such as word processing, spreadsheets and database management systems. No prerequisite. Two lectures weekly, periodic workshops. (Excludes *Computer Studies 100*)

J.W. Jury and staff

Computer Studies 102b

Introduction to software engineering with Pascal. This course is the introductory programming course for Computer Studies majors. Students will learn how to design, test, and debug computer programs using the Pascal programming language. Topics to be covered include a general discussion of programming languages, algorithm design, program testing, program debugging, introductory data structures, and searching and sorting techniques. This course is a prerequisite for most higher-level Computer Studies courses. Prerequisite: *Computer Studies 101a* or equivalent. Two lectures weekly, periodic workshops. (Excludes *Computer Studies 100*)

R.T. Hurley and staff

Computer Studies 150b

Introduction to programming in BASIC. This course is intended for non-Computer Studies majors who wish to become familiar with the "art of programming". Topics include a general discussion of programming languages, software design and data structures, program construction and algorithm design using the BASIC programming language. Concepts such as string manipulation, arrays, procedures, functions, files and records will be discussed. Advanced topics such as simulation and graphics will be covered. Prerequisite: *Computer Studies 101a* or equivalent. Two lectures weekly, periodic workshops. (Excludes *Computer Studies 100*)

J.W. Jury and staff

Computer Studies 202a

Intermediate computer science. Program and system design, FORTRAN and introductory Pascal language programming, compilers, operating systems, applications including simulation and graphics. Prerequisite: *Computer Studies 101a* and *102b* (formerly *Computer*

Studies 100) or equivalent. Two lectures weekly and one tutorial.

R.T. Hurley, J.W. Jury

Computer Studies 203b

Data processing and file structures. Introduction to file structures and processing. Use of COBOL for data processing, including use of advanced language features and modular software engineering techniques. Efficiency in data management. Prerequisite: *Computer Studies 101a* and *102b* (formerly *Computer Studies 100*) or equivalent. Double lecture weekly plus periodic workshops.

Computer Studies 210

Computing in the social sciences and humanities. A survey of research problems, methods and data in the humanities and social sciences with particular emphasis on computer-based techniques of analysis. It is intended both as an introduction to research problems not usually encountered by computer science students with mathematics and science backgrounds and for non-majors who wish to use computers for research in their disciplines. Prerequisite: *Computer Studies 101a* and *102b* or *150b* (formerly *Computer Studies 100*) or equivalent. Two lectures and one one-hour laboratory weekly.

M.J. Tamplin and staff

Computer Studies 220b

Information systems in organizations. (Not offered in 1993-94.)

Computer Studies 300b

Data structures and algorithms. This course is designed to familiarize the student with the concept of data structures in a language-independent setting. The student will be introduced to abstract data types such as lists, stacks, queues, trees, dictionaries, and graphs. Advanced algorithmic design techniques such as recursion, divide-and-conquer, and dynamic programming are also discussed. For assignments, the programming language of choice is Pascal. Prerequisite: *Computer Studies 202a*. Two lectures and one tutorial weekly.

Computer Studies 301a

Scientific programming techniques. Structured programming and logic flow. Design of effective algorithms for scientific application. Languages for scientific computing, Pascal and C. Modular programming and library usage; documentation; correctness; optimization;

antibugging and debugging techniques. Prerequisite: *Computer Studies 202a*; *Mathematics 100* or *Mathematics 110* or *Mathematics 130* or permission of instructor. Two lectures weekly.

J.W. Jury

Computer Studies 320

Societal impact of computer technology. This course deals with the impact of computers on society and is presented at an advanced level by experts from a variety of disciplines. Topics covered will be chosen from the following: historical impact of computers and automated technology; ethical, legal and privacy issues of computerized information storage and flow; computers in policy formation and decision making; robotics and automation theory; progress towards artificial intelligence; image processing and pattern recognition. Prerequisite: *Computer Studies 101a* and *102b* or *150b* (formerly *Computer Studies 100*) or equivalent. Two lectures weekly, seminar fortnightly.

Computer Studies 330

Computer organization. This course begins with an investigation of digital logic where topics such as boolean algebra, sequential logic, and circuit design are discussed. Computer architecture is addressed next concentrating on issues such as main memory, secondary memory, the central processing unit, and I/O organization. Finally, assembly language programming will be covered. Prerequisite: *Computer Studies 202a* or *203b*. Two lectures and one tutorial weekly.

R.T. Hurley

Computer Studies 340b

Data base structures. Data base systems and their use in the management of data. History and development of data base theory. Hierarchical, network and relational data base structures. Prerequisite: *Computer Studies 203b*. Two lectures weekly.

S. Regoczei

Computer Studies 350

Artificial intelligence. Foundations directions and applications of artificial intelligence. Knowledge acquisition, representation and processing, knowledge bases and rule-based systems. Issues and techniques will be addressed primarily through expert systems. Vision systems natural language processing, machine learning, applications in knowledge-based

fields and industry. Prerequisite: *Computer Studies 202a* or *Computer Studies 203b* or permission of the instructor. Two lectures weekly.

M. Green

Computer Studies 390, 391a, 392b

Reading course dealing with advanced topics in computer studies chosen in consultation with supervising faculty members in Computer Studies. Prerequisite: permission of the Program.

Computer Studies 400

Software engineering project. Follows software development through a normal life cycle, within a general project management framework. Starting with requirements analysis and feasibility studies, it discusses systems and information analysis, software architecture conceptual data base design and improved programming techniques and concludes with software installation, testing, system maintenance and impact assessment.

Prerequisite: *Computer Studies 301a* or *Computer Studies 300b*; *Computer Studies 340b* recommended. Two lectures weekly.

Staff

Computer Studies 410

Comparative languages. Addresses programming languages and their structures as intellectual objects. From an assumed base of BASIC, FORTRAN, COBOL, C and Pascal, the course discusses general language design goals, data and control abstractions and structures. It progresses through lower level Assemblers to higher block structured languages (ADA), special purpose languages (such as Modula, FORTH, LISP) to concepts of verifiable and applicative languages, large programs, predicative programming and program transformation. The future of programming languages is discussed. Prerequisite: *Computer Studies 300b* or *Computer Studies 301a*. Two lectures weekly. Periodic workshops.

M. Green

Computer Studies 430

Advanced operating systems. This course examines the issues and concepts of computer operating systems. The first half of the course examines the traditional centralized operating system. Topics dealing with the management of processors, file systems, processes, and memory will be covered. The second half of the course examines the distributed system. Topics such as networking,

remote procedure calls, concurrency control, and resource management will be discussed. This course includes studies of specific centralized and distributed operating systems (such as VMS and UNIX). Prerequisite: *Computer Studies 330*. Two lectures and one tutorial weekly. R.T. Hurley

Computer Studies 490, 491a, 492b
Advanced reading course. Prerequisite: permission of the Program.

Cross-listed Courses

Computer Studies-Philosophy 240a
Symbolic logic. (See Philosophy)

Computer Studies-Mathematics 260
Discrete structures. (See Mathematics)

Computer Studies-Geography 405b
Geographical computer graphics. (See Geography)

Computer Studies-Mathematics 341
Linear and discrete optimization. (See Mathematics)

Computer Studies-Philosophy 341b
Logic and logical theories. (See Philosophy)

Computer Studies-Mathematics-Statistics 351
Linear statistical models. (See Mathematics)

Cultural Studies

Chair of the Program
(To be named)

University Professor
D.F. Theall, B.A. (YALE), M.A., PH.D. (TORONTO)

Professors

J. Fekete, M.A. (MCGILL), PH.D. (CAMBRIDGE); S. Kane, B.A. (CARLETON), M.A., PH.D. (TORONTO) (on leave Winter Term 1994); I. McLachlan, M.A. (OXFORD); D. Smith, M.A., D.PHIL. (OXFORD) (on leave Fall Term 1993); A. Wernick, M.A. (CAMBRIDGE, TORONTO) (on leave Fall Term 1993-94)

Associate Professors

Z. Baross, B.A. (U.B.C.), M.A. (LONDON), PH.D. (AMSTERDAM); J. Bordo, B.A. (MCGILL, ALBERTA), M.A., M.PHIL., PH.D. (YALE) (on leave 1993-94); A. O Connor, B.A. (TRINITY COLLEGE, DUBLIN), M.A., PH.D. (YORK)

Lecturer

R. Green, B.A. (WESTERN ONTARIO), M.A. (MCMASTER, TORONTO); V. Hollinger, M.A. (CONCORDIA), M.ED. (NEWCASTLE-UPON-TYNE)

Adjunct Faculty

M. Blyth, B.A. (TORONTO) M.A. (YORK); V. de Zwaan, B.A. (TRENT), M.A. (MCGILL); M. el Komos, M.A. (CAIRO); E. Loder, B.A. (BARD), M.F.A. (PRATT); W. Ramp, M.A., PH.D. (YORK); R. Wright, B.A. (TRENT), M.A., PH.D. (QUEEN'S)

Associated Faculty

English Literature, R. Dellamora
Vanier Professor, T.H.B. Symons

The Program offers study in the nature and criticism of culture and the arts, chiefly literature, film, drama, music and the visual arts, in the light of guided interdisciplinary enquiry into the social conditions in which thought and expression take shape. The Program as a whole provides the kind of academic experience which may have pre-professional value to a cultural and social critic or to a teacher of literature, drama or the arts who wishes to emphasize workshop experience in future teaching. This focus of practical and speculative needs is realized in courses whose overall concern is for the way in which theoretical understandings inform as they are informed by, actual practice by artists, critics and thinkers in different conditions. The focus is preserved on the level of term-work in that actual production experience or critical work in cultural activity is recommended as a way of sustaining a reflection on cultural problems and conditions in Canada and elsewhere. The *one-hundred* series course is the normal entry point to the Program for first year students and should normally be taken by all students who are, or who are preparing to be, Cultural Studies majors or joint-majors. First year students who also wish to take, in exceptional circumstances, a second Cultural Studies course, must obtain written permission from both the course instructor and the Chair of the Program. First year students who may wish to major or joint-major in Cultural Studies are urged to take one or more of the following courses as well: *Classical Literature 100*, *English 105* or *115*, *History 120*, *Philosophy 101*, *Sociology 100*, and any of the first-year language courses in the department of Modern Languages and Literatures.

Two-hundred and three-hundred series courses are grouped into two categories:

(a) 205, 225, 235, 246, 250, 305, 322, 325, 350, 356, 370 and

(b) 211, 216, 222, 226, 229, 260, 270, 280, 311, 315, 321, 329, 332, 345, 346, 375, 380, 381, 385, 395. Cultural Studies majors are required to choose at least two courses from each category. In so doing they may pursue a particular concentration within the different cultural areas that the Program draws together (e.g. Comparative Literature; Fine Arts; Performing Arts; Social and Cultural Theory).

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine courses in Cultural Studies including *Cultural Studies 100*, at least two from category (a), at least two from category (b), and at least two Cultural Studies courses at the *four-hundred series level*.

Joint-major Honours program. Minimum seven courses in Cultural Studies including *Cultural Studies 100*, at least two from category (a), at least two from category (b), and at least two Cultural Studies courses at the *four-hundred series level*.

Single-major General program. Minimum six courses in Cultural Studies including *Cultural Studies 100*, at least two from category (a) and at least two from category (b).

Joint-major General program. Minimum five courses in Cultural Studies. Same requirements as for single-majors.

Special Provisos

Two-hundred and three-hundred series courses.

Any two- or three-hundred series course is open to any upper year student, subject only to the conditions specified below under the descriptions of certain individual courses.

Four-hundred series courses are normally limited to students in the fourth quarter of Honours Cultural Studies. However, students may petition the Program to enroll in a *four-hundred series* course as part of a General program. Students wishing to take more than one *Cultural Studies 490* reading course must petition the Chair of the Program. The fourth quarter of the Honours program will normally consist of four courses.

Cultural Studies 100

Introduction to the study of modern culture. Introduction to the interpretation and foundations of modern culture. Looks at the problem of how to make sense of art works and other forms of cultural expression, in different media, both as texts and as practices in a context. A major focus will be on what distinguishes twentieth century culture from, and what connects it to, the tradition of modern culture as a whole. Two lectures and seminar, weekly. Field trips fee: \$40. (Excludes *Cultural Studies 200*)

R. Green, S. Kane, I. McLachlan, and staff

Cultural Studies 205

Nineteenth century comparative arts. The study of artistic expression in a number of media. Writing, opera, and movements in nineteenth century visual arts (romanticism, impressionism, post-impressionism, and symbolism) will be considered in the context of critical reflection on social and gender relationships. Lecture, seminar weekly.

R. Dellamora

Cultural Studies 211

Drawing. An introduction to basic ideas and skills in the visual arts. The course will deal with concepts and realities of form and the making of signs and symbols in two and three dimensions. Lecture and studio instruction six hours weekly. Open to Cultural Studies majors and students with the pre- or co-requisite *Cultural Studies 216* or *315* or permission of the Chair of the Program. Art materials fee: \$65. (Offered this year and in alternate years.) May also be offered in Summer 1993.)

Cultural Studies 216

Western art, the monument and modernity. (Not offered this year.)

Cultural Studies 222

Culture in the novel. (Not offered this year.)

Cultural Studies 225

Oral narrative. An enquiry into oral culture approached through its stories; a study of oral narrative forms and values (myth, legend, and folk tale), and an exploration of the relationship between oral and visual literature in voice, structure and ideology. The course provides practical experience in the writing or telling and evaluation of story, with an emphasis on traditional storytelling as a signifying as

well as an artistic practice. Two hours weekly. (May also be offered Summer 1993.)

S. Kane and staff

Cultural Studies 226

Storytelling workshop. (Not offered this year.)

Cultural Studies-English 229

Science fiction. (Not offered this year.)

Cultural Studies 235

Mass media and society. Introduction to the history, sociology and critical interpretation of contemporary mass communicated culture, both as an overall formation and with reference to such specific elements as the newspaper press, advertising, network TV and recorded popular music. Two-hour lecture and seminar weekly. (Excludes *Cultural Studies-Sociology 240*) (May also be offered Summer 1993.)

A. O'Connor and staff

Cultural Studies 246

Music in the nineteenth century. (Not offered this year.)

Cultural Studies 250

Civilization and human nature. An introduction to the thought of several of the founders of modern social and cultural theory including Marx, Nietzsche and Freud. Such topics explored as ideology and illusion, reason and eros, individualism and alienation, and the idea of progress. One hour lecture, seminar weekly.

Staff

Cultural Studies 260

The making of the modern body. The course focuses upon modernity's relation to the body as a project and a work site, and examines contemporary obsessions as an expression and experience of (post) modern subjectivity. Diverse cultural and theoretical materials explore the burgeoning of body-images that exercise contemporary cultural imagination in cinema, painting, fiction and the media. An examination of the social production of bodies and the inscription of identities and shifting body/gender relations. Writers in feminist criticism, film theory, psychoanalysis and social theory will explore the modern body as a site of power (relations), desire, signification, subjection and subjectification. Two-hour lecture and one-hour seminar weekly.

Z. Baross

Cultural Studies 270

History and theory of theatre. An introduction to theatre as a performing art. Examines the evolution of European theatrical practice and dramatic theory from Classical Greek tragedy to late nineteenth century naturalist drama. Topics include acting styles, theatre design and architecture, the changing relationships among playwrights, performers and spectators, and the institution of theatre in relation to religion, morality and politics. Two hours weekly. Field trips fee: \$45. (May also be offered Summer 1993.)

V. Hollinger

Cultural Studies 280

History and theory of the cinema. An introduction to critical interest in the cinema: the medium, the spectator, ideology, apparatus, pleasure and meaning. Lectures and seminars reflect upon the question of origin and relation to other arts (television and photography) and follow the evolution of cinematic language and narrative strategies from silent film (Griffith, Eisenstein) to classical Hollywood, from (early) experimental to (modern) European film. A selection of critical writings (Barthes, Cavell, Eisenstein) brings Andre Bazin's question, "What is cinema?" into a new focus. Weekly films, lectures and seminars.

Z. Baross

Cultural Studies 305

Politics and culture: The modernist arts and society. The relationship between art and critical social practice in the context of self-conscious cultural movements in the twentieth century (e.g. futurism, surrealism, expressionism, existentialism). Examines the relationship between 'avant-garde' and other modernist cultural movements and 'mass' culture; between aesthetic experimentalism and political engagement, between cultural activity and the marketplace. Lecture, seminar weekly.

D. Theall

Cultural Studies 311

Visual arts studio: form, process, object (and image). (Not offered this year.)

Cultural Studies 315

History and theory of modern art. (Not offered this year.)

Cultural Studies-English 321

Literature and society. (See English Literature)

Cultural Studies 322

Experimental fiction. A course in the work of some of the major twentieth-century writers of experimental fiction, ranging from Proust, Joyce and Kafka to Pynchon and Borges. Individual works will be related to various theories of narrative which seek to explain and contextualize them. Weekly lectures and seminars.

D. Theall

Cultural Studies 325

Literary and critical theory. A study of ideas about the nature and function of literature, interpretation, and evaluation. The spectacle and background of competing contemporary theoretical models will be considered through such figures as Plato and Aristotle, Sidney, Coleridge and Arnold, Frye and McLuhan, Lukacs and Adorno, Barthes, Derrida and Foucault, Kristeva and Spivak. Two-hour seminar weekly.

J. Fekete

Cultural Studies-English 329

Utopia (Future fiction). A study of the speculative social imagination in utopian and anti-utopian literature from Plato to contemporary science fiction. Such topics as sexual politics, technology, communication, psychic evolution, and narrative form will be examined in texts from More and Rabelais to Huxley, Orwell and such science fiction writers as Le Guin, Delany, Brunner, Dick, Lem, Piercy, and Russ. Weekly lecture and seminar.

J. Fekete

Cultural Studies-Comparative Development Studies 332

Media and development. Covers different approaches to communication and development especially in the 'Third World'. Topics include debates about cultural imperialism, Third World filmmaking, community radio, women's media and the role of communication and popular culture in struggles for democracy. Three-hour seminar weekly.

A. O'Connor

Cultural Studies 345

Music in twentieth century industrial society. (Offered in Summer 1993.)

Cultural Studies 346

Music workshop. Pre- or co-requisite: *Cultural Studies 345*. (Not offered this year.)

Cultural Studies-Sociology 350

Modern cultural theory. The crisis of modern critical discourse. The course examines how two distinct traditions in contemporary thought, critical theory of the Frankfurt School and post-structuralism, theorize the crisis of modernity. In and through a close reading of works by Habermas, Adorno, Horkheimer, Foucault, and Baudrillard, the course reflects on conceptions of knowledge and error, truth and power, ideology and emancipation, language and subjectivity. Recommended: *Cultural Studies 100* or *250*. Lectures and seminars weekly.

Z. Baross

Cultural Studies-Canadian Studies 356

(Post) modernity and the sublime. (Not offered this year.)

Cultural Studies 370

Theatre in the twentieth century. Investigates the changing roles of playwright, performer and director in the modern theatre. The innovations and experiments of Stanislavski and Brecht, Artaud and Brook, Beckett and Handke will be explored. Students will be expected to attend a number of theatrical performances. Seminar weekly. Field trip fee: \$45.

D. Smith and staff

Cultural Studies 375

Theatre workshop: staging ideas. A practical course in modern acting with a focus on methods of performance in works that dramatize ideas and the conflicts between them. Pre- or co-requisite: *Cultural Studies 270* or *370* or permission of the Chair of the Program. Workshop fee: \$50. Enrolment limited to 20. Four hours weekly.

I. McLachlan

Cultural Studies-English 380

Narrative literature and film. (Not offered this year.)

Cultural Studies 381

European film. Introduction to the study of European film in historical and aesthetic context through an examination of major directors, tendencies and schools. Weekly lectures, films, and seminars.

Staff

Cultural Studies 385

Film workshop. Pre- or co-requisite: *Cultural Studies 280* or *Cultural Studies 381*. Workshop fee: \$50. (Not offered this year.)

Cultural Studies 395

Special topics in cultural studies. The following special topics will be offered in 1993-94.

Cultural Studies 3951

Music and society. The relationship of music and drama will be explored through a consideration of opera both as a historical performance tradition and as it participates in contemporary cultural life in the opera house, in film, and television. Issues such as the relationship of music to text, the role of the singer, representation of gender, and socio-political aspects of the performance will be examined in works by Mozart, Wagner, Puccini, and others. Weekly lectures and seminars. Field trip fee: \$45.

R. Green

Cultural Studies 3952

Communication(s) theory/history. The history of communication, communication theory and communications technologies including oral, written and multi-media forms of communication in the pre-mechanical, mechanical, electro-mechanical and technocultural eras. Such issues will be considered as the relationship between the arts and other forms of cultural production, freedom of communication and virtual reality. The writers to be discussed will include: Baudrillard, Chomsky, McLuhan, Ong, Williams. Lecture and seminar weekly.

D. Theall

Cultural Studies 402

Honours thesis. A double-credit course for which double fee is charged, in which instruction in research methods leads to a thesis of about 15,000 words. The Program deadline for a thesis abstract and bibliography (signed by the thesis supervisor) is May of the year prior to the entry to the fourth quarter of the Honours program.

*Cultural Studies-Canadian Studies 413**The Vanier Seminar*

Cultural policy in Canada. Studies in the formulation and operation of Canadian public policy in the fields of culture, education, research and human rights. Prerequisite: permission of the instructor. Three-hour seminar fortnightly.

T.H.B. Symons

Cultural Studies-English 425

Advanced studies in literary and critical theory. Topic for 1993-94: A study of ideas about the nature and function of literature, criticism, and theory. These

ideas are considered in historical sequence, from Greek mimesis to contemporary post-modernism, intertextualism, and pragmatism, with a central focus on the emergence and decline of modernist Anglo-American theories of literary and imaginative autonomy. Such theoretical models will be examined as Plato and Aristotle, Coleridge, Arnold and Pater, Eliot, Richards, Fry and McLuhan, Fish and Tompkins, Barthes and Foucault, and a selection of feminist writers. Two-hour lecture-seminar weekly. (Excludes *Cultural Studies-English 325*)

J. Fekete

Cultural Studies 435

Advanced topics in mass media and popular culture. Topic for 1993-94: Heroism and narrative strategies in the comic book. An analysis of the traditional mythic forms of the commercial comic book (e.g. *Superman*, *Batman*, *Wonder Woman*, *Spiderman*, *Daredevil*, *Swamp Thing*, etc.), and of the value systems and stereotypes that they embody. They will be examined in relation to alternative works such as *American Splendor*, *Love and Rockets*, and *Yummy Fur*. Three-hour seminar fortnightly.

I. McLachlan

Cultural Studies-Sociology 440

Special topics in the sociology of culture and knowledge. (See Sociology)

Cultural Studies 450

Current issues in cultural theory. Focuses on the concept of postmodernism and the issues surrounding the way this term (and its compounds) has been deployed as a way to characterize contemporary theory, culture, and society. Explores what is meant by a break from the modern. In the light of this question, and by reflecting on key statements by Lyotard, Rorty, Jameson, Baudrillard, Jencks and others, considers such topics as the postmodern turn in architecture, the rise of deconstruction and ironic modes of theorising, and the cultural centrality of television. Two hour seminars weekly.

Z. Baross

Cultural Studies 470

Advanced studies in theatre and the performing arts. (Not offered this year.)

Cultural Studies 495

Special topics in cultural studies. For the list of special topics courses, students should attend the Honours Information Session in the Spring or visit the Program Office.

Reading Courses

Reading courses are available as *Cultural Studies* 390 or 490. Registration in reading courses is contingent on permission of the instructor and the Chair of the Program in advance of course registration.

Economics

Professor and Chair of the Department
H.M. Kitchen, M.A. (MCMASTER)

Professor Emeritus

M.J. Boote, B.A. (WALES), PH.D. (MCGILL)

Professors

D.C.A. Curtis, M.A. (QUEEN'S), PH.D. (MCGILL); K.S.R. Murthy, B.Sc. (ANDHRA), M.Sc. (KARNATAK), M.A. (DELHI, WESTERN ONTARIO), PH.D. (WESTERN ONTARIO)

Associate Professors

M. Arvin, B.Sc. (LONDON), M.Phil. (MCGILL); K.S.R. Murthy, B.Sc. (ANDHRA), M.Sc. (KARNATAK), M.A. (DELHI, WESTERN ONTARIO), PH.D. (WESTERN ONTARIO); M. Huberman, B.A. (MCGILL), M.A., PH.D. (TORONTO); J. Muldoon, B.Sc. (BROCK), M.A. (GUELPH), PH.D. (MCMASTER); P. Wylie, B.Sc. (QUEEN'S, BELFAST), M.A., PH.D. (QUEEN'S)

Assistant Professors

S. Choudhry, M.A. (MCGILL), PH.D. (MANITOBA); B. Leith, B.A. (WESTERN), M.A., PH.D. (YORK)

Conjunct Professor

D. Auld, B.A. (WESTERN) M.A. (TORONTO), PH.D. (A.N.U.)

Note: *Economics* 101a/b and 102a/b are prerequisites for all other courses in Economics. A standing of C- (60%) or higher is required in *Economics* 101a/b and 102a/b to allow registration in upper year Economics courses. With the exception of *Economics* 225a and *Economics* 220b, two-hundred series courses in Economics are accepted as three-hundred level courses to meet the University requirements of a minimum number of three-hundred series courses.

It is strongly recommended for single-majors, that *Economics* 320a and *Economics* 325a, and for joint-majors, that *Economics* 225a and *Economics* 220b be completed before students enter their fourth quarter.

Required Courses The single-major Honours program consists of twenty courses. Minimum ten courses in Economics, including *Economics* 101a/b and 102a/b

200	220b*	400a/b
201	320a	405a/b
225a*	325a	401

plus one other four-hundred series Economics course. Or, one full course equivalent from the three-hundred series, approved by the Department, may be substituted in the fourth quarter of an Honours program.

Joint-major Honours program. Minimum seven and one-half courses in Economics, including

Economics 101a/b and 102a/b

200	220b*
201	400a/b
225a*	405a/b
	401

plus a further one-half four-hundred series Economics course. Or, one half course equivalent from the three-hundred series, approved by the Department, may be substituted in the fourth quarter of an Honours program.

Single-major General program. Minimum six courses in Economics, including *Economics* 101a/b and 102a/b

200	225a*
201	220b*

Joint-major General program. Minimum five courses in Economics, including *Economics* 101a/b and 102a/b

200
201

*indicates that courses of equivalent content can be substituted for *Economics* 225a/220b. This will be determined by the Department Chair.

Note: In order to be eligible to graduate with a B.Sc. degree, a student must have completed an Ontario Academic course in Mathematics, or equivalent, or a university level Mathematics course. For students majoring in Economics, *Economics* 225a and *Economics* 220b fulfill the Mathematics requirement for the B.Sc. Degree.

Economics 101a/b

Introductory Microeconomics. An introductory treatment of markets, prices and outputs based on the behaviour of consumers, business firms and the structure and organization of industries. Competition policy and tax policy are

examined. Selected aspects of international markets, trade and trade policy are also considered. Lectures and discussions three hours weekly.

Economics 102a/b

Introductory Macroeconomics. An introductory treatment of gross domestic product (GDP), employment, unemployment, prices and inflation based on current models of national income determination. The Canadian banking system, monetary policy, the role of government and fiscal policy are examined. Selected aspects of international trade, the balance of payments and exchange rates are included. Lectures and discussions three hours weekly.

Economics 200

Microeconomic theory and its applications. An examination of problems of demand and supply, market equilibrium, market structure, income distribution and economic welfare. A comprehensive treatment of the theoretical techniques used to deal with problems of resource allocation and applications of those techniques. Develops skills necessary for advanced work in economics. Two lectures weekly, seminar fortnightly.
J. Muldoon and staff

Economics 201

Macroeconomics Theory and Policy. A study of output (GDP), employment, unemployment and inflation, and the role of monetary, fiscal and exchange rate policies, using current models of national income determination. Debates about the structure and behaviour of the economy and the design and effectiveness of policy are examined. Two lectures weekly, workshop fortnightly.
D. Curtis and staff

Economics 220b

Introduction to Econometrics. This course introduces students to the theory of probability and statistics. The emphasis in the course is on the way in which statistical methods are used in analyzing a wide variety of problems and the relationship between numerical conjecture and probability theory. The material covered includes descriptive statistics and data analysis; statistical inference and estimation; and regression techniques. Prerequisite: *Economics 225a*. Three lectures weekly.
B. Leith

Economics 225a

Introduction to mathematical economics. Elementary linear algebra; partial and general equilibrium; matrix algebra; elementary calculus; basic optimization theory; and comparative static analysis. Micro and macroeconomic applications will be stressed throughout the course. Three lectures weekly.
M. Arvin

Economics-Canadian Studies 260a

Canadian economic development. The application of economic analysis to the study of Canadian development to 1929. The Staples thesis, the colonial economies, Confederation, the national policy, prairie settlement, industrialization, regional income disparities, and the development of money, capital and labour markets. Two lectures weekly, seminar fortnightly.
P. Wylie

Economics-Canadian Studies 261b

The Canadian economy. Problems and policies in Canadian development since 1929. Models of income growth and depression/recession, government policy on trade, foreign investment, macroeconomic stabilization and social welfare, and the economics of federal-provincial relations. Two lectures weekly, seminar fortnightly.
P. Wylie

Economics 301a

Monetary theory. (Not offered this year.)

Economics 302b

Monetary institutions and policy. (Not offered this year.)

Economics 311a

International trade. Theories of world trade and the analysis of trade policy and trade relationships in the world economy. The theory and practice of protectionism and preferential trade arrangements (trade blocs). The role of multinational corporations in international trade and investment. Two lectures weekly, seminar fortnightly. (Support course for Comparative Development Studies).
P. Wylie

Economics 312b

International finance. The operation of international money and capital markets and theoretical and policy aspects of exchange rates and the balance of international payments. Macro-economic management of domestic open economies and the world economy, and the evolution,

management and reform of the international financial system. Two lectures weekly, seminar fortnightly. (Support course for Comparative development Studies).

P. Wylie

Economics 316a

Government expenditure analysis. Efficiency criteria will be emphasized in the analysis of public goods, externalities, natural monopolies, cost-benefit analysis, voting behaviour and the structure and growth of government expenditures in Canada. Two lectures weekly, seminar fortnightly.

H. Kitchen

Economics 317b

Canadian tax policy. Efficiency and equity criteria will be emphasized in evaluating personal income taxation, corporate income taxation, commodity taxation, local government taxation and income transfers. Two lectures weekly, seminar fortnightly.

H. Kitchen

Economics 320a

Econometrics. Simple and multiple regression models. Problems of estimation and testing of economic relationships under conditions of autocorrelation, errors in variables, etc. Regression diagnostics and introduction to distributed lags and simultaneous equations. Prerequisite: *Economics 225a, 220b* (or equivalents). Pre/corequisites: *Economics 200, 201*, or permission of the instructor. Two lectures, seminar weekly.

K.R. Murthy

Economics 321b

Applied econometrics. (Not offered this year.)

Economics 325a

Mathematical Economics and Economic Models. A continuation of *Economics 225a*. Application of mathematical techniques to the problems in Economics. Use of mathematics in building micro and macro economic models and their analyses. Includes applications of linear algebra; differential calculus; optimization theory; classical programming; and linear programming. Prerequisite: *Economics 225a, 220b* (or equivalents). Pre/corequisites: *Economics 200, 201*, or permission of the instructor. Three lectures weekly, seminar fortnightly.

J. Muldoon

Economics-Comparative Development 331a

Development as a self-contained evolutionary process. Models of growth and development, examination of sectoral problems of development such as agriculture, education, health, etc. Cost-benefit assessment of development projects. Planning strategies for economic development and the diversity of the development experience. Two lectures weekly, seminar fortnightly. (Excludes *Economics 330*).

S. Choudhry

Economics-Comparative Development 332b

Development and under-development in a global context. The evolving world economy and the place of less developed nations in an increasingly interdependent global system. Topics include market-oriented policy reform; structural adjustments that move economies to market-based systems; the growing literature on debt and development; increasing interdependence in areas such as food, energy, natural resources, technology and financial flows. Two lectures weekly, seminar fortnightly. (Excludes *Economics 330*).

S. Choudhry

Economics 341a/b

Industrial organization. (Not offered this year.)

Economics 350b

Economics of Trade Unions. What do unions really do? The application of economic analysis to explain the rise and impact of private and public sector unionism in Canada. Topics include: the effects of unions on wages, productivity and unemployment; collective bargaining; and the causes and consequences of strikes. Two lectures weekly, seminar fortnightly.

M. Huberman

Economics 351b

Labour economics. The economic theory of labour markets used to understand their outcomes and evaluate policies. Topics include wage differentials, investment in human capital, and structural unemployment problems. Prerequisites: *Economics 200*. Two lectures weekly, seminar fortnightly.

T. Drewes

Economics 361a

An economic history of the industrial revolution. Economic and quantitative analyses of European industrialization with special emphasis on the British experience. Topics include the origins of factories, technical change, worker-firm relations, the standard of living debate, and the decline of British industry. Two lectures weekly, seminar fortnightly. (Excludes *Economics 360*) (Will not be offered in 1994-95.)

M. Huberman

Economics 362b

International economic history, 1850 to present. (Excludes *Economics 360*) (Not offered this year but will be offered in 1994-95.)

Economics 365a

History of economic thought. (Not offered this year.)

Economics-Comparative Development 370a

Comparative economic systems and planning. (Not offered this year.)

Economics-Environmental and Resource Studies 381a

Environmental Economics. This course examines the links between economic activity and environmental degradation. The course examines the relationship between private and social incentives for economic activity. Topics include the valuation of environmental amenities, incentive compatible regulation, the economic and environmental effects of market failure and the rationale for government intervention. Two lectures weekly, seminar fortnightly.

B. Leith

Economics-Canadian Studies 384b

Health Economics. Economic analysis of the organization, financing and utilization of health services. Patterns of consumer and provider behaviour; the functioning and regulation of markets for health services; policy issues in the provision of health care in Canada. Two lectures weekly, seminar fortnightly.

J. Muldoon

Economics 396a, 397b

Special topics in economic analysis and policy. (Not offered this year.)

Four-hundred Series Courses:

Four-hundred series courses are normally open only to students in the fourth quarter of the Honours program.

Information meetings for prospective fourth quarter students will be arranged early in the Winter Term when *four-hundred* series course offerings will be outlined.

Economics 400b

Topics in advanced microeconomic theory. Development of utility theory from axiomatic preference theory, homogeneous utility and production functions, duality in production and consumption, decisions involving risk and uncertainty, market structures and market failure. Prerequisites: *Economics 200, 225a, 220b* (or equivalents).

T. Drewes

Economics 405a

Topics in advanced macroeconomics. The Classical model; IS/LM model and resurrection of Keynes; Keynesian macroeconomics as an equilibrium and disequilibrium phenomena; micro-foundations of macroeconomics; implicit contract theory; wealth effects and government budget financing; rational expectations and new Classical macroeconomics; optimal choices of monetary policy instruments; trade unions, wages and employment; and efficiency wage and other theories of unemployment. Prerequisites: *Economics 201, 225a, 220b* (or equivalents). Three lectures weekly.

M. Arvin

Economics 415b

Public sector economics. (Not offered this year.)

Economics 420b

Topics in Econometrics. This course provides concrete experience in the estimation and testing of economic models. The course introduces alternatives to simple regression techniques as they relate to particular economic and statistical issues in an applied setting. The emphasis of the course is on integrating economic theory and empirical applications. Prerequisite: *Economics 320a* or permission of the instructor.

B. Leith

Economics 425b

Advanced Topics in Mathematical Economics. Classical and non-linear programming; differential equations; dynamic optimization; optimal control theory; game theory and economics of uncertainty. Economic theory and applications will be stressed throughout

the course. Prerequisite: *Economics 325a* or permission of the instructor.

J. Muldoon

Economics 401

Honours essay. This course is designed in such a way that the student must research a topic of individual interest under the close supervision of a faculty adviser.

H. Kitchen

Economics 496a, 497b

Special topics in economic analysis and policy. (Not offered this year.)

Education

*Associate Professor and
Director Trent-Queen's Teacher
Education Program*

Deborah P. Berrill, B.A. (NORTHWESTERN),
M.A. (TORONTO), PH.D (EAST ANGLIA)

Adjunct Faculty

Ladd Skube, B.A. (WESTERN), B.ED./M.ED.
(TORONTO)

Students contemplating careers in teaching in either elementary or secondary schools are able to undertake a four-or five-year program of studies at Trent and Queen's Universities. The concurrent teacher education program co-sponsored by the Faculty of Education, Queen's University, enables students to enrol in programs which qualify them for a Bachelor of Arts or a Bachelor of Science degree from Trent University and a Bachelor of Education degree from Queen's University. The first three or four years of the Concurrent Program are conducted at Trent and the first half of the final year is held at Queen's University. At the same time the student will obtain an Ontario Teacher's Certificate with either Primary-Junior (Grades K to 6) or Junior-Intermediate (Grades 4 to 10) or Intermediate-Senior (Grades 7 to O.A.C.) specialization.

Note: While responsibility for ensuring that all B.A./B.Sc. and B.Ed. requirements are fulfilled rests with the student, students are strongly encouraged to consult with the Trent-Queen's Teacher Education Program office to ensure that courses selected are acceptable in meeting these Program requirements. A list of acceptable courses is made available to Teacher Education students in the Fall prior to registration at information sessions.

Primary-Junior Program

This option is designed for candidates who intend to begin their teaching careers in elementary schools. Candidates are prepared to teach all subjects in the Primary division (Kindergarten to Grade 3) and the Junior division (Grades 4 to 6).

Candidates admitted to this program are required to include in their overall Arts/Science program:

- 1 course in Psychology
- 1 course in language or linguistics
- 1 course in Mathematics (or OAC Mathematics)
- 1 course in the arts
- 1 course in social studies (History, Geography, Political Studies, Sociology, Anthropology, Native Studies, Canadian Studies, Comparative Development Studies, Environmental Resource Studies, and Women's Studies)
- 1 course in science (or OAC Science)

Junior-Intermediate Program

This option prepares candidates to teach in the Junior division (Grades 4 to 6) and the Intermediate division (Grades 7 to 10). In addition to a core program preparing generalist teachers, there is the opportunity for candidates to do further study in one teaching subject of the Intermediate division.

Candidates selecting this option may major in any subject but must include in their total undergraduate degree program three full courses in one teaching subject, i.e. English, Drama, Geography, History, Mathematics, Visual Arts and General Science. Exception is French where five full undergraduate courses are required.

In addition, candidates are required to include in their overall Arts/Science program:

- 1 course in Psychology
- 1 course in language or linguistics
- 1 course in Mathematics
- 1 course in Science

Intermediate-Senior Program

This option prepares candidates to teach in the Intermediate division (Grades 7 to 10) and the Senior division (Grades 11 to O.A.C.). Candidates admitted to this option must select two teaching subjects for the study and development of teaching methods in these divisions. They must include in the undergraduate degree five full courses in one teaching subject and four full courses in the other. Exception is French where five full undergraduate courses must be completed. Also included

in the undergraduate degree must be one course in Psychology. In addition to the subject concentrations mentioned above in the Junior-Intermediate program, candidates may also select from Biology, Chemistry, Computer Science and Physics.

Program Design

Candidates must have obtained an overall B average (70%) in all Arts/Science courses from a three-year B.A. or B.Sc. program, or an Honours degree, before proceeding to the final year of the program.

The design of the concurrent program is an attempt to make teacher preparation both academic and field centred. The program is spread over a four- or five-year period and places the students in contact with school children in each of the years while at the same time allowing the students to pursue academic and professional studies. The students' involvement in the professional program increases from year to year and culminates in a one-half year of internship from January to April of the final year. Candidates elect to specialize in one of three program options upon entry into second year.

The program encourages candidates to do an Honours degree. Candidates for an Honours B.A. or B.Sc. take a full fourth year in arts and science and complete the final year of the education program in their fifth year.

Approximately 125 candidates may be accepted in first year. Candidates will be selected on the following criteria:

1. Academic Profile **50%** (Ontario Grade 13 or 6 O.A.C.'s or equivalent).
2. Experience Profile **50%** (showing candidate's related experience and stressing responsibility, leadership and initiative).

The program is actively seeking candidates with experience (1) with special needs populations and (2) in multicultural settings.

3. The program actively seeks candidates who are interested in teaching science at both elementary and secondary school levels; and/or women interested in science at all levels and men interested in teaching at the primary level.

Required Courses

Year 1

Up to five full B.A. or B.Sc. courses. One Education Special Studies half course. Equivalent of 10 full days in classrooms.

Year 2

Up to five full B.A., or B.Sc. courses. One Education Foundations course. Equivalent of 10 full days in classrooms.

Year 3

Five full B.A. or B.Sc. courses. One Education Foundation course. Five full days followed by one continuous week of evaluated teaching in classrooms.

Final Year

Fall semester at Queen's University — Curriculum Studies, Foundations, Skills, Practicum. Fall teaching round and, during winter semester, a four-month internship in a school in Peterborough, Kingston or other selected areas.

Note: Students enrolling in the Trent-Queen's Concurrent Teacher Education Program are required to pay Queen's course fees for their Education courses. These are not covered by Trent University arts and science tuition fees.

Also, in some Education courses students are expected to pay a nominal course materials fee.



English Literature

Professor and Chair of the Department
Z.H. Pollock, B.A. (MANITOBA), PH.D.
(LONDON)

Professors Emeriti

E.M. Orsten, M.A. (OXFORD), PH.D.
(TORONTO); G. Roper, M.A., PH.D.
(CHICAGO)

University Professor

D.F. Theall, B.A. (YALE), M.A., PH.D.
(TORONTO)

Professors

R.D. Chambers, B.A. (MCGILL), B.LITT.
(OXFORD); R.J. Dellamora, A.B.
(DARTMOUTH COLLEGE), B.A. (CAMBRIDGE),
M.PHIL., PH.D. (YALE); J.A. Fekete, M.A.
(MCGILL), PH.D. (CAMBRIDGE); S.F.
Gallagher, B.A., PH.D. (IRELAND), M.A.
(WESTERN ONTARIO) (on leave Winter
Term 1994); G.A. Johnston, B.A.
(TORONTO), M.A. (HARVARD); S. Kane,
B.A. (CARLETON), M.A., PH.D. (TORONTO)
(on leave Winter Term 1994); W.I.
McLachlan, M.A. (OXFORD); O.S. Mitchell,
M.A. (ALBERTA), PH.D. (LONDON); J.E.
Neufeld, B.A. (TORONTO), M.A., PH.D.
(CHICAGO); M.A. Peterman, A.B.
(PRINCETON), M.A., PH.D. (TORONTO);
J.M. Treadwell, B.A. (TORONTO), M.A.
(CAMBRIDGE) (on leave Winter Term
1994); F.B. Tromly, B.A. (GRINNELL),
M.A., PH.D. (CHICAGO)

Associate Professors

B.L. Beach, B.A. (ACADIA), M.A.
(DALHOUSIE), PH.D. (MCGILL); M.S.
Berkowitz, B.A. (NEW YORK), M.A., PH.D.
(MASSACHUSETTS); S.W. Brown, M.A.
(WINDSOR), B.A., PH.D. (QUEEN'S), F.S.A.
(SCOT.); K.A. Chittick, M.A. (TORONTO),
PH.D. (EDINBURGH); G.D. Eathorne, B.A.
(NEW ZEALAND), M.A. (CANTERBURY);
D.K. Glassco, B.A. (QUEEN'S), M.A. (MEL-
BOURNE); E.A. Popham, M.A. (MANITOBA),
PH.D. (QUEEN'S)

Assistant Professors

J. Buckman, B.A. (MCGILL), M.A. (SUSSEX),
PH.D. (MONTREAL); L.J. Clark, M.A.
(TORONTO), PH.D. (VIRGINIA) (on leave
Fall Term 1993)

Note:

The curriculum of the Department has been designed to accommodate a wide range of approaches to the study of English Literature. With the exception

of *English 205* (see below), courses are arranged in six categories. Each of the first five categories (A to E) encompasses a single literary period, and courses within each category provide a variety of approaches to the period. These approaches include literary-historical surveys, studies of outstanding writers in relation to their age, and studies of literary topics or genres associated with a particular literary period. The sixth category (F) consists of courses which are not confined to any particular period, but which provide comprehensive inquiries into genres, literary theory and criticism, and the history of ideas. The Department encourages students to explore as many different kinds of study as possible.

A	B	C	D	E	F
800 to 1500	1500 to 1642	1642 to 1790	1790 to 1900	1900 to Present	Genres, etc.
230	220	201	210	105	115
331	251	202	231	229	120
332	253	300	232	265	310
431	351	302	320	266	315
432	420	434	321	340	325
	433		435	345	329
			436	350	360
				365	370
				371	375
				440	380
				450	381
				460	425
				465	4951
				466	4952
				475	
				4953	

Required Courses

The Department is introducing a core course, *English 205: Methods of Literary Analysis*, which will be a requirement for all English majors in the second quarter of their program. In 1993-94, the first year in which the course will be offered, it will be open *only* to English majors in the second quarter of their program. Thereafter the course will be open to all students.

Old Requirements

For students who will be in the third or fourth quarter of their program in 1993-94, the required courses for a major in

English remain unchanged:

The single-major Honours program in English consists of nineteen courses. Minimum ten English courses. At least one course must be chosen from each of the six categories listed above, and at least three of the final four must normally be *four-hundred series* English courses.

Joint-major Honours program. Minimum eight English courses. Five of these courses are to be chosen from different categories listed above, and at least two of the final four must normally be *four-hundred series* English courses.

Single-major General program. Minimum six English courses. Five of these courses are to be chosen from different categories listed above.

Joint-major General program. Minimum five English courses. Four of these courses are to be chosen from different categories listed above.

New Requirements

For students who will be in the second quarter of their program in 1993-94 and thereafter, the required courses for a major in English are as follows:

The single-major Honours program in English consists of nineteen courses. Minimum ten English courses, including *English 205*. At least one course must be chosen from each of the six categories listed above, and at least three of the final four must normally be *four-hundred series* English courses.

Joint-major Honours program. Minimum eight English courses, including *English 205*. Five of these courses are to be chosen from different categories listed above, and at least two of the final four must normally be *four-hundred series* English courses.

Single-major General program. Minimum six English courses, including *English 205*. Four courses are to be chosen from different categories listed above, including at least two of categories A to C, and at least two of categories D to F.

Joint-major General program. Minimum five English courses, including *English 205*. Three courses are to be chosen from different categories listed above, including at least one of categories A to C, and at least one of categories D to F.

Special Provisos

One-hundred series courses: Only one *one-hundred series* English course may be taken by first-year students, and no more than two may be counted towards a degree. First-year students wishing to take a second English course must obtain written permission from the Department Chair.

Normally, a student will be required to take a first-year English course and obtain a grade of C- (60%) or better in order to major in English.

Two-hundred and three-hundred series courses: Any *two-* or *three-hundred series* English course is open to any upper-year student, with the exception of *English 205*, which is open only to English majors in their second quarter. *Two-hundred series* courses are considered equivalent to *three-hundred series* courses to satisfy the University requirement of four full courses in the *three-hundred series*.

Fourth quarter: The fourth quarter of the Honours program will normally consist of four courses.

Information meetings for students intending to enter the fourth quarter of the Honours program are held during the Winter Term when the details of next year's *four-hundred series* course offerings and application procedures are outlined. All enquiries should be directed to Professor J.M. Treadwell, Traill College, 748-1718.

Four-hundred series courses are normally limited to students in the fourth quarter of the Honours program. However, students wishing to apply for admission to a *four-hundred series* course before entering the fourth quarter of the Honours program may do so if they have first obtained permission of the instructor.

Honours-stream seminars in lower-year courses are provided for students lacking a prerequisite for a *four-hundred series* course in a category which they require, but they are open as well to any fourth-year students who have not already taken the related lower-year course. These seminars fulfil the same requirements as the related lower-year courses, but they are equivalent to *four-hundred series* courses in requirements, workload, and assessment, and will be recorded as *four-hundred series* courses on students' transcripts. Proposed Honours-stream seminars are announced at the information meeting.

English majors wishing to enroll in both *English-Canadian Studies 465* and *English-Canadian Studies 466* must obtain the permission of the Chair of the English Department.

Note:

As one of the optional English courses allowed in the General and Honours programs in English, students may count one of the following full- or two of the following half-courses: *Canadian Studies 355*; *Classical Literature 100, 200*; *Cultural Studies 205, 222, 225, 270, 322, 370*; *German 220*; *Spanish 324a, 325b*. However, none of these courses may be used to satisfy the category requirements for English majors.

The Department recommends that students considering graduate studies in English literature complete an upper-year course in a second language.

English 105

The modern period and its roots. The course introduces students to the study of literature through a critical examination of the work of the most significant writers of the modern period (Conrad, Yeats, Joyce, Lawrence, Eliot, and Woolf) and some of their most important forerunners (Browning, Hopkins, Dickens, and Hardy). Weekly lecture and seminar; occasional workshops.

D.K. Glassco and staff

English 115

Studies in English drama. (Not offered this year.)

English 120

Varieties of heroism. The course introduces students to the study of literature through the critical examination of the relationship between the heroic individual and society. The course will draw on a wide range of periods, but special emphasis will be put on works from the Renaissance to the Romantic era. Works and writers to be studied include *Beowulf*, *Sir Gawain and the Green Knight*, Shakespeare, Milton, Pope, Defoe, Elizabeth Inchbald, and Hawthorne. Weekly lecture and seminar; occasional workshops.

S.W. Brown and staff

English 201

Studies in Milton. (Offered in alternate years, but not this year.)

English 202

Literature and Belief. (Not offered this year.)

English 205

Methods of literary analysis. An introduction to methods of literary analysis, and to the assumptions underlying their use. There will be an emphasis on learning through writing, and a wide range of works, representing a variety of periods, genres, and cultural perspectives, will be explored. Weekly three-hour workshop.

Z.H. Pollock and staff

English 210

The Romantics. A study of the major English writers of the Romantic revolution: Blake, Coleridge, Wordsworth, Scott, Austen, Byron, Shelley, and Keats, with some attention to minor figures and to Romantic theories of the imagination. Weekly lecture and seminar.

O.S. Mitchell and staff

English 220

Studies in Shakespeare. An examination of Shakespeare's dramatic career through the study of about a dozen representative works spanning the period from the early comedies to the last plays. Particular consideration will be given to Shakespeare's imaginative development.

Weekly lecture and seminar. (Excludes *English 280*)

F.B. Tromly and staff

English-Cultural Studies 229

Science fiction. (See Cultural Studies)

English 230

The history of the English language. (Offered in alternate years, but not this year.)

English 231

The American Renaissance. (Offered in alternate years, but not this year.)

English 232

The Gilded Age. A study of American literature from the Civil War to World War I and of the relation between historical change and culture in the period. Writers to be studied include Twain, James, Howells, Crane, Norris, Bellamy, Dreiser, Wharton, and Adams. Weekly lecture and seminar. (Offered this year and in alternate years.)

M.A. Peterman and staff

English 251

The Renaissance lyric. (Not offered this year.)

English 253

Elizabethan and Jacobean literature. (Not offered this year.)

English-Canadian Studies 265

English Canadian prose. A study of the principal Canadian writers of prose in English from the nineteenth century to the present day. Writers to be studied include Atwood, Callaghan, Davies, Duncan, Haliburton, Kogawa, Kroetsch, Laurence, Leacock, MacLennan, Moodie, Munro, Ondaatje, Richler, Ross, and Wiseman. Weekly lecture and seminar.

E.A. Popham and staff

English-Canadian Studies-Women's Studies 266

Canadian women's writing. (See Canadian Studies)

English 300

Pope and his age. A study of the literature of the English Augustan period with particular attention to the work of Dryden, Swift, and Pope. Weekly lecture and seminar. (Offered this year and in alternate years.)

J.M. Treadwell and L.J. Clark

English 302

London. Studies in the literature of the Restoration and eighteenth century. (Offered in alternate years, but not this year.)

English-Women's Studies 310

Gender and literature. (Offered in alternate years, but not this year.)

English 315

Commonwealth fiction. (Offered in alternate years, but not this year.)

English 320

The Age of Dickens. A study of Victorian literature, art and society. Writers to be studied include Carlyle, Dickens, Browning, Tennyson, George Eliot, Ruskin, Arnold, and Wilde. Weekly lecture and seminar. (Offered this year and in alternate years.)

R.J. Dellamora

English-Cultural Studies 321

Literature and society. (Offered in alternate years, but not this year.)

English 325

Critical approaches to literature. An introduction to the assumptions underlying a number of contemporary critical

approaches to literature, focusing on their key concepts and aims, and exploring their strengths, weaknesses, and silences when applied to English literary texts. Theories to be studied include: New Criticism, Structuralism, Semiology, Deconstruction, Feminist Theory, Marxism, Psychoanalysis, Reader-Response Criticism, Archetypal Criticism, and New Historicism. Three hours of lectures, workshops, and seminars weekly. (Excludes *English 200*)

J. Buckman

English-Cultural Studies 329

Utopia (Future fiction). (See Cultural Studies)

English 331

Chaucer and his age. (Offered in alternate years, but not this year.)

English 332

Medieval romance. A study of the romance tradition (particularly the Arthurian) from its beginning in myth, folklore, legend, and chronicle to its culmination in the chivalric idealism of the Gawain-poet, Chaucer, Malory, and Spenser. The course will examine a popular literary tradition in the context of the cultural and psychological forces which helped to shape the genre as it evolved from primitive storytelling to romance-allegory. Weekly lecture and seminar. (Offered this year and in alternate years.)

To be announced

English 340

Modern poetry. An introduction to the work of some of the major British and American poets writing in English in the twentieth century, with special attention to the close reading of poetic texts as well as to contextual and theoretical knowledge relevant to the study of the poets. Writers to be studied include Yeats, Eliot, Pound, Williams, Stevens, Frost, Thomas, Auden, and Lowell. Weekly lecture and seminar. (Offered this year and in alternate years.)

To be announced

English 345

Modern British fiction. The course charts the major developments in British fiction in the twentieth century. The focus will be on thematic, technical, and stylistic innovation as a response to an era of unprecedented social change and uncertainty. Writers to be studied include Conrad, Ford, Joyce, Lawrence, Woolf, Forster, Waugh, Huxley, Greene, Rhys,

Naipaul, and Gordimer. Weekly lecture and seminar.

G.D. Eathorne

English 350

Modern drama. (Not offered this year.)

English 351

English drama to 1642. (Not offered this year.)

English-Canadian Studies-Native Studies 360

Native peoples in literature. The course considers the images and distortions of native people in a representative series of North American fictions by native and non-native authors. Writers to be studied include Cooper, Longfellow, Lafarge, Mitchell, Wiebe, Momaday, Silko, and King. Weekly lecture and seminar.

G. A. Johnston

English-Canadian Studies 365

English Canadian poetry. (Offered in alternate years, but not this year.)

English 370

Studies in the novel. A study of the development of the English novel, stressing both its thematic and technical aspects. Writers to be studied include Defoe, Fielding, Austen, C. Brontë, Dickens, Eliot, Hardy, James, Conrad, Bennett, and Woolf. Weekly lecture and seminar. (Offered this year and in alternate years.)

R.D. Chambers and staff

English 371

Modern American fiction. (Offered in alternate years, but not this year.)

English 375

An introduction to creative writing. A workshop course which offers students a formal course structure within which to pursue their interest in creative writing. The 1993-94 workshop will concentrate on fiction. Students will submit rough written work ("freefall") weekly and over the year will work towards a finished piece of fiction. Students seeking admission to the course will submit a portfolio of written work to the instructor by August 1, 1993, and will be notified if they have been accepted into the course by September 1. Weekly three-hour workshop.

O.S. Mitchell

English-Cultural Studies 380

Narrative literature and film. (Not offered this year.)

English 381

Literature and psychology. A study of the contributions of certain psychological theories and concepts to an understanding of literary works. Among the major theories to be considered will be those of Freud, Jung, and the modern humanistic psychologists. Weekly lecture and seminar.

B.L. Beach

English 402

Honours thesis. A double credit course, for which double fee is charged, in which instruction in research methods leads to a thesis of about 15,000 words. The Department deadline for a thesis abstract and bibliography (signed by the thesis supervisor) is May 1.

English 420

Advanced studies in Shakespeare. (Not offered this year.)

English-Cultural Studies 425

Advanced studies in literary and critical theory. Topic for 1993-94: Literary theory and metatheory. A study of ideas about the nature and function of literature, criticism, and theory. These ideas are considered in historical sequence, from Greek mimesis to contemporary post-modernism, inter-textualism, and pragmatism, with a central focus on the emergence and decline of modernist Anglo-American theories of literary and imaginative autonomy. Such theoretical models will be examined as Plato and Aristotle, Coleridge, Arnold and Pater, Eliot, Richards, Fry and McLuhan, Fish and Tompkins, Barthes and Foucault, and a selection of feminist writers. Two-hour lecture-seminar weekly. (Excludes *English-Cultural Studies 325* and *Cultural Studies 325*)

J.A. Fekete

English 431

Studies in Old English language and literature. Topic for 1993-94 to be announced. Prerequisite: any A category English course or permission of the instructor.

To be announced

English 432

Advanced studies in Middle English language and literature. (Not offered this year.)

English 433

Advanced studies in Renaissance literature. Topic for 1993-94: Sex and politics in Elizabethan literature. An exploration of 'court[er]ship' in the reign of Elizabeth I, focusing on the appropriation for political statement of forms and attitudes traditionally associated with sexual courtship in Sidney's *New Arcadia*, Spenser's *Faerie Queene*, and selected plays by Shakespeare. Examples of 'courtesy' literature, contemporary poetic theory, lyric and pastoral poetry, the erotic epyllion, prose romance, and political pageantry will provide a context. Prerequisite: any B category English course or permission of the instructor. Two-hour seminar weekly.
E.A. Popham

English 434

Advanced studies in Restoration and eighteenth-century literature. Topic for 1993-94: Seduction and the novel. The course examines the treatment of love in the eighteenth-century novel from *Clarissa* onwards. The first term will be devoted to the domestic comedy of courtship and marriage, and the second to the psychology of sexuality in gothic romance. Writers to be studied include Richardson, Burney, Austen, Inchbald, Walpole, Brockden Brown, Lewis, Radcliffe, and Peacock. Prerequisite: *English 120 or 300 or 302 or 370* or permission of the instructor. Two-hour seminar weekly.
S.W. Brown

English 435

Advanced studies in the Romantics. (Not offered this year.)

English 436

Advanced studies in Victorian literature. Topic for 1993-94: George Eliot and Henry James. The course examines Eliot (first term) and James (second term) as novelists and literary theorists. Particular attention will be paid to Eliot's advocacy of realism and James's self-conscious revision of her achievement. Prerequisite: *English 201 or 320 or 321 or 370* or permission of the instructor. Two-hour seminar weekly.

To be announced/K.A. Chittick

English 440

Advanced studies in modern poetry. (Not offered this year.)

English 450

Advanced studies in modern drama. Topic for 1993-94: Myth and modern drama. The course examines the use of myth in modern drama. In first term the focus will be on Irish myth and modern Irish drama, and in the second on classical myth and modern British, American, and French drama. Writers to be studied include Yeats, Synge, Friel, O'Neill, Eliot, Bond, and Anouilh. Two-hour seminar weekly.

S.F. Gallagher/I.C. Storey

English 460

Advanced studies in modern fiction. Topic for 1993-94: The literature of imperialism and its aftermath. The course explores the literary expression of the tensions inherent in the British Empire and of the complexities of its decline, ending with an examination of those important contemporary novelists whose work can best be described and understood as 'post-imperial.' Writers to be studied include Kipling, Orwell, Cary, Forster, Paul Scott, Naipaul, Narayan, Gordimer, Rushdie, and Chinua Achebe. Three-hour seminar fortnightly.

G.D. Eathorne

English-Canadian Studies 465

Advanced studies in Canadian literature. Topic for 1993-94: The literature of Ontario. A study of the evolution of a distinctive Ontario outlook in Canadian literature from the early nineteenth century to the present. In the first term an emphasis will be placed on the cultural development of Ontario. Writers to be studied include Traill, Moodie, Kirby, Duncan, Connor, Davies, Finley, Hood, Atwood, Munro, Engel, Shields, and Ondaatje. Prerequisite: *English-Canadian Studies 265 or 266 or 365* or permission of the instructor. Two-hour seminar weekly.
M.A. Peterman

English-Canadian Studies 466

Canadian literary pluralities. Prerequisite for English majors: *English-Canadian Studies 265 or 266 or 365* or permission of the instructor. (See Canadian Studies)

English 475

Advanced studies in American literature. Topic for 1993-94: The historical imagination. The course explores ways in which the historical imagination has been expressed in modern American fiction both in the historical novel proper

and in the 'non-fiction novel.' Writers to be studied include Berger, Cather, Doctorow, Faulkner, Hersey, Mailer, Stegner, Styron, Wilder, and Wright. Prerequisite: *English 371* or permission of the instructor. Two-hour seminar weekly. *R.D. Chambers*

English 490

Reading course. The course allows the student to select, with the approval of the Department, an area for research study which is then pursued under the direction of a member of the Department. Students are advised that all normal Calendar deadlines for registration in courses apply to *English 490*.

English 495

Special topics. The following special topic courses will be offered in 1993-94:

English 4951

Imagination and belief. The course will focus on the imaginative presentation of religious belief, rather than on specifics of doctrine and theology, from an interdisciplinary perspective drawing on William James, *The Varieties of Religious Experience* and Rudolph Otto, *The Idea of the Holy*. The works to be studied have been selected from a broad historical and cultural spectrum, ranging from portions of the Old and New Testaments and sacred Eastern texts to works by Bunyan, Milton, and Donne, and by such contemporary authors as Robert Brinkhurst, Peter Matthiessen, and Shunryu Suzuki. Two-hour seminar weekly.

M.S. Berkowitz

English 4952

Women artists by women artists. The course will explore literary texts ranging from the eighteenth to the twentieth centuries, drawn from British, American, and Canadian literary traditions, that reveal how women artists have struggled to withstand their exclusion from hegemonic power structures. Writers to be studied include Margaret Atwood, Mary Austin, E.M. Broner, Rhoda Broughton, Willa Cather, Margaret Laurence, Doris Lessing, Alice Munro, Elizabeth Stuart Phelps, May Sarton, May Sinclair, Muriel Spark, Helen Williams, Virginia Woolf. Two-hour seminar weekly.

J. Buckman

English 4953

Literature of the Great War. The course focuses on the memoirs, novels, and poetry that came out of World War I. Writers to be studied include Wells, Ford, Lawrence, Rebecca West, Woolf, Shaw, Remarque, and Graves. Two-hour seminar weekly.

D.K. Glassco

Environmental and Resource Studies

Professor and Chair of the Program

T.C. Hutchinson, B.SC. (MANCHESTER), PH.D. (SHEFFELD)

Professor Emeritus

C. Carter, B.SC., PH.D. (LONDON)

Professors

R.D. Evans, B.SC. (TORONTO), PH.D. (MCGILL); W.F.J. Evans, M.A., PH.D. (SASKATCHEWAN); R.C. Paehlke, B.A. (LEHIGH), M.A. (NEW SCHOOL FOR SOCIAL RESEARCH), PH.D. (BRITISH COLUMBIA) (on leave 1993-94); M.L. Rubinoff, B.A. (QUEEN'S), M.A., PH.D. (TORONTO)

Associate Professors

M. Havas, B.SC., PH.D. (TORONTO) (on leave Fall Term 1993); C.D. Metcalfe, B.SC. (MANITOBA), M.SC. (NEW BRUNSWICK), PH.D. (MCMASTER); T.H. Whillans, B.A. (GUELPH), M.SC., PH.D. (TORONTO)

Assistant Professors

M.G. Fox, B.SC. (PENNSYLVANIA), M.E. DES. (CALGARY), PH.D. (QUEEN'S) (on leave Winter Term 1994); D.G. Holdsworth, B.SC. (WATERLOO), M.SC. (MCMASTER), PH.D. (WESTERN ONTARIO); B. Leith, B.A. (WESTERN ONTARIO), M.A., PH.D. (YORK); R. Ponce-Hernandez, B.ENG., M.SC. (CHAPINGO), D.PHIL. (OXFORD)

Conjunct Professor

P. Welbourn, B.SC., PH.D. (BRISTOL)

Associated Faculty

Biology, E. Nol, D.C. Lasenby; *Canadian Studies*, J.H. Wadland; *Chemistry*, J.M. Parnis; *Geography*, J.M. Buttle, J.S. Marsh, C.H. Taylor; *Physics*, J.W. Earnshaw, R.G. Johnson, A.J. Slavin

Demonstrator/Technician

R.K. Loney, B.SC. (TORONTO); R.C. Williams, B.SC., M.SC. (TRENT)

The Environmental and Resource Studies Program is an interdisciplinary program offered by Environmental and Resource Studies (ERS) in cooperation with eighteen other University departments and programs. It provides an opportunity to take a single or joint honours or a single or joint General B.A. (Environmental Studies) or B.Sc. (Environmental Science) degree, consisting of ERS core courses and departmentally-offered support courses. Students should note carefully the course descriptions to ensure that they have the necessary prerequisites for any support courses they may wish to take for ERS credit.

Degree Requirements

Please read the section of the Calendar that describes the university-wide requirements for B.A. and B.Sc. degrees. Note also that a B.Sc. degree requires completion of a Grade 13/O.A.C. course in Mathematics or equivalent, or a university-level Mathematics course. For a B.A. one of *Economics 101/102*, *Geography 101*, *Philosophy 105* or *Mathematics-Statistics 150* must be taken. Another course with quantitative content may be substituted with permission of the ERS Chair.

Single- and joint-major Honours programs consist of twenty full-course equivalents. Minimum of ten ERS courses for a single-major and eight for a joint-major. Additional requirements include:

Bachelor of Science

ES 100

one of *ES 202, 220, 230*

five *three-hundred and four-hundred* level ERS courses (single-major)

three *three-hundred and four-hundred* level ERS courses (joint-major)

one *two-hundred* level or higher arts course

Note: A total of 14 sciences courses is required for an Honours B.Sc.

Bachelor of Arts

ES 100

one of *ER 200, 250*

five *three-hundred and four-hundred* level ERS courses (single-major)

three *three-hundred and four-hundred* level ERS courses (joint-major)

one *two-hundred* level or higher science course

The thesis course, *ER 402* or *ES 402*, is equivalent to two full-courses, but

requires permission of the ERS Chair and a minimum average in ERS credit courses of 75%. It is anticipated that most honours students will not do a thesis. Candidates for the thesis course that begins in September should normally have applied for entry by the previous May 1st. Acceptance for the thesis course is dependent upon the candidate having made arrangements with a suitable ERS supervisor.

One listed support course may be taken for ERS credit in either the single- or joint-major honours program. Occasionally a second of these courses may be approved by the ERS Chair for single-majors.

Single- and joint-major General programs consist of fifteen full-course equivalents. Minimum of six ERS courses for a single-major and five for a joint-major. Additional requirements include:

Bachelor of Science

ES 100

one of *ES 202, 220, 230*

three *three-hundred* level ERS courses (single-major)

two *three-hundred* level ERS courses (joint-major)

Note: A total of 11 science courses is required for a B.Sc. degree.

Bachelor of Arts

ES 100

one of *ER 200, 250*

three *three-hundred* level ERS courses (single-major)

two *three-hundred* level ERS courses (joint-major)

One listed support course may be taken for ERS credit in either the single- or jointmajor General program.

Core Courses

Environmental and Resource Science 100

Scientific bases of environmental problems. Interdisciplinary environmental science stressing the socio-economic physical, biological and technological foundations of environmental degradation and preservation, air and water pollution; solid wastes disposal and recycling; non-polluting energy resources; radiation; and noise. Three hours of lecture and film weekly, seminars fortnightly.

R.D. Evans, M. Fox, M. Havas,

T.C. Hutchinson, B. Leith

Environmental and Resource Studies-Canadian Studies 200
Canada: The land. (See Canadian Studies)

Environmental and Resource Science-Biology 202
Ecology. (See Biology)

Environmental and Resource Science 220
Methods in environmental science. An interdisciplinary course which will familiarize students with a wide range of laboratory and field methods directly applicable to the study of environmental problems. Prerequisite: *Chemistry 120* or *130* or permission of instructor. Two-hour lecture weekly, laboratory fortnightly.
J. Earnshaw and staff

Environmental and Resource Science 230
Energy science and technology. A discussion of the scientific principles of energy and thermodynamics, and the current and future prospects for energy production, conversion, storage and transmission. Prerequisites: *Physics 100* or *Chemistry 120* or *130*, or permission of the instructor. Two lectures weekly, one-hour seminar fortnightly. Occasional field trips.

J. Earnshaw, W. Evans

Environmental and Resource Studies 250
Canadian natural resource theory and management. This course examines the theories of renewable and non-renewable resource management and the way in which specific resources have been developed in Canada. Prerequisite: *Environmental and Resource Science 100* or permission of the instructor. One and one-half hour lecture weekly, seminar/workshop fortnightly.

M. Fox, D. Holdsworth, T. Whillans

Environmental and Resource Science-Biology 304

Aquaculture. Prerequisite: *Environmental and Resource Science-Biology 202* or permission of instructor. (Not offered in 1993-94.)

Environmental and Resource Studies 306
Environmental impact assessment: A case study approach. Environmental impact assessment brings together scientific, economic, social and political perspectives in an attempt to anticipate and manage the consequences of human actions for the environment. This course will examine different approaches to environmental impact assessment, con-

trasting provincial with federal and social with biophysical. Case studies will be used to illustrate particular theoretical and practical approaches. Prerequisites: *Environmental and Resource Studies 250* or *Environmental and Resource Science 100* and permission of the instructor. Two hours of lecture/workshop weekly.
Staff

Environmental and Resource Studies 307
Risk assessment: issues and techniques. This course explores the components and process of environmental risk assessment as undertaken by scientists, individuals and societies. It considers the role of science in risk assessment, and also examines the approaches and techniques used by different scientific disciplines to study situations involving risk. A special focus is the influence of societal values and goals on the ways in which risks are viewed, accepted and managed. Prerequisite: *Environmental and Resource Science 230* or *Environmental and Resource Studies 250* or permission of the instructor. Three hours of lecture and seminar weekly.

D. Holdsworth

Environmental and Resource Studies 308
Waste management. This course examines conventional and unconventional approaches to the management of waste. It considers questions such as how wastes can be converted into resources. The course explores socio, economic, health political and ecological considerations in waste management. Prerequisite: *Environmental and Resource Science 100* and *Environmental and Resource Studies 250* or permission of instructor. Two hours of lecture weekly and one hour of seminar bi-weekly.

Staff

Environmental and Resource Studies-Canadian Studies 310

Public policy and the Canadian environment. A comparative study of Canadian environmental policy and the history of the Canadian environmental movement with an emphasis on policies relating to occupational and environmental health, energy conservation, waste management, and renewable resources. Weekly lecture and seminar. Second year students wishing to take the course should seek permission of the instructor.

Staff

Environmental and Resource Science 312
Introduction to nuclear science. Prerequisite: *Environmental and Resource Science 220* or *Physics 100* or permission of the instructor. (Offered in alternate years, but not in 1993-94.)

Environmental and Resource Science 320
Management of forest ecosystems. This course offers an appreciation of the problems in managing forest ecosystems. It looks at the ecological processes which create and maintain forests and at how foresters attempt to manipulate them. With the groundwork established, a series of case studies, drawn from Ontario and other parts of the world, are then examined. Prerequisite: *Biology-Environmental and Resource Science 202* or permission of the instructor.

Staff

Environmental and Resource Studies 330
Environmental ethics. A critical examination of issues arising from human interaction with the natural environment. The course will focus on such themes as: the domination of nature, the allocation of scarce resources, animal versus human rights, social benefit and technological risk, conservation, preservation, and human responsibility to future generations. Special attention will be given to public and corporate policies affecting the environment with particular emphasis on the Canadian context within which these policies apply. Prerequisites: one two hundred level Philosophy course, or *Environmental and Resource Studies-Canadian Studies 200* or *Environmental and Resource Studies 250*. One-hour lecture and two hours seminar weekly. Enrolment limited to 30.

L. Rubinoff

Environmental and Resource Studies-Canadian Studies-Geography 333a
Wilderness resources. (See Geography)

Environmental and Resource Science-Chemistry 341b
Instrumental analysis. (See Chemistry)

Environmental and Resource Science 350
Ecology and management of wetland systems. This course involves intensive first-hand study of one type of ecosystem in natural and culturally degraded states. Wetlands occur at the interface of terrestrial and aquatic ecosystems. Although they have unique traits, wetlands share characteristics with both of these types

of ecosystem. Wetland management, thus requires understanding of ecological processes and management practices common to most of Canada. Prerequisite: *Environmental and Resource Science-Biology 202* or *Environmental and Resource Science 220* or *Environmental and Resource Studies 250* with permission of the instructor. Two-hour lecture weekly, two or three hour field trips or workshop weekly.

T. Whillans

Environmental and Resource Studies-Comparative Development Studies 360
Environment and development. Co-requisite for CDS majors: *CDS 300*; Prerequisite for ERS single- or joint-majors: *Environmental and Resource Studies 250* or permission of the instructor. (Not offered this year.)

Environmental and Resource Science 370
Environmental toxicology. This course will introduce the student to the chemical, physical and toxicological properties of organic and inorganic toxicants in the environment. The course will include a survey of the major classes of inorganic and organic contaminants, including mercury, cadmium, lead, fluoride, radionuclides, pesticides, PCBs, dioxins, PAHs, trihalomethanes and PAN. Case histories of contamination problems will be used extensively to illustrate environmental hazards and toxicological principles. The emphasis of the course will be on "environmental health", including the effects of contaminants on flora and fauna of both the aquatic and terrestrial environments. Human health issues will also be discussed in the context of hazards to the entire ecosystem. All students taking *Environmental and Resource Science 370* are required to take the Animal Care course. Prerequisites: *Biology 100* or *110* and *Environmental and Resource Science 220*. It is strongly recommended that students have taken *Biology-Chemistry 230b*, and *Chemistry 210a*. Two hours of lecture weekly, three hours of lab/tutorial fortnightly.
C.D. Metcalfe

Environmental and Resource Studies-Economics 381a
Environmental economics.
(See Economics)

Environmental and Resource Science 385, 386a, 387b, 388c
Field course. This course is offered when opportunity arises. It will not be offered in the summer of 1993.

Environmental and Resource Studies-Science 390, 391a, 392b, 393c
Reading course. This is a research course on a specific topic. The course is normally open only to ERS majors or joint-majors with two B credits (or better) in ERS courses. Arrangements must be made by each student with one or more instructors. Application must be made, preferably in the Spring, with the Program Office prior to enrolling in the course.

Environmental and Resource Studies-Science 395, 396a, 397b, 398c
Special topics. These are either experimental courses or courses which are offered on a temporary basis. The following are offered in 1993-94:

Environmental and Resource Science 395f

Applied ecology. This course will familiarize students with ecological and human health effects of selected environmental problems, particularly those related to chemical contamination of and physical changes to water, air and soil. Two hours of lecture per week. Prerequisites: *Environmental and Resource Science* 100, or *Biology* 100, 150 or 101, or permission of the instructor. *Environmental Resource Science-Biology* 202 is strongly recommended.

T. Hutchinson and staff

Environmental and Resource Science-Geography 396a
Introduction to geographical information systems. (See Geography)

Environmental and Resource Science 397a

Air pollution chemistry. Sources, distribution and impacts of atmospheric pollutants are examined. The course addresses alternative scientific approaches in monitoring atmospheric pollution and modelling systemic responses. Emphasis will be on questions other than climatic change. Prerequisite: *Chemistry* 120 or 130.

W. Evans

Environmental and Resource Science-Geography 398a

Land resources inventories for land-use planning. This course examines the

principles, approaches and methods for land resources inventories needed for formulating land-use plans. The course focuses on the technical aspects of soil, landscape, climate and land-use surveys and mapping, and on the identification and extraction of the relevant datasets from these inventories for planning the best use of the land. The course also examines approaches for identification of land qualities and land characteristics that relate to land-use requirements. The quantitative and digital manipulation of such information through the development of land resources data bases and their interfaces to Geographical Information Systems are emphasized in the course. Prerequisites: *Environmental and Resource Science* 100 and *Environmental and Resource Science* 220 or *Geography* 201 or permission of the instructor. Three hours of lectures, tutorials and laboratory weekly. Enrolment may be limited.

R. Ponce-Hernandez

Environmental and Resource Studies 399a
Introduction to environmental law.

Students will be provided with a comprehensive overview of environmental law in Canada. In particular, the course will examine the key environmental laws and policies at the provincial, federal and international level. Prerequisite: *Environmental and Resource Science* 100. Two hours of lecture/workshop weekly.

Staff

Environmental and Resource Science-Geography 399b

Land suitability assessment for land-use planning. This course examines the principles and methodology for quantitative land evaluation. The approaches to suitability assessments leading to the formulation of land-use planning decisions are critically examined. Land evaluation provides the link between the basic land resource surveys and the decision-making in land-use planning. Land evaluation thus requires the extraction and manipulation of relevant land resources datasets for matching land qualities to land-use requirements. The course emphasizes the use of a variety for quantitative models in the computer for prediction of potential land-use outputs. Simulation models in the computer for prediction of potential land-use outputs. Simulation models for the suitability assessment and spatial models for decision-making in land-use planning make use of Geographical Information

Systems capabilities. Prerequisites: *Environmental and Resource Science-Geography 398a* or permission of instructor. Three hours of lectures, tutorials and laboratory weekly. Enrolment may be limited.
R. Ponce-Hernandez

Environmental and Resource Studies-Science 401/402

Thesis: This is a major research project combining one credit for Environmental and Resource Studies/Science and one for the other discipline in a joint-major (*ER/ES 401*), or counting as two credits for Environmental and Resource Studies/Science (*ER/ES 402*). This project course requires permission of the ERS Chair and a minimum average in ERS credit courses of 75%. It is anticipated that most honours students will not do a thesis. Candidates for the thesis course that begins in September should normally have applied for entry by the previous May 1st. Acceptance for the thesis course is dependent upon the candidate having made arrangements with a suitable ERS supervisor. Students are required to attend a regularly scheduled two-hour workshop in which techniques and approaches to thesis research are presented and discussed.

D. Holdsworth

Environmental and Resource Science-Biology 403a

Research design and data analysis.
(See Biology)

Environmental and Resource Science-Geography 404a

Hydrochemical fluxes in the hydrosphere.
(See Geography)

Environmental and Resource Science-Biology-Geography 406a

The geochemistry of natural waters. This course is a graduate level course open to a limited number of fourth-quarter students with appropriate qualifications. The course will examine the chemical and physical properties of water, snow and ice. An emphasis will be placed on those parameters which influence the distribution of biota, nutrients and contaminants in the aquatic environment. Topics for discussion will include the hydrologic cycle, the carbonate system and pH control, weathering and water chemistry, redox equilibria, hydrologic transport, and the properties of snow and ice. Prerequisites: *Geography 101, Biology-*

Environmental and Resource Science 202, Chemistry 120 or 130 and Biology 305, or permission of the instructor. Lecture and seminar weekly.

R.D. Evans

Environmental and Resource Science-Biology-Geography 407b

The fate of contaminants in the aquatic environment. This course is a graduate level course open to a limited number of fourth-quarter student with appropriate qualifications. The course will emphasize the mathematical modelling of the fate and distribution of aquatic contaminants, including models for toxic metals, organic xenobiotics and groundwater contaminants. The course will examine the basic algorithms and assumptions of contaminants models, and will give the students hands-on experience in applying existing models (e.g. MINTEQ, QWASI). An emphasis will be placed on using models to determine the dominant pathways influencing the fate of inorganic and organic contaminants in the aquatic environment. Prerequisites: *Geography 101, Biology-Environmental and Resource Science 202, Geography-Biology-Environmental and Resource Science 406a, Chemistry 120 or 130 and Biology 305*, or permission of the instructor. Tutorial, seminar weekly.

R.D. Evans

Environmental and Resource Science-Biology 412a

Environmental carcinogenesis. Prerequisite: *Environmental and Resource Science 220 and Biology 100. Biology 203* is highly recommended. (Not offered in 1993-94.)

Environmental and Resource Studies-Politics 460

Public policy. (Not offered in 1993-94.)

Environmental and Resource Studies-Science 485, 486a, 487b, 488c

Field course. This course is offered when opportunity arises. It will not be offered in the summer of 1993.

Environmental and Resource Studies-Science 490, 491a, 492b, 493c

Reading course. This is a research course on a specific topic. The course is normally open only to ES majors or joint-majors with a B average (or better) in ERS courses. Arrangements must be made by each student with one or more instructors. Application must be made, preferably in

the Spring, with the Program Office prior to enrolling in the course.

In addition to these individually arranged courses one option will be available in 1993-94:

Environmental and Resource Studies-Canadian Studies 4901

Bioregionalism: the Otonabee River watershed, Haliburton section. Ecology, history and culture; sustainable development; appropriate technology; regional planning. Permission of instructor required.

J. Wadland, T. Whillans

Environmental and Resource Studies-Science 495, 496a, 497b, 498c

Special topics. These are either experimental courses or courses which are offered on a temporary basis. The following are offered in 1993-94:

Environmental and Resource Science-Geography 497b

Geographical information systems: principles and applications.
(See Geography)

Environmental and Resource Science 498b

Climatic change. This course will examine the meteorological principles, measurements and models that are the basis of current understanding of climatic change. It addresses in particular, the biological impacts of climatic changes and the ways in which these biological changes might affect human resources and the process of climatic change itself. Prerequisite:

Environmental and Resource Science 100 or *Geography 101* or *Physics 100* or *Biology 150*; minimum of 10 university credits. Two hours of lecture weekly.

W. Evans, T. Hutchinson

Support Courses

Arts

Administration 410: Management theory

Administration 420: Professional ethics

Canadian Studies 370: Science policy

Comparative Development 250:

Technology and development

Comparative Development 400:

Modernity and development

Computer Studies 100 or *202a/203b*

Economics 101a/b, 102a/b

Economics 260a: Canadian economic

growth and development I: up to 1929

Economics 261b: Canadian economic

growth and development II: after 1929

Economics-Comparative Development

330: Economics of developing countries

Geography 101: Human and physical

environments

Geography 303a: Statistical applications

in geography

Mathematics-Statistics 150:

Native Studies 150a, 151b: Community

development

Philosophy 105: Practical reasoning

Political Studies-Comparative

Development 450: Problems of under-

development

Political Studies 321: International law

and organization

Women's Studies 395: Women and the

environment

Science

Biology 100, 150 or *101*

Biology 305: Limnology

Biology 314a: Fish

Biology 321a: Plant ecology

Biology 328b: Stress ecology of plants

Biology 339a: Wildlife

Biology 350b: Biogeography

Chemistry 120 or *130*

Chemistry 210a/230b: Organic,

biochemistry

Chemistry 240a: Analytical chemistry

Chemistry 341b: Instrumental analysis

Computer Studies 100 or *202a/203b*:

Introduction

Geography 245: Climatology

Geography 341a/b: Climatic change

Geography 356a: Pedology

Mathematics 110: Calculus

Mathematics-Stats 150: Elementary

statistics

Mathematics-Computer Studies 351:

Linear statistical models

Physics 100: Elementary physics

Science 350: Communicating science

Four-hundred Series

Approval may be given for other courses, not in the above lists, to be taken as support courses in a single major Honours program.

Geography

Professor of Geography and Chair of the Department

F.M. Helleiner, M.A., PH.D. (WESTERN ONTARIO)

Professors

W.P. Adams, B.A. (SHEFFIELD), M.SC., PH.D. (MCGILL); A.G. Brunger, B.SC. (SOUTHAMPTON), M.SC. (ALBERTA), PH.D. (WESTERN ONTARIO); J.G. Cogley, M.A. (OXFORD), M.SC., PH.D. (MCMASTER); J.S. Marsh, B.A. (READING), M.SC. (ALBERTA), PH.D. (CALGARY); G.A. Nader, B.A. (LONDON), PH.D. (DURHAM); C.H. Taylor, M.A. (CANTERBURY), PH.D. (MCGILL)

Associate Professor

J.M. Buttle, B.A. (TORONTO), PH.D. (SOUTHAMPTON)

Assistant Professors

P.M. Lafleur, B.SC. (BRANDON), M.SC. (TRENT), PH.D. (MCMASTER); R. Ponce, B.ENG., M.SC. (CHAPINGO), D.PHIL. (OXFORD)

NSERC Women's Faculty Award Holder

C.L. McKenna Neuman, M.SC. (GUELPH), PH.D. (QUEEN'S)

Technicians/Demonstrators

M.A. Ecclestone, B.SC. (TRENT), M.SC. (GUELPH); D.W. Steele, B.A. (WILFRID LAURIER), M.SC. (TRENT)

Conjoint Assistant Professor

K. Beesley, B.E.S., PH.D. (WATERLOO)

Required Courses

The single-major Honours program consists of twenty courses. Minimum ten courses in Geography including *Geography 101*

201

the equivalent of one full course from among 231b, 245, 250, 263a and 271a (and former 220 or 270) 411a/b, 303a, one of 401, 402, 440, 470

Highly recommended: *Geography 486a, 487b, 488c.*

Joint-major Honours program. Minimum eight courses in Geography. Same required and recommended courses as for single-major Honours program.

Single-major General program. Minimum six courses in Geography, including *Geography 101*

201

the equivalent of one full course from among 231b, 245, 250, 263a and 271a (and former 220 or 270)

Highly recommended: *Geography 411a/b* and *Geography 303a* and *Geography 486a, 487b, 488c.*

Joint-major General program. Minimum five courses in Geography. Same required and recommended courses as for single major.

Students should note that, because most *three-hundred* series courses are offered only in alternate years, they should plan their courses well in advance. It is possible to take certain *three-hundred* series courses after *Geography 101* and most *four-hundred* series courses after *Geography 201*.

Recommended Courses

The attention of students in Geography is drawn to *Mathematics 100*, *Mathematics-Statistics 150*, *Philosophy 105*, *Science 350*, and *Computer Studies 100, 202a.*

Students intending to teach are advised to include a regional course, *Geography of Canada (Geography 361)* and *Geography of the polar regions (Geography 364a/b)* are particularly useful. The Canadian Studies, Computer Studies, Environmental and Resource Studies and Comparative Development Studies programs can complement a Geography program.

Note: In order to be eligible to graduate with a B.Sc. degree, a student must have completed a Grade 13/Ontario Academic course in Mathematics, or equivalent or a university *one-hundred* level Mathematics course.

Students with an interest in Applied Geography are urged to consider the following Diploma programs offered by the School of Natural Resources, Sir Sandford Fleming College (Lindsay): *Geographic Information Systems Technology* and *Cartography Technology*. The Department of Geography intends to develop more formal links with these programs. *Geography 303a* and *405b* are appropriate preparatory courses for the Fleming programs.

Geography 101

Human and physical environments. Serves to indicate the scope and methods of geography. A survey of environmental systems, human interactions with them, and the use of distinctive areas on Earth. Emphasis on concepts, problems, research methods, and Canadian examples. Approximately four hours weekly, lecture, films, laboratory exercises, field project. *W.P. Adams, J.S. Marsh*

Geography 201

Methods of geographical analysis. The course describes quantitative techniques of investigation in geography. Commonly used statistical tools are explained. Data retrieval methods include remote sensing and forms of terrestrial survey. Cartographic and other representational techniques are presented. Prerequisite: *Geography 101*. Three hours weekly, lectures, tutorials and laboratory classes. Field work.

J.M. Buttle, P.M. Lafleur

Geography 231b

Recreation geography methods. Examines methods for determining the historical geography of recreation, the demand for recreation, the supply of land, facilities and services for recreation, and the economic, environmental and social impacts of tourism. (Excludes *Geography 334*) Prerequisite: *Geography 101*. Lecture and seminar weekly.

Geography-Science 240

Geology. Principles of mineralogy, petrology and sedimentology; palaeontology and structural geology; geophysics of the Earth's interior, and recent developments in geomagnetism, seismology, and global tectonics. Open to students in second year and above, and to first-year students with permission of the instructor. Two hours of lectures and a two-hour laboratory session weekly, and field work. (Offered this year and usually in alternate years.)

J.G. Cogley

Geography 245

Climatology. Study of the elements of weather and climate; global and local energy and water balance regimes; climate change and classification. Prerequisite: *Geography 101* or *Environmental and Resource Studies 100*. Three hours of lectures, laboratories and seminars per week, and field work.

P.M. Lafleur

Geography 250

Geomorphology. Geomorphic processes and landscape evolution. Running water, ice, and other landforming agents. Geometrical and mechanical explanation of forms and processes. The imprint of the Ice Ages. The physical landscape and its problems for man. Prerequisite: *Geography 101* or *Environmental and Resource Studies 100*. Three hours weekly; lectures, laboratories, and field work.

J.G. Cogley, J.M. Buttle

Geography-Canadian Studies 263a

Historical geography. Geography of North America before 1800, emphasizing early Canada. Themes pursued include exploration, environmental perception, resource exploitation, colonial settlement, urbanization, and regional development. Particular attention is paid to the geography of the northern imperial possessions of France and England in what is now Canada. (Excludes *Geography 330*) Prerequisite: *Geography 101*. Lecture and tutorial weekly, field work.

A.G. Brunger

Geography 271a

Introductory urban geography. The nature of urban geography; the historical development of urban systems, emphasizing Canada, the location, size, function, and spacing of cities at national and regional levels; regional planning and development. (Excludes *Geography 270*) Prerequisite: *Geography 101*, or *Economics 101a/b* and *Economics 102a/b*, or *Sociology 100*. Lecture and seminar weekly.

Geography 303a

Statistical applications in geography. A survey of some of the more important statistical techniques used in geography with particular emphasis on computer-based analysis. Computer packages such as SPSS and SAS will be used in the application of these techniques to geographical data. Among the analytical techniques to be covered are correlation, regression, chi square, analysis of variance, factor analysis and non-regression models. Prerequisite: *Geography 201* or *Mathematics-Statistics 150*. Lecture and laboratory weekly. *Geography 303a* is a prerequisite for *Geography 401/402* and is required for honours graduation.

G.A. Nader

Geography-Canadian Studies 332b
Settlement geography. Prerequisite: *Geography 201* and *263a* as a pre- or co-requisite. (Offered in alternate years, but not this year.)

Geography-Canadian Studies-Environmental and Resource Studies 333a
Wilderness resources. Prerequisite: *Geography 201* or *Geography 231a/b* or *Environmental and Resource Studies 200* or *Environmental and Resource Studies 250*. (Offered in alternate years, but not this year.)

Geography 337a
Recreation geography issues. Examines the characteristics of, and issues pertaining to, recreation, tourism, and parks in various environments from the city to wilderness and abroad. (Excludes *Geography 334*) Prerequisite: *Geography 231a/b*. Lecture and seminar weekly. (Offered this year and in alternate years.)
J.S. Marsh

Geography 341a
Climatic change. Prerequisite: *Geography 245*. (Offered in alternate years, but not this year.)

Geography 342b
Hydrometeorology—snow and ice. Study of geographical aspects of ice with particular reference to its role in hydro-meteorological processes. Treatment of falling snow, snowcover, lake ice, glacier ice. Pre- or co-requisite: *Geography 245*. One lecture per week, one seminar per week, at least one week in Churchill, Manitoba at the student's expense. (Offered this year, next year, and in alternate years thereafter.)
W.P. Adams

Geography 351a
Glacial and Quaternary geomorphology. The principles of glaciology. Glacial landforms and landscapes, particularly those of southern Ontario. Quaternary history with illustrations of the principles and uses of radiocarbon dating, isotope ratio analysis, and pollen analysis. The causes of Ice Ages, including the next one. Prerequisite: *Geography 250* or *Geography-Science 240*. (Offered this year and in alternate years.)
J.G. Cogley

Geography 353a
Hydrology. Study of the movement of water through the environment with emphasis on terrestrial aspects including interception, infiltration, soil moisture, groundwater, surface runoff, and stream-flow, also covering human impact on hydrological processes. Prerequisite: *Geography 245* or permission of instructor. Lecture and tutorial weekly, field work. (Offered this year and in alternate years.)
J.M. Buttle

Geography 354b
Fluvial geomorphology. Prerequisite: *Geography 250* or *Geography-Science 240* or permission of instructor. (Offered in alternate years, but not this year.)

Geography 355b
Introduction to groundwater movement. Study of the movement of water through porous, permeable media. Hydraulic head and potential; permeability; storage coefficient; confined and unconfined aquifers; recharge and discharge; analysis of data from waterwell production tests; elementary groundwater flow systems—the 'prairie profile'. Prerequisite: *Geography 353a* and *Mathematics 100* or equivalent. Two hours lecture and two hours laboratory weekly. (Offered this year and in alternate years.)
J.M. Buttle

Geography 356a
Pedology. Prerequisite: *Geography 250* or *Geography-Science 240* or permission of instructor. (Offered in alternate years, but not this year.)

Geography 357b
Modelling applications in physical geography. The course will emphasize the use of modelling techniques in various aspects of physical geography. Topics to be covered include: conceptual, analogue, and mathematical models; problems of scaling and indeterminacy; parameter estimation; optimization techniques; sensitivity analysis; model evaluation. Examples of modelling techniques and applications will be drawn from a variety of aspects of physical geography. Prerequisite: *Geography 201* and either *245* or *250* and either *Mathematics 100* or *O.A.C. Calculus*; highly recommended: *Computer Studies 100*. Three hours of lectures and laboratories per week. (Offered this year and in alternate years.)
C.L. McKenna Neuman

Geography-Canadian Studies 361

Geography of Canada. A problem-oriented course with a strong concentration for a short period on background knowledge, followed by a variety of themes and issues treated from a geographical perspective. Prerequisite: *Geography 101* or permission of instructor. Three hours or more weekly; lectures, seminars, tutorials, occasional field trips. Enrolment in this course is limited.

F.M. Helleiner

Geography-Canadian Studies 363b

Historical geography of Canada before 1900. Geography of late-eighteenth and nineteenth century Canada. Themes pursued include environmental perception and transformation, immigration, settlement, cultural and ethnic patterns, social institutions, industrialization, transportation, urbanization, and regional emergence within Confederation. Individual student research projects are encouraged on aspects of early Canada, particularly within the local setting of southern Ontario, using primary sources such as early maps, surveys, diaries, sketches, and photographs. Prerequisite: *Geography 263a*. (Excludes *Geography 330*). Lecture and tutorial weekly, field work. (Offered this year and in alternate years.)

A.G. Brunger

Geography-Canadian Studies 364b

Geography of the polar regions. Study of selected aspects of the polar regions with considerable reference to northern Canada but with the deliberate intention of developing comparisons between it and other parts of the polar regions. Prerequisite: *Geography 101* or permission of instructor. Two lecture hours, one seminar per week. (Offered this year and usually in alternate years.)

W.P. Adams

Geography-Canadian Studies 371b

Urban planning. The main planning principles which govern the economic, social, and physical development of cities. National, provincial, and municipal policies and their impact on the urban system. Historical development of planning. Comparative analysis of planning in North America and Europe. Prerequisite: *Geography 101* and *271a*. Lectures and tutorials. (Offered this year and in alternate years.)

Geography 373b

Advanced urban geography. The city as a system; historical perspectives on urban change; the internal organization of cities; social and economic patterns and processes within cities; contemporary urban geographic problems; urban planning. (Excludes *Geography 270*) Prerequisite: *Geography 271a*. Lecture and seminar weekly.

Geography-Canadian Studies 376a

The urban-rural fringe. Prerequisite: *Geography 101*, or *Economics 101a/b* and *Economics 102a/b*, or *Sociology 100*. (Offered in alternate years, but not this year.)

Geography 380b

Regional economic development. Prerequisite: *Geography 101* or permission of instructor. (Not offered this year.)

Geography 390, 391a, 392b, 393c

Reading course. Prerequisite: *Geography 101*. (Offered only if instructor is available.)

Geography 395, 397b

Special topic in geography. (Offered only if instructor is available.)

Geography-Environmental and Resource Science 396a

Introduction to Geographical Information Systems. The course examines the fundamental concepts and principles of Geographical Information Systems (GIS). The components, capabilities, and main operations of GIS are described. The essentials of spatial data structures and data bases, data capture, storage, retrieval, manipulation, and spatial modelling are examined, together with GIS applications and products. The course has a very strong component of laboratory exercises with different spatial data structures to provide hands-on experience. Prerequisite: *Geography 101* and *201*, or *Computer Studies 100*, or *Environmental and Resource Science 100* and *220*, or permission of the instructor. Lectures and laboratory weekly. Enrolment limited to 20 students.

R. Ponce

Geography-Environmental and Resource Science 398a

Land resources inventories for land-use planning. Prerequisite: *Environmental and Resource Science 100* and *220* or *Geography 201* or permission of the instructor. (See ERS)

R. Ponce

Geography-Environmental and Resource Science 399b

Land suitability assessment for land-use planning. Prerequisite: *Geography-ERS 398a* or permission of the instructor. (See ERS)

R. Ponce

Geography 401, 402

Honours thesis. Students will engage in a major research project entailing periodic meetings with faculty. Seminar presentations in Fall and Winter terms on research. Students taking this course are strongly encouraged to obtain full details of it and begin preparation prior to registering for the course. *Geography 402* is double-credit in Geography. *Geography 401* is single-credit involving the same thesis as submitted to the other department/program in a joint-major. Prerequisite: *Geography 303a*, two other three-hundred level Geography course equivalents, and a 70% average in Geography courses. Instructor's permission required at time of pre-registration.

W.P. Adams

Geography 404a

Hydrochemical fluxes in the hydrosphere. Prerequisite: *Geography 201* and permission of instructor. (Not offered this year.)

Geography-Computer Studies 405b

Geographical computer graphics. Prerequisite: *Geography 201* or an equivalent methodological course, *Computer Studies 202a*. Note: Open to students in third quarter. (Not offered this year.)

Environmental and Resource Science-Biology-Geography 406a

The geochemistry of natural waters. This course is a graduate-level course open to a limited number of fourth-quarter students with appropriate qualifications. Prerequisite: *Geography 101*, *Biology-ERS 202*, *Chemistry 120* or *130*, and *Biology 305* or permission of the instructor. (See ERS)

R.D. Evans

Environmental and Resource Science-Biology-Geography 407b

The fate of contaminants in the aquatic environment. This course is a graduate-level course open to a limited number of fourth-quarter students with appropriate qualifications. Prerequisite: *Geography 101*, *Biology-ERS 202*, *Geography-*

Biology-ERS 406a, *Chemistry 120* or *130*, and *Biology 305*; or permission of the instructor. (See ERS)

R.D. Evans

Geography 411b

Philosophy of geography. The evolution of geographical ideas, particularly concepts of place, region, environment, or organization of space by nature and by society; philosophy of science and history; ethical issues, academic and social prejudice in geographical studies, radical geography. Prerequisite: *Geography 201*. Note: Open to students in third quarter. *Geography 411a/b* is required for honours graduation.

A.G. Brunger

Geography 440

Research in physical geography. A seminar course on themes, methodologies and approaches of current major interest. Individual presentations based on directed readings and study. Prerequisite: Two of *Geography 341a*, *342b*, *351a*, *353a*, *354b*, *355b*, *356a*, *357b*. Three hours, fortnightly in alternate weeks to *Geography 470*.

C.H. Taylor

Geography 470

Research in human geography. A seminar course on themes, methodologies and approaches of current major interest. Individual presentations based on directed readings and study. Prerequisite: Two of *Geography 332a/b*, *333a/b*, *337a/b*, *363b*, *371a/b*, *373b*, *376a/b*, *380a/b*. Three hours, fortnightly in alternate weeks to *Geography 440*.

F.M. Helleiner

Geography 486a

Field course in geography. This course is highly recommended for all Geography majors, and may be taken in the third or fourth quarter. It involves an extended period during the Fall or Winter Reading Break in the field area with extensive preparation and follow-up. Prerequisite: *Geography 201*. One lecture, and seminar per week. Minimum of six days in the field at cost to student.

P.M. Lafleur, A.G. Brunger

Geography 495, 496a, 498c

Special topic in Honours Geography. Systematic and/or regional geography on themes, problems and questions of interest to individual faculty. Prerequisite: fourth quarter standing and permission of the instructor. (Offered only if instructor is available.)

Geography-Environmental and Resource Science 497b

Geographical Information Systems: principles and applications. This course examines the principles upon which the applications of Geographical Information Systems (GIS) are based. Advanced technical issues regarding data structures, georeferencing, spatial data bases and models, spatial analysis, and modelling are examined. The course concentrates on advanced algorithms for spatial analysis and spatial modelling and examines the use of remote sensing information in GIS for applications to environmental and urban problems. Contemporary issues such as error propagation and modelling, Spatial Decision Support Systems, and Expert Systems in GIS are also analyzed. Central to this course are, in addition to a few introductory laboratory exercises, the formulation, execution, and completion of a complete GIS application project with real data, in one of the main areas of GIS applications. Prerequisite: *Geography-Environmental and Resource Science 396a* or permission of the instructor. Lectures and laboratory work weekly. Enrolment limited to 20 students.

R. Ponce

History

Associate Professor and Chair of the Department

J. Sangster, B.A. (TRENT), M.A., PH.D. (MCMASTER)

Professors Emeriti

F.A. Hagar, A.B. (HARVARD), M.A., PH.D. (CALIFORNIA-BERKELEY), M.LITT. (CAMBRIDGE); A. Wilson, M.A. (DALHOUSIE), PH.D. (TORONTO)

Professors

J.C. Barker, M.A. (CAMBRIDGE, TORONTO), M.Div. (YALE) PH.D. (TORONTO); C.M. Greene, A.B. (AMHERST), A.M. (COLUMBIA), PH.D. (HARVARD); B.W. Hodgins, B.A. (WESTERN ONTARIO), M.A. (QUEEN'S), PH.D. (DUKE); E.H. Jones, B.A. (SASKATCHEWAN), M.A. (WESTERN ONTARIO), PH.D. (QUEEN'S); D. McCalla, B.A. (QUEEN'S), M.A. (TORONTO), D.PHIL. (OXFORD); J.S. Milloy, B.A. (ST. PATRICK'S), M.A. (CARLETON), D.PHIL. (OXFORD) (on leave 1993-94);

P.M. Morton, M.A., PH.D. (TORONTO) (on leave 1993-94); S.T. Robson, B.A. (BRITISH COLUMBIA), D.PHIL. (OXFORD); S.D. Standen, B.A. (BRITISH COLUMBIA), M.A. (OREGON), PH.D. (TORONTO); J.E. Struthers, M.A. (CARLETON), PH.D. (TORONTO); J. Syrett, B.A. (COLUMBIA), M.A., PH.D. (WISCONSIN); K. Walden, M.A., PH.D. (QUEEN'S)

Associate Professors

J.N. Jennings, B.A. (TORONTO), M.A. (CALGARY), PH.D. (TORONTO); P.T. Zeleza, B.A. (MALAWI), M.A. (LONDON), PH.D. (DALHOUSIE)

Assistant Professors

O. Andriewsky, B.A. (BROWN), M.A., PH.D. (HARVARD) (on leave 1993-94); I. Elbl, M.A. (CHARLES), M.A., PH.D. (TORONTO); D. Evenden, M.A., PH.D. (MCMASTER); D. Sheinin, B.SC. (TORONTO), M.A., PH.D. (CONNECTICUT)

University Librarian

M.W. Genoe, M.A. (WATERLOO), M.L.S. (WESTERN ONTARIO), M.PHIL. (WATERLOO)

Adjunct Faculty

M. Elbl, M.A. (CHARLES), M.A. (TORONTO); S.D. Grant, M.A. (TRENT); D. Schweitzer, M.A. (GUELPH), PH.D. (LONDON); N. Thornton, B.A. (TRENT), B.ED. (OTTAWA), PH.D. (ADELAIDE); R.A. Wright, B.A. (TRENT), M.A., PH.D. (QUEEN'S)

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine History courses: *History 100, 120 or 170*, two *two-hundred* series courses, three *three-hundred* series courses, plus four courses in the fourth quarter of the program, of which at least three must be *four-hundred* series courses. One course in the fourth quarter may be in a field other than History.

Joint-major Honours program. Minimum seven History courses: *History 100, 120 or 170*, two *two-hundred* series courses, two *three-hundred* series courses, plus at least two *four-hundred* series courses.

Single-major General program. Minimum six History courses: *History 100, 120 or 170*, two *two-hundred* series courses, and three *three-hundred* series courses.

Joint-major General program: Minimum five History courses: *History 100, 120 or 170*, two *two-hundred* series courses, and two *three-hundred* series courses.

Special Provisos

- Departures from patterns above must be authorized by the Department through the Chair.
- One-hundred series* courses: Only one *one-hundred series* History course may be taken by first quarter students, and no more than two may be counted towards a degree. First quarter students wishing to take a second History course must obtain written permission from the Department Chair.
- There are no prerequisites for any History courses but History majors or joint majors normally are required to take *two-hundred series* courses before taking *three-hundred series* history courses.
- Students seeking admission to *four-hundred series* courses before entering the fourth quarter must apply to the instructor and their application must then be approved by the Chair.
- History majors and joint majors must complete, in addition to either *History 100, 120 or 170*, one course from each of the three lists below. Some courses appear in two lists and fulfil two requirements. Students considering a third-year abroad will simplify their program planning if they satisfy this requirement in their second year.

I	II	III
200	211	200
205	221	205
303	235	220
311	254	320
350	255	330
360	270	335
375	300	336
380	301	340
	302	350
	303	351
	307	360
	308	370
	310	375
	311	380
	312	399
	316	
	345	
	347	

- in individual cases, with the approval of the Department, certain courses in Canadian Studies may be counted as History credits.
- with the permission of the Chair, a student may count one *two-hundred* or

three-hundred series Classical History course, except *Classical History 201*, toward a History major.

Enrolment limits

Allocation of places in restricted enrolment courses will be by departmental preregistration, held before the deadline for submission of university CPS forms. Details of the procedure may be obtained from the Office of the Chair, History instructors, and College Offices after the Winter Reading Week. Information regarding the availability of places in all courses with enrolment limitations will be published in the Calendar Supplement in September.

History 100

Canada: selected problems critically examined. Not a survey, the course examines issues in Canada's social, political, intellectual, regional and economic history, with an emphasis on historiography. Weekly lectures and weekly tutorial.

D. Standen and staff

History 120

A survey of West European history from the Middle Ages to the present. The course aims to introduce students to some of the main themes of western civilization, and to the variety of historical interpretations of those themes. Weekly lectures and weekly tutorial.

J. Barker and staff

History 170

World history. The world's history since 1500, survey and analysis. The course focuses on how different continents and civilizations have shaped the global community and emphasizes the richness and diversity of the human experience. Weekly lectures and weekly tutorial.

P.T. Zeleza and staff

History 200

The expansion of Europe in the early modern era, 1450-1825. An exploration into the origins of the phenomenon of European global domination. Special emphasis is given to Europe's impact on the Americas, Africa and Asia, the impact of the wider world on European thought, economy, politics, and society, and the roots of international development and underdevelopment. Lecture weekly and tutorial fortnightly.

I. Elbl

History 205

The Medieval panorama: Selected topics (Christianity, sovereignty, lord and peasant, the marketplace, education, architecture, parliamentary government, famine, plague, and war) to illustrate the rise of the West European consciousness. Lecture and seminar weekly with films and video tapes.

History 211

United States history. Social, economic and political developments from the American Revolution through the Civil War to 1920. Lecture and tutorial weekly. *E. Jones, D. Sheinin and staff*

History 220

Europe from the Enlightenment through World War II. A study of problems in the development of modern Western society from various perspectives, using a variety of modern and contemporary sources. One and one-half hour lecture, weekly; two-hour tutorial fortnightly. *C. Greene and staff*

History-Canadian Studies 221

Modern Ontario. (Not offered this year.)

History-Canadian Studies 235

Canada since 1914. This course examines the main currents in the development of Canada since 1914. The main theme is Canada's coming of age in such areas as foreign relations, Canadian-American relations, culture, an acceptance of multiculturalism and the profound effects of the two World Wars. Other important topics include immigration, regionalism, the development of the North, the Americanization of Canada and the role of women in our society. Lecture and tutorial weekly.

J. Jennings and staff

History-Canadian Studies 254

Canada and the modern experience. The course explores some characteristics of modernity since 1890, with Canada as an example. Among the topics examined will be photography, travel, crime, new styles of business, government and educational organization, and changing attitudes toward sex, death and religion. Lecture and tutorial weekly.

K. Walden and staff

History-Native Studies-Canadian Studies 255

History of Indians of Canada. (See Native Studies)

History-Native Studies-Canadian Studies 270

History and politics of the Metis and non-status Indians of Canada. (Not offered this year.)

History-Canadian Studies 300

Canada: communities and identities. (See Canadian Studies)

History-Canadian Studies-Politics 301

Canadian political culture, 1864 to the present. The history and politics of Canadian federalism are examined in the light of the sectionalism and biculturalism so evident in a country with the geographic size, diversity and historic duality of Canada. Occasional lectures and weekly tutorial.

B. Hodgins

History-Canadian Studies 302

Quebec since 1867. (Not offered this year.)

History-Canadian Studies 303

Early French Canada. The pre-industrial foundations of Quebec from the establishment of New France to 1850. An examination of economic, social, institutional and ideological issues from early Amerindian contact to the crisis of Lower Canada in the nineteenth century. Lecture and tutorial weekly.

D. Standen

History-Canadian Studies 307

The Atlantic Provinces. (Not offered this year.)

History-Canadian Studies 308

Business history: The Canadian experience in international perspective. Financial, technological, marketing, organizational and managerial strategies and structures which shaped the emergence of the modern corporation. The relationship of Canadian companies with the changing international business system. Lecture weekly and tutorial fortnightly.

D. McCalla

History 310

The American reform tradition, 1896-1941. (Not offered this year.)

History 311

Colonial and Revolutionary America, 1630-1800. An exploration of the social, economic, religious and intellectual aspects of political change in the thirteen colonies. Lecture weekly and tutorial fortnightly.

E. Jones

History 312

Contemporary United States. Social, intellectual, political and foreign policy developments from the 1929 Crash to the present. Lecture weekly and tutorial fortnightly.

J. Syrett

History-Canadian Studies-Women's Studies 316

Women in North America. Selected themes and topics about women from the seventeenth century to the present, with emphasis on the Canadian experience. Lecture weekly and tutorial fortnightly.

J. Sangster

History 320

Modern British history, from the Industrial Revolution to the era of Margaret Thatcher. Special emphasis on the Victorians, culture, class and gender, and the making of modern British society. Lecture weekly and tutorial fortnightly.

History 330

Modern German history, 1815 to the present. The cultural, social, economic and political history of the modern German nation, including the recent developments leading to Germany's reunification. Lecture weekly and tutorial fortnightly.

History 335

The era of the First World War. Pairs of students meet the instructor every third week for a 90-minute class, to present and discuss brief research papers on topics of their choice concerning the war experience. Lecture weekly.

S. Robson

History 336

The era of the Second World War. (Not offered this year.)

History-Comparative Development 340

The emergence of modern Africa. Political, economic and social changes since 1800, with emphasis on internal and external factors. Lecture weekly and seminar fortnightly.

P.T. Zeleza

History-Anthropology 345

Slavery in the Americas: the American South, West Indies, and Latin America. (Support course for Comparative Development Studies). (Not offered this year.)

History 347

Survey of Latin American history from native communities in the generation before the Spanish Conquest to Central American revolutionary struggles in the 1980s. Topics will include native resistance, methods of colonial domination, slavery and other labour systems, the independence struggles, neo-colonialism, the formation of modern nation states, militarism, the roots of modern social unrest, and revolutionary change. Lecture and tutorial weekly.

D. Sheinin

History 350

Studies in the history of France, 1750-1914. Tutorials will emphasize the use of literature as an historical source. Weekly one-and-one half hour lecture and two-hour tutorial fortnightly.

C. Greene

History-French 351

La civilisation française. Offered in Nantes only. (See Modern Languages, French Section)

History 360

The Crusades from 1095 to the fall of Acre, 1291. (Not offered this year.)

History 370

Russian history from the thirteenth century to the present. (Not offered this year.)

History-Women's Studies 375

European women's history. The course begins with an introduction which draws upon women's experience in the pre-classical and classical periods as well as the Judaic and Christian traditions. The major focus of the course will be upon the medieval, renaissance and early modern periods. Lecture and tutorial weekly.

D. Evenden

History 380

Early modern Europe. (Not offered this year.)

History 395

Special topics. For details of offerings (if any), consult the Department and the Supplement to the Calendar.

History 399

Historians and history. A critical study of how historians have aimed to understand the past and found differing interpretations. The impact of new disciplines and social interests on history-writing today. Lecture and tutorial weekly.

J. Barker

History-Native Studies 400

Research seminar in Indian history.
(Not offered this year.)

History-Canadian Studies 403

Canadian intellectual and cultural history. The course emphasizes the variety of contemporary approaches being used to explore our intellectual and cultural traditions.

K. Walden

History-Canadian Studies 406

Upper Canada, 1784-1867. The foundations of Ontario society; selected studies in cultural, social, and intellectual history. Seminar weekly.

D. McCalla

History-Canadian Studies 407

The Canadian-American frontier. The Canadian West from first contact between Europeans and Native People to the end of the settlement period in the early twentieth century. Special emphasis on Indian-White relations, exploration, the fur trade, the two rebellions, government policies for the West, the ranching and farming frontiers and the influx at the end of the nineteenth century of many new immigrant groups. Comparisons in a number of areas are made with the American West. Weekly seminars.

J. Jennings

History-Canadian Studies 410

Social and political traditions and ideas in Canada and the United States since 1896. (Not offered this year.)

History 415

The American South. (Not offered this year.)

History 418

The United States and the Vietnam War. Military, diplomatic, political and social developments from 1945 to 1975, including involvement of the Commonwealth countries. Seminar weekly.

J. Syrett

History-Canadian Studies 422

Canada: The North. The historical and contemporary Canadian North in both its arctic and sub-arctic contexts. Emphasis will be intellectual and social. Two-hour seminar and occasional lectures.

History-Canadian Studies-Native Studies 425

The evolution of the Settlement Commonwealth. A comparative study of Canada, Australia, and New Zealand, with special emphasis on the relationship

between the "settlers" and the aboriginal peoples.

B. Hodgins

History 440

Aspects of modern history. A combination seminar-reading course. Theme in 1993-94 will be the modern urban experience.

C. Greene, S. Robson

History 444

African labour history. This course is concerned with the development of the labour process in African societies, and examines the nature of work and its transformation, the changing divisions of labour, the development of wage and non-wage labour, working class organization, conditions of employment and unemployment, and the relations between labour, capital and the state.

P.T. Zeleza

History 445

International history, 1919-1939. (Not offered this year.)

History 447

Topics in Latin American History — History of Mexico. Native communities in Pre-Columbian Mexico, the Spanish conquest, the long-range clash of native and non-native cultures, the Catholic Church, nation-building, foreign economic influences, ideologies of change, the Mexican Revolution, import substitution, and the entrenchment of authoritarian political structures. Weekly seminar.

D. Sheinin

History 450

The origins of capitalism. An examination of the changes in European thought, economy, politics, social structures, values and attitudes associated with the emergence of capitalism in the Middle Ages and the early modern period, with parallels to world history.

I. Elbl

History 451

The Enlightenment in Britain, France and America. An advanced study of intellectual development in the seventeenth and eighteenth centuries, reviewing the course of scientific discovery and the new outlook's effect on areas of social and cultural importance.

J. Barker

History 465

Reformation Europe. (Not offered this year.)

History 472

Social history of medicine. Special emphasis on the history of medicine as it relates to the British experience, to the lives of women and to social history as a whole. Fortnightly seminar.

D. Evenden

History-Canadian Studies 475

History of everyday life: a course in applied history. Theory, method and technique in research and interpretation of ordinary life in the past, with emphasis on Canadian themes. Weekly seminars and/or project meetings. Occasional field trips, one of which will be for two or three days during the Fall Reading Week. Field trip fee of \$75.

E. Jones, D. Standen

History-Canadian Studies 476

Studies in Canadian labour. (Not offered this year.)

History-Canadian Studies 477

Studies in Canadian social policy. (See Canadian Studies)

History 490

Reading course. Individual courses designed to provide opportunities for more intensive study of particular topics in areas of history offered by the Department. Open to undergraduates in the fourth quarter of the Honours program in History or by special permission. Prior consultation with relevant tutors is essential. Regular consultation during the year.

History 4901

Reading course. Students will meet the instructor every third week for an hour, to present and discuss research papers on topics concerning World War I, World War II or modern Germany. Year essay follows from class papers.

S. Robson

History 495

Special topic. For details of offerings (if any), consult the Department and the Supplement to the Calendar.

Mathematics

Professor and Chair of the Department
T.N. Murphy, B.SC. (LIVERPOOL)

Professors Emeriti

C. Carter, B.SC., PH.D. (LONDON); T.E.W. Nind, M.A. (CAMBRIDGE), P.ENG.

Professors

I.C. Chakravarty, M.SC. (GAUHATI), PH.D. (SASKATCHEWAN) (on leave Winter Term 94); E.A. Maxwell, M.SC., PH.D. (TORONTO)

Associate Professors

G.F. Hamilton, B.A.SC., M.A., PH.D. (TORONTO), P.ENG.; J.P. Henniger, M.SC., PH.D. (MCGILL); D.G. Poole, B.SC. (ACADIA), M.SC., PH.D. (MCMASTER)

Assistant Professors

S. Bilaniuk, B.SC. (TORONTO), A.M., PH.D. (DARTMOUTH); B. Zhou, B.S. (SHANGHAI), PH.D. (SOUTH CAROLINA)

Required Courses

The single-major Honours program consists of twenty courses. Minimum eleven courses in Mathematics including *Mathematics 110* and *130*

200, 205a and 206b
260 or both 251a and 252b
330, both 306a and 310b

two four-hundred series Mathematics courses

two additional three-hundred or four-hundred series Mathematics courses.

Joint-major Honours program. Minimum seven and one-half courses in Mathematics including

Mathematics 110 and *130*

200, 205a and 206b
305b or 306a or 310b
330 or 260 or both 251a and 252b

one four-hundred series Mathematics course

one three-hundred or four-hundred series Mathematics courses.

Single-major General program. Minimum six courses in Mathematics, including *Mathematics 110* and *130*

200, 205a and 206b
305b or 306a or 310b

one and one-half additional Mathematics courses at two-hundred level or higher.

Joint-major General program. Minimum five courses in Mathematics, including *Mathematics 110* and *130*

200, 205a or 206b

305b or 306a or 310b

one additional Mathematics course at two-hundred level or higher.

Special Notes

A student having credit in *Mathematics 230* may not count *Mathematics 330*.

A student having credit in *Mathematics 300* may count neither *Mathematics 206b* nor *Mathematics 306a*. A student having credit in *Mathematics 301* may count neither *Mathematics 205a* nor *Mathematics 305b*.

Mathematics 100

Introductory calculus. A first course in calculus for those lacking a Grade 13/OAC calculus credit. Functions, limits and continuity, differentiation and integration and related applications. Not to be credited towards a major in Mathematics. Prerequisite: Grade 12 Advanced Mathematics. Not available to students with 60% or better in Grade 13/OAC calculus or with credit for *Mathematics 110*. Three lectures weekly, tutorial fortnightly.

Mathematics 110

Calculus of one variable. An examination of the concepts and techniques of calculus, with applications to other areas of mathematics and the physical and social sciences. Prerequisite: Grade 13/OAC calculus with at least 60% or equivalent, or *Mathematics 100*. Three lectures and one seminar weekly.

G.F. Hamilton and staff

Mathematics 130

Introduction to linear algebra. Vectors, systems of linear equations, matrices, vector spaces, linear transformations, eigenvalues. Selected applications. Prerequisite: A Grade 13/OAC Mathematics credit with at least 60%. Three lectures and one tutorial weekly.

D.G. Poole

Mathematics-Statistics 150

A non-calculus-based introduction to probability and statistical methods. Data summary, elementary probability, estimation, hypothesis testing, comparative methods, analysis of variance, regression, nonparametric methods, introduction to elementary applications of statistical

computing. Not credited toward Mathematics major requirements, nor available to students enrolled in, or with credit for *Mathematics-Statistics 251a* or *Mathematics 110*. (See *Mathematics-Statistics 251a*) Three lectures weekly, two-hour problems session fortnightly. E.A. Maxwell

Mathematics 200

Calculus in several dimensions. Vector geometry, curves, surfaces in three dimensions. Partial differentiation and applications, multiple integrals. Differential equations, elementary properties of complex variables and infinite series. Prerequisite: *Mathematics 110*. Two lectures and tutorial weekly.

S. Bilaniuk

Mathematics 205a

Differential equations. Separation of variables. Integrating factors. Linear differential equations. Applications to physical problems. Power series solutions. Prerequisite: *Mathematics 110*. Corequisite: *Mathematics 200*. Recommended: *Mathematics 130*. Four hours weekly.

J.P. Henniger

Mathematics 206b

Analysis. The real number system. Limits. Continuity. Differentiability. Mean-value theorem. Convergence of sequences and series. Uniform continuity. Prerequisite: *Mathematics 110*. Corequisite: *Mathematics 200*. Three hours weekly.

D.G. Poole

Mathematics-Physics 211b

Classical mechanics. (See Physics)

Mathematics 225

Introduction to geometry. Elements of Euclidean and non-Euclidean geometries stressing links to modern mathematical methods. Projective geometry, including generation of conics and involutions. Prerequisite: Either *Mathematics 110* or *Mathematics 130*. Two lectures and one tutorial weekly.

D.G. Poole

Mathematics-Statistics 251a

Probability and statistics I; A calculus-based introduction to probability and statistics. Prerequisite: *Mathematics 100* or equivalent.

E.A. Maxwell

Mathematics-Statistics 252b

Probability and statistics II. A continuation of *Mathematics-Statistics 251a*. Prerequisites: *Mathematics 110* or equivalent, *Mathematics-Statistics 251a* or equivalent.

E.A. Maxwell

Mathematics-Computer Studies 260

Discrete structures. Mathematics related to computer science including propositional logic, recursive functions, combinatorics, graphs and networks, Boolean algebras. Applications to languages, analysis of algorithms, optimization problems, coding theory, and circuit design. Prerequisite: *Mathematics 110* or *130*; or *Computer Studies 100* together with one Grade 13/OAC credit in Mathematics. Two lectures and one tutorial weekly.

B. Zhou

Mathematics Physics 305b

Partial Differential Equations. An introduction to methods for the solution of partial differential equations. The course develops the ideas of Fourier Series, Complex Analysis up to Conformal Mapping and introduces the error function and gamma function as special functions. Prerequisite: *Mathematics 205a*. Two lectures and one tutorial weekly.

G.F. Hamilton

Mathematics 306a

Complex Analysis. Functions of a complex variable, analytic functions, complex integrals, Cauchy integral theorems, Taylor series, Laurent series, residue calculus. Prerequisite: *Mathematics 200*. Two lectures and one tutorial weekly.

I.C. Chakravarthy

Mathematics 310b

Metric Spaces. The Dedekind definition of the real numbers. Cardinality of sets of numbers. Completeness, compactness, the Heine-Borel theorem and connectedness in the context of metric spaces. Prerequisite: *Mathematics 206b*. Two lectures and one tutorial weekly.

T.N. Murphy

Mathematics-Physics 311b

Advanced classical mechanics. (See Physics)

Mathematics 322

Number theory and related topics in algebra and analysis. Prerequisites: *Mathematics 110* and *130*. Three hours weekly. (Offered this year and in alternate years.)

J.P. Henniger

Mathematics 330

Algebra. An introduction to abstract algebraic structures. Groups, rings, integral domains, fields, lattices and Boolean algebras. Prerequisite: *Mathematics 130*. Two lectures and one tutorial weekly.

T.N. Murphy

Mathematics-Computer Studies 341

Linear and discrete optimization. Introduction to the concepts, techniques and applications of linear programming and discrete optimization. Topics include the simplex method, duality, game theory, shortest path problems, matchings in graphs, network flow theory, and combinatorial optimization with emphasis on integer programming. Prerequisites: *Mathematics 130* and *Mathematics-Computer Studies 260*. Two lectures and one tutorial weekly.

B. Zhou

Mathematics-Computer Studies-Statistics 351

Linear statistical models. Prerequisites: *Computer Studies 100* or *202a*, *Mathematics 110* or *130*, *Mathematics-Statistics 251a* (or *Mathematics-Statistics 150* with permission of instructor). (Not offered in 1993-94.)

Mathematics-Science 380

History of mathematics. Prerequisites: *Mathematics 110* and *130* or *Mathematics 110* and permission of the instructor. (Offered in alternate years, but not this year.)

Mathematics 390

Reading-seminar course. Details may be obtained by consulting the Department.

Four-hundred Series Courses

Prior to enrolling in a four-hundred series Mathematics course, a student must have completed either *Mathematics 306a* or *Mathematics 305b*. An information meeting for students wishing to undertake the fourth quarter of the Honours degree will be arranged early in the Winter Term.

Mathematics 400

Analysis. Normed linear spaces and their topology, Stone-Weierstrass Theorem, Lebesgue integral and Fourier series. Optional topics in complex variable, distributions, etc. Prerequisites:

Mathematics 130, 200, 306a, 310b.

J.P. Henniger

Mathematics 411

Introduction to mathematical modelling. Partial differential equations. Prerequisite: *Mathematics 305b*. Two to three hours weekly.

G.F. Hamilton

Depending on student demand and the availability of instructors, other *four-hundred* series offerings from:

Mathematics 405

Logic and Computability. Prerequisites: *Mathematics 260, 330*, or permission of the instructor.

Mathematics 425

Differential Geometry. Prerequisite: *Mathematics 206b*. Recommended: *Mathematics 310b*.

Mathematics 430

Algebra. Prerequisite: *Mathematics 330*.

Mathematics 435

Topology. Prerequisite: *Mathematics 310b*.

Mathematics 441

Numerical analysis. Prerequisite: *Mathematics 341*.

Mathematics-Statistics 451a

Sampling theory. Prerequisites: *Mathematics 251a, 252b*.

Mathematics-Statistics 452b

Theory of inference. Prerequisites: *Mathematics 251a, 252b*.

Mathematics 460

Combinatorics and graph theory. Prerequisite: *Mathematics 260*. Recommended: *Mathematics 330*.

Mathematics 470

Dynamical systems, chaos and fractals. Prerequisites: *Mathematics 130, 205a, 206b*. Recommended: *Mathematics 310b*.

Mathematics 490

Reading-seminar course.

Modern Languages and Literatures

Chair of the Department

To be named.

Associate Chair of Spanish

R.M. Carrido, LIC.DER., DR.DER.
FILOLOGIA (SEVILLA), M.A. (TORONTO)

Associate Chair of French

To be named.

Associate Chair of German

A.A. Krüger, STAATSEXAMEN (MÜNCHEN)

Modern Languages 100

An introduction to the fundamental concepts of language. (Not offered this year.)

French Studies Section

Professor Emeritus

F.K. Harper, M.A. (MANITOBA)

Professor

P. Royle, M.A. (OXFORD), PH.D. (NATAL)

Associate Professors

A.E. Franklin, M.A. (CAMBRIDGE, TORONTO), D.E.A. (MONTPELLIER) (on leave Winter Term); H.B. Lapointe, B.A. (BALDWIN-WALLACE), M.A. (MCGILL); J.-P. Lapointe, B.A. (R.M.C.), M.A. (MCGILL)

Assistant Professors

A. Germain-Rutherford, MAÎTRISE, D.E.A. (PROVENCE-AIX-MARSEILLE 1), DOCTORAT NOUVEAU (SORBONNE); Y. Thomas, B.A. (UQAM), M.A., PH.D. (MONTREAL) (on leave Winter Term 1994)

Lecturer

M. Horban-Carynnyk, A.B. (BRYN MAWR), M.A. (TORONTO)

Required Courses

The single-major Honours program consists of nineteen courses. Minimum ten courses in French including *French 110*

211

one full course equivalent of *French 233a/234b, 312a/313b, 331, 361*

one of *French 250, 325, 383* (formerly 390)

four *four-hundred* series courses or their equivalent.

Joint-major Honours program. Minimum eight courses in French including *French 110*

211

one full course equivalent of *French 233a/234b, 312a/313b, 331, 361* one of *French 250, 325, 383* (formerly 390)

two *four-hundred* series courses or their equivalent.

Single-major General program. Minimum six courses in French, including

French 110

211

one full course equivalent of *French 233a/234b, 312a/313b, 331, 361* one of *French 250, 325, 383* (formerly 390).

Joint-major General program. Minimum five courses in French.

Same required courses as for single-major.

Québec Studies Emphasis

Students who, in satisfying all of the current requirements for a degree, elect to take a total of three or more Québec courses, not counting *French 110* (Québec option), in their program, will be granted a B.A. in French (Québec Studies Emphasis).

Recommended courses for intending French majors: *Latin 100, Classical Literature 100, Philosophy 101* and courses in at least one other modern language.

Modern Languages 100

An introduction to the fundamental concepts of language. (Not offered this year.)

Year Abroad Program

Courses offered at Nantes in the Year Abroad Program are listed at the end of this section.

Note: In order to register in *two-hundred* and *three-hundred* series courses students must have attained a minimum grade of C- (60% or better) in the prerequisite indicated or in its equivalent.

Students who do not have prerequisite for courses listed below must have departmental permission to enrol in those courses.

French 100

An intensive course in oral and written French for students who do not have Ontario Grade 13/OAC French or their equivalent. Four hours weekly. Not credited toward French major require-

ments. (May not be taken concurrently with or subsequent to any other French course.)

A. Germain-Rutherford

French 105

A course in grammar review, comprehension, conversation and language laboratory practice for students who have Ontario Grade 13/OAC French or their equivalent. Four hours weekly. Not credited toward French major requirements. (May not be taken concurrently with *French 100* or *French 110*)

A. Germain-Rutherford and staff

French 110

A course in language and literature normally required of students intending to major in French. Each student will take a weekly one-hour language seminar, one-hour laboratory practice, and will opt for one lecture and one literature seminar involving the critical analysis of selected texts in a) French Metropolitan Literature or b) Québec Literature. Prerequisite: Ontario Grade 13/OAC French or their equivalent. (Excludes *French 105* or its equivalent)

M. Horban-Carynyk, J.-P. Lapointe

Note: All *two-hundred* series courses may be counted as *three-hundred* series courses.

French 205

Advanced oral and written language study. Two hours weekly. Prerequisite: *French 105* or *French 110*, or their equivalent.

H.B. Lapointe and staff

French 211

Le théâtre classique français. *Required for a major in French.* Prerequisite: *French 110.* Lecture and seminar weekly. Y. Thomas and H.B. Lapointe

French 233a

Le théâtre du dix-neuvième siècle. Lecture and seminar weekly. Prerequisite: *French 110.* (Offered this year and in alternate years.)

French 234b

Le théâtre du vingtième siècle. Lecture and seminar weekly. Prerequisite: *French 233a.* (Offered this year and in alternate years.)

French-Canadian Studies 250

La civilisation québécoise. A general survey of the social and cultural history of the Québec people, illustrated by readings on the arts, letters, religious,

social and political life. It attempts to synthesize the history of ideas in Québec to promote a better understanding of contemporary Québec culture. Prerequisite: *French 110* or by permission of the instructor. Lecture, and one seminar weekly.

J.-P. Lapointe

French 305

An introduction to the techniques of translation (theory and practice). Two hours weekly. Prerequisite: *French 205*.

H.B. Lapointe

French 312a

Le roman du dix-neuvième siècle.

Prerequisite: *French 110*. Lecture and seminar weekly. (Offered in alternate years, but not this year.)

French 313b

Le roman du vingtième siècle. Prerequisite: *French 312a*. Lecture and seminar weekly. (Offered in alternate years, but not this year.)

Prerequisite: *French 312a*. Lecture and seminar weekly. (Offered in alternate years, but not this year.)

French-Canadian Studies 325

Théâtre et poésie du Québec. Prerequisite: *French 110*. Lecture and seminar weekly. (Offered in alternate years, but not this year.)

French 331

La pensée française. (Offered only in Nantes.)

French-History 351

La civilisation française. (Offered only in Nantes.)

French 361

La poésie française. Prerequisite: *French 110* or permission of Department. Lecture and seminar weekly.

Y. Thomas and M. Horban-Carynyk

French-Canadian Studies 383

Le roman québécois. Prerequisite: *French 110*. Lecture and seminar weekly. (Offered this year and in alternate years.)

J.-P. Lapointe

Four-hundred series courses are normally open only to students in the fourth quarter of the Honours program in French, or by permission of the Department.

French 400

Linguistique, stylistique et sémantique. Two hours weekly.

H.B. Lapointe

French 401

Initiation à la recherche littéraire. Two hours weekly. (Single credit thesis course: Subject to be chosen in consultation with Section Chair.)

French 402

Initiation à la recherche littéraire. Two hours weekly. (Double credit thesis course: Subject to be chosen in consultation with Section Chair.)

French 410

Langue et littérature du moyen âge français. *Modern Languages 100* highly recommended. (Not offered this year.)

French 420

La critique littéraire française. Two hours weekly.

Y. Thomas

French 440

La Renaissance française. Two hours weekly. (Not offered this year.)

French 4951

Special topic in French linguistics. Topic for 1993-94: Didactique du Français Langue Seconde: La place de la phonétique et de l'oral dans la salle de classe.

A. Germain-Rutherford

French 4952

Special topic in French linguistics. Topic for 1993-94: Vers une approche autonome de l'apprentissage du Français Langue Etrangère/Français Langue Seconde: Les Auto-apprentissages et l'auto-évaluation.

A. Germain-Rutherford

French 4953

Special author or topic in French literature. Topic for 1993-94: L'Oeuvre de Colette.

H.B. Lapointe

Year Abroad Program

Normally, in order to be eligible to study for a year at the University of Nantes, for Trent credits with a Trent/Waterloo professor, a student must achieve a minimum of a B- average on all Trent courses (or equivalent courses) and a B+ standing in *French 110* or equivalent. Enrolment is limited to 15 students from Trent. Honours candidates are especially encouraged to spend a year at Nantes. For further details, please consult the Section Chair.

Courses to be offered in 1993-94 at Nantes, either by a University of Waterloo professor, or by the University of Nantes faculty are:

French 211: Le théâtre classique français
French 233a: Le théâtre du dix-neuvième siècle

French 234b: Le théâtre du vingtième siècle

French 305: Introduction à la traduction

French 312a: Le roman du dix-neuvième siècle.

French 313b: Le roman du vingtième siècle

French 331: La pensée française. French thought from the Renaissance on. Lecture and seminar weekly. Prerequisite: *French 110*.

French-History 351: La civilisation française. Lecture and seminar weekly. Prerequisite: *French 110*.

French Upper year: Introduction à la linguistique (Excludes *French 400*)

Single-major General program. Minimum six courses in German, including *German 105*

205a

310a

316b

360a

Joint-major General program. Minimum five courses in German, including *German 105*

205a

and two of 310a, 316b, 360a.

Year Abroad Program

Courses offered at Freiburg in the Year Abroad Program are listed at the end of this section.

Special Provisos

- More advanced students may enrol in *German 205a* after passing a placement test.
- German 232a* and one of 233b or 240b may be counted towards a major in German.
- Four-hundred* level courses are normally open only to students in the fourth quarter of the Honours program.
- To achieve a coherent combination, majors are urged to co-ordinate their studies in German with studies in related disciplines.

Modern Languages 100

An introduction to the fundamental concepts of language. (See Modern Languages and Literatures)

German 100

Designed for students with little or no knowledge of German. This course provides an introduction to spoken and written German with an integrated computer-assisted language learning program, language laboratory as well as an introduction to present-day Germany. Three lecture/seminars, one laboratory hour weekly. Not open to students with O.A.C. German or equivalent standing. Not credited toward a major in German.

German 105

Intermediate German language course with comprehensive grammar review, intensive language practice and access to computer-assisted language learning program. Introduction to German literature and culture in the Winter Term. Prerequisite: *German 100*, Grade 12 German, Grade 13 German or equivalent. Four lecture-seminars, one laboratory weekly.

German Studies Section

Professors Emeriti

G. Baumgaertel, M.A. (BROWN), DR. PHIL. (TÜBINGEN); D.D. Stewart, M.A., PH.D. (TORONTO)

Associate Professors

J.C. Fewster, M.A. (MANCHESTER) (on leave Winter Term 1994); A.A. Krüger, STAATSEXAMEN (MÜNCHEN)

Note: Students who entered *German 105* in 1992-93 can obtain a joint Honours degree in German Studies within the period ending 1995-96. Students who entered *German 100* in 1992-93 and all students entering *German 100* and *German 105* in 1993-94 can obtain a joint-major General degree in German Studies by completing courses a) at Trent alone or b) at Trent and within the year abroad program in Freiburg.

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine courses in German including

German 105

205a

310a

316b

360a

and at least two full courses from the *four-hundred* series.

Joint-major Honours program. Minimum seven courses in German, including

German 105

205a

310a

316b

360a

and at least one full course from the *four-hundred* series.

German 205a

Advanced language practice I with special emphasis on written and oral German using a variety of contemporary texts. Prerequisite: *German 105* or permission of the Department. Three lecture/seminars weekly.

J.C. Fewster

German 206b

German literature and thought from Nietzsche to Brecht. Modern writers and events. Prerequisite: *German 205a* or permission of the Department. One lecture, two seminars weekly.

German 220

Modern German literature in English translation. (Not offered this year.)

German 231

German civilization. (Offered only in Freiburg.)

German 232a

German civilization I. (Not offered this year.)

German 233b

German Civilization II. Taught in English. A survey of culture and society of German-speaking countries from the French Revolution to the present, including literature, music, art, architecture, and political and scientific history, with the use of films, slides and music tapes. Prerequisites: *German 232a* desirable. One of *233b* or *240b* may be counted towards a major in German. Two lectures, one seminar weekly.

A.A. Krüger

German 240a

Freud's Vienna from the Habsburgs to Hitler. Taught in English. An examination of a society in decline and its important contributions in its music, painting, architecture and intellectual life to the shaping of the modern mind, with the use of films, slides and music tapes. Open to all students. One of *German 233b* or *German 240b* may be counted towards a major in German. Two lectures, one seminar weekly.

J.C. Fewster

German 305b

Advanced language practice II with special emphasis on business German, conversational skills and instant translations. Prerequisite: *German 205a* or permission of Department. Three lecture/seminars weekly.

German 310b

The Age of Enlightenment and "Sturm und Drang". A study of the beginnings of modern German literature, with special attention to Lessing, Goethe and Schiller. Prerequisite: *German 205* or permission. Students will meet with instructor every two weeks for two hours.

A.A. Krüger

German 316a

Studies in German Romanticism in the European context. Prerequisite: *German 205a* or permission. One lecture, two seminars weekly.

A.A. Krüger

German 330a

The German *Novelle* and *Erzählung* of the nineteenth and twentieth centuries. Prerequisite: *German 205a* or permission. One lecture, two seminars weekly.

J.C. Fewster

German 340b

The German drama from Classicism to modern experimentation. (Not offered this year.)

German 351a

Studies in modern German poetry. One lecture, two seminars weekly. (Not offered this year.)

German 352b

The German novel from Grimmelshausen to the present, with emphasis on selected works of the nineteenth and twentieth centuries. Students will meet with instructor every second week for two hours.

A.A. Krüger

German 360b

Studies in German literature and cultural developments of the period 1780-1832 with special attention to Goethe, Schiller and Kleist. Prerequisite: *German 205a* or permission. Two lectures, one seminar weekly.

A.A. Krüger

German 401a

History of the German language and linguistics. One lecture, two tutorials weekly.

A.A. Krüger

German 402b

Medieval and late medieval German literature. One lecture, two tutorials weekly.

A.A. Krüger

German 405a

Advanced language practice III. Special aspects of German grammar. Written and oral exercises with an oral presentation and proficiency test. Prerequisite: *German 305b* or permission. Three lecture/seminars weekly.

German 410a

German Baroque literature. A survey of seventeenth-century literature in its European context. Students will meet with instructor every second week for two hours.

J.C. Fewster

German 420b

Studies in modern German literature. Students will meet with instructor every second week for two hours.

A.A. Krüger

German 440a

East German literature. Students will meet with instructor every second week for two hours.

J.C. Fewster

German 490

Special topics.

German 491a

Special topics.

German 492b

Special topics.

Year Abroad Program

Normally, in order to be eligible to study for a year at Freiburg University, Germany, for Trent credits with a Trent/Brock professor, a student must achieve a minimum of a B- average on all Trent courses (or equivalent courses) and a B- standing in *German 105* or equivalent. For further details please consult the Chair of the Section.

Courses will be offered in 1993-94 at Freiburg by Professor J. Michelsen, Brock University.

Winter Semester

German 205a Advanced language practice. *German 206a* German literature and thought from Nietzsche to Brecht.

German 231 German civilization from the origins to the present.

Hispanic Studies Section**Professors**

R.M. Garrido, LIC.DER., DR.DER., DR. FILOLOGIA (SEVILLA), M.A. (TORONTO); J.P. González-Martin, LIC.DER. (OVIEDO), DR.DER. (ZARAGOZA); T.A. Noriega, LIC.EN FILOLOGIA (COLOMBIA), M.A., PH.D. (ALBERTA) (on leave Winter Term); D.L. Smith, M.A., D.PHIL. (OXFORD) (on leave Fall Term)

Associate Professor

G.D. Aitken, B.A. (TRENT), M.A. (STANFORD)

Assistant Professor

F.B. García-Sánchez, B.A. (HAVANA), M.A., PH.D. (LAVAL)

Required Courses

The single-major Honours program consists of nineteen courses. Minimum ten courses in Spanish, including *Spanish 100* or *200* (formerly *111*)

201

211

300

Six additional courses at the *three-hundred* or *four-hundred* series level (excluding *324a*, *325b* and *326*).

Joint-major Honours program. Minimum seven courses in Spanish, including *Spanish 100* or *200* (formerly *111*)

201

211

300

Three additional courses at the *three-hundred* or *four-hundred* series level (excluding *324a*, *325b* and *326*).

Intending students are advised to consult the two departments involved as early in their university career as possible.

In exceptional cases students may take literature courses exclusively but will be expected to comply with the minimum number of courses required for the completion of each program.

Single-major General program. Minimum six courses in Spanish, including *Spanish 100* or *200* (formerly *111*)

201

211

300

Two additional courses at the *three-hundred* or *four-hundred* series level (excluding *324a*, *325b* and *326*).

Joint-major General program. Minimum five courses in Spanish, including

Spanish 100 or *200* (formerly *111*)
201
211
300

One additional course at the *three-hundred* or *four-hundred* series level (excluding *324a*, *325b* and *326*).

Special Provisos

- Students intending to major in Hispanic Studies are strongly recommended to take *Modern Languages 100*, as well as courses in at least one other modern language. Other related courses recommended are *Latin 100*, *Classical Literature 100* and *200*, *Anthropology 230* and *304*, *English 200* and *332*, *Comparative Development Studies 200* and *Cultural Studies-English 325*.
- Students with sufficient knowledge of Spanish may be admitted directly to *Spanish 200*, *201*, *210* or *211*, at the discretion of the Section.
- Spanish 200* (formerly *111*) and *201* may be taken concurrently.

Year Abroad Program

*Courses marked with an asterisk are part of the Year Abroad Program detailed at the end of this section.

Modern Languages 100

An introduction to the fundamental concepts of language. (Not offered this year.)

Spanish 100

Beginners' course in Spanish. An introduction to Spanish language with emphasis on oral Spanish. Texts include a grammar and one reader. Three seminars, one conversation hour, and one laboratory hour weekly.

G. Aitken and F.B. García-Sánchez

Spanish 200

Continuing Spanish. A language course with comprehensive grammar review; intensive language practice and an introduction to Spanish and Spanish-American culture. Prerequisite: *Spanish 100* or the equivalent. Students with high school credits in Spanish or previous knowledge of the language will be required to write a diagnostic test to be admitted into the course.

F.B. García-Sánchez

*Spanish 201**

Intermediate Spanish. A general course of Spanish conversation, pronunciation, composition and reading. Two seminars, one conversation hour and one laboratory

hour weekly. Prerequisite: *Spanish 100* (with 70% or better), *200* (formerly *111*, or permission of Section.

T.A. Noriega and D.L. Smith

*Spanish 210**

Introduction to Spanish and Spanish-American civilization. A study of civilization in the Spanish-speaking countries (history, art, ideas, social development). One lecture, one seminar weekly. Conducted in Spanish. Students enrolled in this course normally are also required to register in *Spanish 200* (formerly *111*) or *201*. (Offered only in Granada this year.)

*Spanish 211**

Introduction to Spanish and Spanish-American literatures. One lecture, one seminar weekly conducted in Spanish. Students enrolled in this course are also normally required to register in *Spanish 200* (formerly *111*) or *Spanish 201*.

F.B. García-Sánchez and R.M. Garrido

*Spanish 300**

Advanced oral Spanish and composition. An analytical study of the elements required in the use of Spanish, especially in writing. Lecture two seminars weekly. Prerequisite: *Spanish 201* or *200* (formerly *111*) with permission of Section Chair.

R.M. Garrido

*Spanish 311a**

Spanish contemporary literature since the generation of 1898. Prose and Theatre. (Not offered this year.)

*Spanish 312b**

Spanish contemporary literature since the generation of 1898. Poetry, with special emphasis on the generation of 1927. (Not offered this year.)

*Spanish 322a**

Spanish-American poetry. A survey of Spanish-American poetry with special emphasis on the contemporary period. Lecture and seminar weekly.

T.A. Noriega

*Spanish 323b**

Spanish-American prose. A survey of Spanish-American prose with special emphasis on the contemporary period. Lecture and seminar weekly.

T.A. Noriega

Spanish 324a

Modern Spanish-American literature in translation: Poetry. (Not offered this year.)

Spanish 325b

Modern Spanish-American literature in translation: Prose. (Not offered this year.)

Spanish 326

The contemporary Latin-American novel as aesthetic adventure and commitment: A socio-literary approach. (Not offered this year.)

Spanish 330*

Spanish literature of the Golden Age. An introduction to the literature and thought of the Renaissance and Baroque periods based on selected authors and topics.

Lecture, seminar weekly.

R.M. Garrido and D.L. Smith

Spanish 401

Honours seminar leading to the completion of an undergraduate thesis, with problems of bibliography and literary criticism. (Subject to be chosen in consultation with Section Chair and instructor.)

Spanish 415a

History of the Spanish language. A historical survey of the formation and development of the Spanish language from preliterary times to the present day. Lecture and seminar weekly.

R.M. Garrido

Spanish 416b

Medieval Spanish literature. Studies of the Spanish literature from *El Cid* (twelfth century) to *La Celestina* (end of the fifteenth century). Lecture and seminar weekly.

R.M. Garrido

Spanish 417

Cervantes and the novel. A detailed textual study of *Don Quijote* and the *Novelas Ejemplares*. (Not offered this year.)

Spanish 420

Contemporary Spanish-American novel: narrative structure and world view. Prerequisite: *Spanish 323b* or permission of the instructor.

T.A. Noriega

Spanish 4951

Special topic: A course on some period of Spanish or Spanish-American literature.

Spanish 4952

Special topic: A course on some author or topic of Spanish or Spanish-American literature.

Spanish 4951*, 496a, 497b

Special topics in Hispanic Studies. Prerequisite: permission of the Chair and the instructor concerned.

Year Abroad Program

Normally, in order to be eligible to study for a year at the University of Granada, for Trent credits with a Trent/Toronto professor, a student must achieve a minimum of a B- average on all Trent courses (or equivalent courses) and a B- standing in *Spanish 100, 200* (formerly *111*) or equivalent. Enrolment is limited to 15 students from Trent. Honours students are especially encouraged to spend a year at Granada. For further details, please consult the Chair of the Section.

The courses to be offered in 1993-94 by University of Toronto professor or by University of Granada faculty are:

*Spanish 201**: Intermediate Spanish. Conversation, pronunciation, composition and reading.

*Spanish 210**: Introduction to Spanish and Spanish-American civilization.

*Spanish 211**: Introduction to Spanish and Spanish-American literatures.

*Spanish 300**: Advanced oral Spanish and composition.

*Spanish 311a**: Spanish contemporary literature since the generation of 1898.

Prose and Theatre.

*Spanish 312b**: Spanish contemporary literature since the generation of 1898.

Poetry.

*Spanish 322a**: Spanish-American poetry.

*Spanish 323b**: Spanish-American prose.

*Spanish 4951**: Special topic in Hispanic Studies.

Native Management and Economic Development Program

This Program provides an interdisciplinary and integrated approach to the development of management, community and economic development knowledge and skills appropriate for working within an aboriginal environment. The Program is offered by the Department of Native Studies and the Administrative Studies Program, thus blending a study of native culture with management and economic development skills.

The Program offers:

- a. a two-year Diploma for students who have the equivalent of Ontario Grade 12 or qualify as mature students. Students are required to complete a summer pre-session course (*Communications 91*) plus a minimum of 7.5 university credits. Students are required to complete the courses listed below.

Native Studies 100

Introduction to Native Studies.

Native Studies 150a

Introduction to community development.

Native Studies 151b

Introduction to economic development.

Administration Studies-Native Studies 190

Introduction to management decision-making.

one other one-hundred level course — *AD 105, AN 100, CD 100, PI 105, PO 100* are recommended.

one of *Native Studies 200* (Native Politics), *Native Studies 290* (Native Economic Development), *Native Studies 300* (Aboriginal Governance)

Administrative Studies 201a

Financial accounting.

Administrative Studies-Native Studies 270

Organizational behaviour in contemporary aboriginal organizations.

one further course in Administrative Studies or Native Studies.

Students who receive a grade of B- or below in *Communications 91* will also be required to include *Communications 92c* in their first quarter of studies.

- b. a Bachelor of Arts in Native Studies (NMED emphasis). 15 courses. Students are required to take at least 6 courses in Native Studies and at least 4 courses in Administrative Studies. This course of study must include the core courses listed above plus:

Administrative Studies 202b
Fundamentals of management accounting.

Administrative Studies 250
Organization theory.

Administrative Studies 350
Planning, budgeting and control.

Economics 101a/102b is highly recommended.

- c. an Honours (4 year) Degree Program

Option 1:

Bachelor of Arts (Honours) in Native Studies (NMED emphasis). As in b. above plus an additional academic year and successful completion of a minimum of four additional credits of which three must be four-hundred series. *Administration 400* is highly recommended.

Option 2:

Bachelor of Administrative Studies (NMED emphasis). Students are required to take the courses listed above at some time over the 4 years of the program. Students intending to complete the B.A.S. degree should consult with the Director of the Program or designate prior to the start of the second quarter.

Native Studies

*Assistant Professor and
Chair of the Department*

P. Kulchyski, B.A. (WINNIPEG), M.A., PH.D. (YORK)

Professor Emeritus

K.E. Kidd, M.A. (TORONTO), F.R.A.I.

Professors

M J. Castellano, B.A. (QUEEN'S), M.S.W. (TORONTO) (on leave 1993-94); D.N.

McCaskill, B.A. (WINNIPEG), M.A. (CARLETON), PH.D. (YORK); J.S. Milloy, B.A. (ST. PATRICK'S), M.A. (CARLETON), D.PHIL. (OXFORD)

Associate Professor

D. Newhouse, B.Sc., M.B.A. (WESTERN ONTARIO)

Assistant Professor

S.I. Williams, B.A. (TRENT)

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine courses in Native Studies including *Native Studies* 100, 200, one of 280 or 310, 381a and one of 382a, 383b, 384a, 385b

Three four-hundred series courses.

Joint-major Honours program. Minimum seven courses in Native Studies including *Native Studies* 100, 200, one of 280 or 310, 381a and one of 382a, 383b, 384a, 385b

Two four-hundred series courses.

Single-major General program. Minimum six courses in Native Studies, including *Native Studies* 100, 200, one of 280 or 310

Joint-major General program. Minimum five courses in Native Studies. Same required courses as for single-major.

Special Proviso

Students will not normally be permitted to count more than two selections from *Native Studies* 280, 380, 225 and 325 in the minimum five or six courses required for a major.

Native Studies 100

Introduction to Native Studies. The course examines the contemporary situation of native people in Canada in the context of their cultural traditions and the historical interactions between Indian and non-Indian societies. Case studies, documentary sources and contemporary social analysis are used in conjunction with oral traditions to define methods of inquiry in Native Studies. Seminar and two lectures weekly.

Native Studies 150a

Introduction to community development. An overview of the concepts of "community" and "community development" in the native development context. The course will examine the community planning process, including the preparation of a community profile. Current issues in native community development will also be discussed. Students are expected to undertake a major research project. Lecture and seminar weekly.

Native Studies 151b

Introduction to community-based economic development. The course provides an overview of the formal and informal economies of native and non-native communities within a traditional economics framework including concepts of supply and demand and the principles that influence the location of economic activities. Lecture and seminar weekly.

Native Studies-Administration 190

Introduction to management and decision-making in contemporary aboriginal organizations. (See Administrative Studies)

Native Studies 200

Politics and native communities. The course will focus both on the traditional political culture of native peoples and on the political structures of colonialism (Indian Acts, Treaties, etc.) viewed from legal and historical perspectives. Contemporary analysis will treat Indian self-government including models of development, cultural and ideological foundations, government policy and implementation strategies. Lecture and seminar weekly.

P. Kulchyski

Native Studies-Anthropology 201

Native societies of Canada. (See Anthropology)

Native Studies 210

The Algonkian identity. A study of aboriginal values and personalities in the traditional and contemporary native setting. The course will concentrate on the Algonkian-speaking peoples which include the Ojibway, the Saulteaux, and the Cree in the examination of topics such as the Midewiwin, aggression, joking, childrearing, Windigo and others.

Native Studies 211

Native identity development. The course will examine the process of native identity development in various life stages. Formative experiences in traditional and modern settings, development of self-concept and problem solving strategies will be explored in seminars and workshops. Open to first year students with permission of the instructor. Two-hour seminar weekly.

Native Studies 220

Iroquois culture and traditions. A study of the political, economic, kinship and religious institutions of traditional

Iroquois society including prehistoric background, establishment of the Six Nations Confederacy, the longhouse religion, and contemporary situation. Lecture and tutorial weekly.

Native Studies 225

Oral Mohawk. An introduction to Mohawk designed for students with little or no knowledge of the language. This is a conversational course, emphasizing the use and understanding of Mohawk through the learning of the basic vocabulary and sentence patterns in class and in language laboratory. Four hours weekly.

Native Studies-Anthropology-Canadian Studies 253

Art of the Americas. (See Anthropology)

Native Studies-Canadian Studies-History 255

History of the Indians of Canada. A study of the "prehistoric" period to the present day. Emphasis will be placed on Indian involvement in the fur trade and imperial politics of the eighteenth century, the development of European "civilizing" policies, and the growth and ideology of the modern Indian political movement. Seminar and lecture weekly.

Native Studies 260

Social services and the native people. A study of tribal and contemporary approaches to meeting common human needs. The structure and impact of health, welfare, family and correctional services are examined, along with contemporary initiatives to establish community control of programs. Prerequisite: *Native Studies 100* or permission of instructor. Lecture and seminar weekly.

Native Studies-Administration 270

Organizational behaviour in contemporary aboriginal organizations. (See Administrative Studies)

Native Studies-Canadian Studies-History 270

History and politics of the Métis and non-status Indians of Canada. (Not offered this year.)

Native Studies 280

Oral Ojibway. An introduction to Ojibway designed for students with little or no knowledge of the language. This is a conversational course, emphasizing the use and understanding of Ojibway through the learning of the basic vocabulary and sentence patterns in class and in the language laboratory. Three hours weekly.

Native Studies-Canadian Studies 285
Native people and the North. (Not offered this year.)

Native Studies 290

Native economic development. Provides an overview of the economic development process with specific reference to native communities. The course examines types of economic activities, where they locate and why. Planning for community economic development as well as business feasibility studies will be covered. Such areas as conflict between community goals and business goals, impact assessment and plan evaluation will also be addressed. Prerequisite: *Economics 101a/b* and *102a/b* or *Native Studies 150a* and *151b*.

Native Studies 300

Aboriginal governance. (Not offered this year.)

Native Studies-Comparative Development 305

Native community development. A study of various approaches to community development in native and Third World communities. The course will examine current initiatives in human resource, political and economic development, and critical issues relating to local control, values, gender, government policies, and roles in social change processes. Methods and techniques as applied in community development processes will be included. Practicum optional. Lecture and seminar weekly (three hours).

Native Studies 310

Culture and community. A study of cultural continuity, change and revitalization in native communities in Canada. The dynamic nature of cultural adaption and the significance of tribal language, spirituality and social responsibilities will be emphasized. Lecture and seminar weekly.

Native Studies 320

Urbanization and the native peoples. An analysis of migration, adjustment and integration of native people into urban areas, examining various assimilation and acculturation models as well as cultural interaction between native and white society in rural native communities. Lecture and tutorial weekly.

D.N. McCaskill

Native Studies 325

Advanced Mohawk language and culture. (Not offered this year.)

Native Studies 330

Education and the native peoples. The course will examine issues pertaining to the development of an appropriate educational system for native people including Indian control of Indian education, learning theories, Indian culture, values and identity, teaching and learning styles, pedagogy and curriculum planning. Seminar and lecture weekly.

Native Studies 340

Native law. An examination of contemporary legal issues affecting Native people in Canada. The concepts of aboriginal rights and aboriginal title will be explored and defined. The course will be divided into two parts: first, an examination of the documents that deal with aboriginal rights including treaties, BNA Act, Indian Act, etc.; second, an examination of how those rights have been interpreted in the courts. Emphasis will be placed on recent Supreme Court decisions. Lecture and tutorial weekly.

Native Studies-Canadian Studies-English 360

Native peoples in literature. The course considers the images and distortions of native people presented in a representative series of North American fictions by native and non-native authors. Writers to be studied include Cooper, Longfellow, Lafarge, Mitchell, Wiebe, Momaday, Silko and King. Weekly lecture and seminar.

G.A. Johnston

Native Studies 380

Advanced oral Ojibway. A general course in advanced conversation and pronunciation using language laboratory and classroom participation. Four hours weekly. Enrolment may be limited. Prerequisite: *Native Studies 280* or permission of instructor.

S.I. Williams

Native Studies 381a

Theory of community-based research. A practical introduction to research methods in the social sciences, including a critique of those methods in the context of Native development. The ideological base of participatory and action research is examined along with case studies exemplifying alternative methodologies. Normally taken as the foundation course for research methods in Native Studies. Lecture and seminar weekly.

Native Studies 382a

Community service methods. (Not offered this year.)

Native Studies 383b

Community-based oral history methods. A course in specific oral-history methods. Emphasis is upon the cultural and strategic approaches which enhance oral history methods in aboriginal communities. Topics include research design, community rapport, administration, community-based data collection and analysis, political-economic issues, and dissemination/materials development. A small-scale field project will be developed. *Native Studies 381a* recommended. Weekly lecture and seminar.

Native Studies 384a

Social survey research methods. This course will provide students with an introduction to conducting survey research within a community-based research context. Topics will include issues in crosscultural research, questionnaire design and administration, and data analysis. Research project required. *Native Studies 381a* recommended. Lecture and seminar weekly. (Support course for Comparative Development Studies)

Native Studies 385b

Program planning and evaluation. This course will examine the process of program development in a native community context, including goal setting, needs analysis, operational planning, budgeting and fundraising, program implementation, and evaluation. The essential roles of research, planning and evaluation will be emphasized. Research project required. Lecture and seminar weekly (three hours). *Native Studies 384a* highly recommended. (Support course for Comparative Development Studies)

Native Studies 386, 387a, 388b, 389c

Native Studies field work. This course will provide students with experience in applying the methodology learned in *Native Studies 381a, 382a, 383b, 384a* or *385b*. Research or service projects will normally be carried out in the field under the joint supervision of faculty and personnel in native agencies. Application is normally made by April 30 of the preceding academic year. Approximately 60 hours for a half course and 120 hours for

a full course, plus fortnightly seminars. Prerequisite or corequisite: one of *Native Studies 381a, 382a, 383b, 384a, 385b*

Native Studies 390, 391a, 392b

Reading course. Intended for third-year majors and for second-year students, by application to the Department, who wish to carry out independent research. Details must be arranged before the end of the preceding academic year.

Native Studies 395, 396a, 397b

Special topic.

Native Studies-History 400

Research seminar in Indian history. The research seminar will examine the history of the Indian in the fur trade, reserve and modern periods and the nature of Indian historiography. Students will be required to produce one major paper based upon primary research material. Seminar weekly first term, individual tutorial supervising research project second term. J.S. Milloy

Native Studies 402

Thesis. A double credit in-depth study course in library or field-oriented research, for which a double fee is charged, supervised by the Honours Committee and a Research Project Committee. Students are to arrange all details with the Department Chair before the end of the preceding academic year.

Native Studies 410

Seminar on indigenous knowledge. (Not offered this year.)

Native Studies-Canadian Studies-History 425

The evolution of the settlement commonwealth. (Not offered this year.)

Native Studies 430

Critical theory and native studies. A seminar on the relevance of contemporary western social and political thought to aboriginal issues. The course will apply a broad range of theoretical approaches to develop understandings and insights of aboriginal and western societies and the specific character of the interactions between them.

Native Studies-Anthropology-Canadian Studies 450

Native art of Canada. (Not offered this year.)

Native Studies 481

Selected topics. (Not offered this year.)

Native Studies-Comparative Development 482

Indian responses to cultural interaction. Focus will be on social and psychological processes involved when cultures meet examining acculturation and conflict models, culture and personality, interaction perspectives and ethnic identity studies.

D.N. McCaskill

Native Studies 490

Reading course. Students may select an area of study under the direction of an adviser. Details are to be arranged through the Department Chair before the end of the preceding academic year.

Native Studies-Sociology-Canadian Studies 496a

Special topic: Human development in community context. (See Sociology)

Native Studies-Sociology-Canadian Studies 497b

Special topic: Community development in Native Canadian context. (See Sociology)

Diploma Program in Native Studies

This program is open to students who have the equivalent of Grade 12, or who qualify as mature students. Students of native ancestry are encouraged to enroll. Over a two-year period students are required to complete seven undergraduate courses, four of which must be drawn from Native Studies course offerings.

Students must enroll in *Communications 91*, a three-week summer pre-session prior to their first year. Students who receive a grade of B- or below in *Communications 91* will be required to also take *Communications 92c*. For description of Native Studies course options see Native Studies.

On completion of the diploma requirements, students may apply for admission to the B.A. program. Undergraduate course credits earned in the Diploma program are transferable to meet requirements for a degree.

Application for admission to the Program should be made to the Office of the Registrar.

Inquiries should be directed to the Department of Native Studies.

Required Courses

Summer prior to Year 1

Communications 91 (Pre-session)

Year 1

Native Studies 100

Two of three additional courses (depending upon whether or not *Communications 92c* is required), two of which may be one-hundred level courses in a discipline other than Native Studies. Some two-hundred level Native Studies courses are available with permission of the instructor.

Year 2

Four courses selected from two- or three-hundred series Native Studies courses exclusive of *Native Studies 390*. A one-hundred series course from a discipline other than Native Studies may be substituted for any of these courses.

Communications 91 (Pre-session)

An intensive three-week summer course providing skill-development in study skills, writing, reading, speaking and listening. Focus is on native content. Successful completion leads to admission to the Diploma Program in the fall.

Communications 92c

A course to provide specific research skills for both Native Studies and Native Management and Economic Development streams. Class instruction, seminars and individual tutoring focus on content relevant to undergraduate course work of participants.

Northern and Polar Studies

Program Coordinator

W.P. Adams, B.A. (SHEFFIELD), M.Sc.,
Ph.D. (MCGILL), Department of Geography

The Emphasis in Northern and Polar Studies is designed to stimulate interest in the higher latitudes in all academic departments and programs at Trent. It is also designed to give students from the north an opportunity to extend and deepen knowledge of their home regions.

The Emphasis takes the form of an annotation on the transcript of students graduating in the General or Honours programs at Trent. It reads "... with an Emphasis in Northern and Polar Studies."

It can be earned in the following manner:

—Students must have completed at least one month of formal post secondary study in the north or south polar regions. Such study may take the form of course work or independent or supervised research. As an alternative, students may have lived in the north or south polar regions for more than one year during their teens or later years. Proof of polar experience must be submitted to the Committee on Northern and Polar Studies at least six months prior to graduation. The definition of "North polar regions" used here is that of the Northern Scientific Training Grants Program of Indian and Northern Affairs Canada. This definition includes northern parts of most provinces. In the South, the continent of Antarctica and the sub-Antarctic islands qualify. The Committee on Northern and Polar Studies shall rule where eligibility is in doubt. —Credits from Yukon and Arctic Colleges, acceptable to Trent University, may be counted towards this emphasis to a maximum of two-and-a-half courses. Students are encouraged to consult the Committee on Northern and Polar Studies about their selection of courses for the Emphasis at the start of their second year. They must do so at least six months prior to graduation. Early contact with the Committee has the advantage of putting the student in touch with others, students and faculty, with like interests.

Students must have successfully completed five full course equivalents selected, as indicated, from the following, before they graduate.

(a) Two or more of the following:

CA/ES 341
GO/CA 364a
HI/CA 422
NS 285
NS 481
NS/CS/SOC 496a
NS/CS/SOC 497b

(b) No more than three of the following in which consent of the instructor must be obtained, before the course begins, to ensure that a northern

emphasis for the student in question will be provided.

AN 311

AN/NS 450

CA/ER 200

CA/CU 413

ER 250

ER 360

GO 342b

GO/CA 361

HI 370

HI/CA 402

HI/CA/NS 425

NS 200

NS/CD 305

NS 340

PO/CD 440

- (c) No more than three of the following for which permission of the instructor and the Committee on Northern and Polar Studies must be obtained. Interested students must obtain a permission form from the Committee.

All reading/special topic/thesis courses for which acceptable subject matter can be arranged. There are approximately one hundred of these courses in the Trent Calendar, generally at the third and fourth quarter levels. One of the purposes of the Emphasis is to encourage interest in northern and polar studies throughout the University.

Nursing

This is a four-year integrated program offered jointly by Trent University and Sir Sandford Fleming College which leads to a Special Emphasis General Degree from Trent University in addition to a Nursing Diploma from Sir Sandford Fleming College. Students accepted into the program must meet the admission requirements of both institutions. Additional information about the program and admission procedures are available from:

The Admissions Office
Sir Sandford Fleming College
Brealey Drive
Peterborough, Ontario
K9J 7B1
Telephone: (705) 749-5530

During the Program students are enrolled concurrently in Trent academic courses as well as nursing and clinical courses at Sir Sandford Fleming College. The Program consists of a minimum of nine Trent courses plus the equivalent of six courses undertaken at Sir Sandford Fleming College in Peterborough. Details of the Trent course requirements are given below.

Required Courses

<i>Psychology</i>	101
	280
	340
<i>Sociology</i>	100
	363

and four of

<i>Psychology</i>	382
<i>Sociology</i>	241
	342
	366
	389
<i>Anthropology</i>	348
<i>Women's Studies</i>	100

Course Sequence

Trent University

Year 1

Sociology 100

Year 2

Psychology 101

one of *Sociology* 241

Sociology 389

Women's Studies 100

Anthropology 348

Year 3

Psychology 280

Sociology 363

one of *Sociology* 366

Sociology 389

Anthropology 348

Women's Studies 100

Year 4

Psychology 340

two of *Psychology* 382

Sociology 342

Women's Studies (course to be determined)

Sociology 241

Sociology 366

Anthropology 348

Sir Sandford Fleming College**Year 1****Fall Term:***Health Theory 1330049**Biology 1380142**(New) Nursing in the Community**Clinical Course 1110241***Winter Term:***Nursing 1330050**Biology 1380143**(New) Nursing Theory and Nursing Research**Clinical Course 1110309***Year 2****Fall Term:***Nursing 1330051**Clinical Course 1110310***Winter Term:***Nursing 1330052**Clinical Course 1110311***Year 3****Fall Term:***Nursing 1330053**Clinical Course 1110311**Organizational and Professional Issues***Winter Term:***Clinical Course 1110313***Year 4****Fall Term:***(New) Nursing Models in Theory and Practice***Winter Term:***Nursing Models in Theory and Practice**(New) Clinical Course***Summer Term:***(New) Clinical Course*

Philosophy*Professor and Chair of the Department**M.L. Rubinoﬀ, B.A. (QUEEN'S), M.A., PH.D. (TORONTO)**Professor Emeritus**D. Gallop, M.A. (OXFORD)***Professors***J.W. Burbidge, M.A. (YALE), B.D., PH.D. (TORONTO); R.E. Carter A.B. (TUFTS),**M.DIV. (HARVARD), M.A., PH.D. (TORONTO);**J.I. MacAdam, B.A. (NEW BRUNSWICK),**M.A. (QUEEN'S), PH.D. (LONDON) (on leave**1993-94)***Associate Professors***C.V. Boundas, M.A., PH.D. (PURDUE);**B.J. Hodgson, M.A. (TORONTO), PH.D. (WESTERN ONTARIO) (on leave 1993-94);**R.M. Neumann, B.A. (COLUMBIA), M.A.,**PH.D. (TORONTO); C.W. Tindale, B.A. (WILFRID LAURIER), M.A., PH.D. (WATERLOO)***Assistant Professor***F.C. McKinnon, B.A. (MCGILL), B.PHIL.,**D.PHIL. (OXFORD) (on leave Fall Term**1994)***Required Courses**

The single-major Honours program consists of nineteen courses. Minimum nine courses in Philosophy, including *Philosophy 101* or *105* strongly recommended *210* and *310* required, *240a* required
Two four-hundred series courses required

Joint-major Honours program. Minimum seven courses in Philosophy, including *Philosophy 101* or *105* strongly recommended *210* and *310* required,

One four-hundred series course required

Single-major General program. Minimum six courses in Philosophy, including *Philosophy 101* or *105* strongly recommended *210* and *310* required

Joint-major General program. Minimum five courses in Philosophy, including *Philosophy 101* or *105* strongly recommended *210* or *310* required

Special Provisos

—*Philosophy 101* and *Philosophy 105*, although not formal prerequisites, offer a preparation for all other courses in the subject.

—*Philosophy 101* and *105* may not both be taken in the first year and only one of them may be counted towards a Philosophy major

—First quarter students will occasionally be permitted to enroll in two-hundred series courses after consultation with the Chair of the Department.

—All two-hundred series courses in Philosophy may be counted as fulfilling the university requirements for three-hundred series courses.

—The Logic requirement for a single-major Honours degree shall normally be completed prior to commencement of the fourth quarter of an Honours program.

—The fourth quarter of the Honours program will normally consist of four courses, some of which may be *three-hundred* series courses.

Philosophy 101

An introduction to philosophy through a study of fundamental problems, such as the nature of moral right and wrong, the freedom of the will, the relation between

mind and matter, and the existence of God, as presented in works of major philosophers: e.g., Plato, Descartes, Kant and Nietzsche. Weekly lecture, weekly tutorial.

Co-ordinator: C.V. Boundas

Philosophy 105

Practical reasoning. The study of the uses of statements and arguments in reasoning, as they occur in a variety of contexts. Emphasis will be placed on developing skills in recognizing, constructing and critically evaluating arguments. Two lectures weekly; bi-weekly workshops.

Co-ordinators: J. Burbidge and C.W. Tindale

Philosophy 210

Ancient philosophy. The development of philosophical thought from the Pre-Socratics to Neo-Platonist and Christian thinkers of late antiquity. Special emphasis will be placed upon selected works of Plato and Aristotle. Two hours weekly.

C.W. Tindale

Philosophy 214

Introduction to existential philosophy. Themes will include consciousness as a source of meaning and interpretation, individuality, intersubjectivity and community, freedom, choice and responsibility, difference and repetition, and nihilism and creation. Texts will be selected from the writings of Nietzsche, Kierkegaard, Camus, Sartre, de Beauvoir, Merleau-Ponty and Heidegger. Two hours weekly.

C.V. Boundas

Philosophy 230

Moral issues. An application of basic principles of moral philosophy to the ethical problems of contemporary society. Two hours weekly. (Offered this year and in alternate years.)

C.W. Tindale, F.C. McKinnon and staff

Philosophy 232

Philosophy of law, justice and the state. (Offered in alternate years, but not this year.)

Philosophy-Computer Studies 240a

Symbolic logic. An introductory study of formal logical systems, together with their use in the analysis of various types of arguments. Two hours weekly. (Excludes *Philosophy-Computer Studies 240*)
R.M. Neumann

Philosophy 275

Philosophy of religion. (Offered in alternate years, but not this year.)

Philosophy-Psychology 277

Philosophy of mind. An introduction to philosophical investigations into the relationship between mind and brain. Two hours weekly. (Offered in alternate years, but not this year.) (Excludes *Philosophy-Psychology 377a*)

F.C. McKinnon

Philosophy 282

East Asian philosophy: China and Japan. A study of major Chinese and Japanese philosophers, including Confucius, Lao Tzu, Dogen, Nishida and Suzuki. Ch'an and Zen Buddhism will be examined. A focus of the course will be the relation between human nature and nature, and the methods by which it is discerned. The relation between knowledge and experience will be emphasized as a means to understanding the primacy of the aesthetic in Japanese culture. Two hours weekly. (Offered this year and in alternate years.)

R.E. Carter

Philosophy 310

Early modern philosophy. A study of the important philosophies of the seventeenth and eighteenth centuries, including those of Descartes, Spinoza, Leibniz, Locke, Berkeley and Hume. Two hours weekly. (Excludes *Philosophy 212*)

L. Rubinoff

Philosophy 315

Descriptive and existential phenomenology. Themes and texts will be selected from the writings of Husserl, Heidegger, Merleau-Ponty, Ricoeur and others. Pre-requisite: *Philosophy 214* or permission of instructor. Two hours weekly. (Offered this year and in alternate years.)

R.E. Carter

Philosophy 316

Hermeneutics and deconstruction. (Offered in alternate years, but not this year.)

Philosophy 330

Moral and political philosophy. A study of some of the following: the relation between morality and rationality, the notion of freedom in morals and politics, the limits of utilitarianism, and the limits to rights. Weekly two-hour seminar.

R.M. Neumann

Philosophy-Computer Studies 341b

Logics and logical theories. A look at selected topics in logic, including some of: modal and 3-valued logics, the foundations of arithmetic, formal semantics, the theory of rational choice, completeness, soundness, and truth. Prerequisite: *Philosophy-Computer Studies 240a* or permission of the instructor. Two hours weekly.

R.M. Neumann

Philosophy 370

Philosophy and the sciences. An enquiry into the history and method of science, with special attention to the concepts of explanation and truth employed in both the natural and human sciences. Two hours weekly. (Offered in alternate years, but not necessarily this year.)

Philosophy 376

Philosophy of language. A study of the nature and structure of language, and an investigation into the relations between language and thought and between language and the world. Prerequisite: *Philosophy 105* or *240a* or permission of the instructor. Two hours weekly. (Offered in alternate years, but not this year.) (Excludes *Philosophy 378b*)

F.C. McKinnon

Philosophy 379

Philosophy of art. (Offered in alternate years, but not this year.)

Philosophy 382

Indian philosophy. Prerequisite: At least one previous philosophy course. (Offered in alternate years, but not this year.)

Philosophy 390

Reading course. Students will be encouraged to pursue a special interest, largely through independent study, for full-course credit. Details must be arranged in consultation with the staff in Philosophy between April 15-30 of the preceding academic year. Periodic tutorials.

Philosophy 410

Major Texts. A textual study of some major works of Plato and Aristotle on

literature and language. Prerequisites: *Philosophy 210* or permission of the instructor. Two hours weekly.

C.W. Tindale and staff

Philosophy 411

Medieval philosophy. Prerequisite: *Philosophy 210* or permission of instructor. (Excludes *Philosophy 311*) (Not offered this year.)

Philosophy 412

Nineteenth century philosophy. The main movements of thought as found in selected writings of Fichte, Hegel, James, J.S. Mill, Marx, Nietzsche, C.S. Pierce, and others. Prerequisite: *Philosophy 212* or permission of the instructor. Two hours weekly. (Excludes *Philosophy 312*) (Offered in alternate years, but not this year.)

Philosophy 414

The Philosophy of I. Kant. The course offers an in-depth study of the philosophy of I. Kant. Readings will be chosen from among the *Critique of Pure Reason*, *The Critique of Practical Reason* and/or *The Foundations of the Metaphysics of Morals*, and *The Critique of Judgement*. Weekly two-hour seminar. (Offered this year, and in alternate years.)

J.W. Burbidge

Philosophy 420

Advanced Metaphysics and Epistemology. A study of such problems as the nature of existence, space and time, determinism, universals, knowledge and belief, perception, personal identity, meaning and truth. Prerequisite: *Philosophy 210* and *310*, or permission of the instructor. Open only to students with a 70% average in their philosophy courses. (Not offered this year.)

Philosophy 490

Reading course. Students will be encouraged to pursue a special interest, through independent study, for full-course credit. Details to be arranged in consultation with the staff in Philosophy between April 15-30 of the preceding academic year.

Philosophy 499

Special topics. In 1993-94: Contemporary European Philosophy. The course focuses on the theories of difference of Jacques Derrida, Luce Irigaray and Emmanuel Levinas. Representative texts of the three theorists will be discussed in detail; placed in the context of Heidegger's ontological difference, Freud's gender difference (or

Lacan's difference between imaginary and symbolic) and Jewish anti-essentialism; and assessed for their contributions to metaphysics, feminist theory and ethics. Prerequisite: one of *Philosophy 214, 315 or 316*. Two-hour seminar weekly.
C.V. Boundas

Physics

Professor and Chair of the Department
P.C. Dawson, M.Sc. (TRENT), Ph.D. (VICTORIA)

Professor Emeritus
J.I. Lodge, M.A. (QUEEN'S), Ph.D. (VIRGINIA)

Professors
L.C.R. Alfred, M.Sc. (BOMBAY), Ph.D. (SHEFFIELD) (on leave Winter Term);
W.F.J. Evans, M.A., Ph.D. (SASKATCHEWAN); R.G. Johnson, M.Sc. (QUEEN'S), Ph.D. (LIVERPOOL); J.W. Jury, M.Sc., Ph.D. (TORONTO); A.J. Slavin, M.Sc. (TORONTO), Ph.D. (CAMBRIDGE)

Associate Professors
K. De'Bell, M.Sc., Ph.D. (LONDON); J.W. Earnshaw, B.A.Sc. (TORONTO), Ph.D. (CAMBRIDGE)

Senior Demonstrator
J. Breukelaar, B.Sc. (YORK), M.Sc. (TRENT)

Demonstrator
D. Marshall, B.Sc. (WATERLOO)

Required Courses

The single-major Honours program consists of twenty courses. Minimum ten courses in Physics, including

Physics 100
202a, 270a, 211b, 280b
302b, 321, 355a
400, 420, 461c*

Two other four-hundred series Physics courses.

*A student may substitute *Physics 460* for *461c* under exceptional circumstances and with approval of the Department.

Joint-major Honours program. Minimum seven courses in Physics, including

Physics 100
202a, 270a, 211b, 280b
302b, 321
400

One other four-hundred series Physics course.

Single-major General program. Minimum six courses in Physics, including

Physics 100
202a, 270a, 211b, 280b
302b, 321

Joint-major General program. Minimum five courses in Physics including

Physics 100
202a, 270a, 211b, 280b
302b, 321

Special Provisos

- First quarter students may take *Physics 100* and *Physics 150* or *155* as courses counting as two different disciplines.
- Students electing no more than two courses in Physics will normally elect *Physics 100* and *Physics 202a*.
- Students wishing to deviate from programs outlined above, or to obtain exemption from course prerequisites, should consult the Chair.

Notes:

- Course prerequisites should be carefully noted by the student.
- See also under *Chemical Physics*.
- Mathematics 110* and *200* are required for Physics majors, and *Physics-Mathematics 301* or *Physics-Mathematics 205a/305b* for Honours Physics. *Mathematics 130* is strongly recommended for the Honours programs.
- Physics-Mathematics 301* has been replaced by *Physics-Mathematics 205a*, and *Physics-Mathematics 305b*. Both courses can be taken in the third quarter and count as three-hundred level courses in Physics.
- Physics 325a* may be taken by students in second quarter.
- Physics 355a* may be counted as a four-hundred level course.
- The word "course" under "Required Courses" means one full-course or two half-courses.

Physics 100

Elementary physics. Particle dynamics translational and rotational motion, electricity, magnetism, optics, special relativity. Prerequisite: OAC Calculus or Algebra, or equivalent, or permission of the Department. OAC credits in Physics and Calculus are recommended, and concurrent enrolment in first-year calculus is strongly recommended. *Mathematics 110* is required for upper-level Physics courses. Three class meetings and three-hour laboratory weekly, tutorial fortnightly.
A.J. Slavin

Physics 150

Introductory astronomy. The solar system, sun, and stars. Stars and stellar evolution, supernovae, neutron stars, black holes. Galaxies, quasars, introductory cosmology. The Big Bang. Astronomy vs. astrology, the search for extraterrestrial intelligence. No prerequisite. Not to be counted toward a major in Physics. Two lectures weekly plus periodic workshops for observations. (Excludes *Physics 155*)
P.C. Dawson, J. W. Earnshaw

Physics 155

Introductory astronomy. The solar system, sun, and stars. Stars and stellar evolution, supernovae, neutron stars, black holes. Galaxies, quasars, introductory cosmology. The Big Bang. Astronomy vs. astrology, the search for extraterrestrial intelligence. This course provides a more quantitative treatment of the material than does *Physics 150*. Prerequisite: Grade 12 advanced level mathematics. Not to be counted towards a major in Physics. (Excludes *Physics 150*). Two lectures weekly plus periodic workshops for observations.
P.C. Dawson, J.W. Earnshaw

Physics 202a

Introductory quantum physics. Special relativity, particle-like aspects of radiation, atomic structure, wave-like properties of matter, Schrodinger equation and applications to one-dimensional systems. Prerequisite: *Physics 100* and *Mathematics 110*. Three lectures and three-hour laboratory weekly, tutorial fortnightly.
R.G. Johnson

Physics-Mathematics 205a

Differential equations. (See Mathematics, and under Notes)

Physics-Mathematics 211b

Classical mechanics. Applied mathematics as found in the classical mechanics of particles. One-dimensional motion, vector differential operators, three-dimensional motion, moving and rotating coordinate systems, central forces, systems of particles. Prerequisite: *Mathematics 110* and *Physics 100* or permission of the instructor. Corequisite: *Mathematics 200*. Three lectures and tutorial weekly.
A.J. Slavin

Physics 270a

Thermal physics. First and second laws of thermodynamics and applications, heat transfer, blackbody radiation, kinetic

theory of gases, statistical thermodynamics. Prerequisite: *Physics 100*. Corequisite: *Mathematics 200*. Three lectures weekly, tutorial fortnightly.
W.F.J. Evans

Physics 280b

Wave theory. Simple oscillating systems, waves in solids and membranes, acoustic waves in gases, reflection and transmission at a boundary, electromagnetic waves in free space and at surfaces, waves in optical systems. Prerequisite: *Physics 100* and *Mathematics 110*. Corequisite: *Mathematics 200*. Three lectures weekly and tutorial fortnightly, three-hour laboratory weekly.
J.W. Earnshaw

Physics 302b

Quantum physics. Quantum mechanics of one-electron atoms, magnetic dipole moments and spin, transitions and selection rules, identical particles, excited states of atoms, molecules, nuclear and particle physics. Prerequisite: *Physics 202a* and *Mathematics 200*. Three lectures and tutorial weekly, three-hour laboratory weekly.
R.G. Johnson

Physics-Mathematics 305b

Partial differential equations. (See Mathematics, and under Notes)

Physics-Mathematics 311b

Advanced classical mechanics. Applied mathematics as found in the classical mechanics of particles, rigid bodies and continuous media. Motion of rigid bodies, Lagrangian mechanics, Hamiltonian mechanics, dynamics of oscillating systems. Prerequisite: *Mathematics 200* and *Physics-Mathematics 211a/b*. Three class meetings weekly.
P.C. Dawson

Physics 321

Electricity and magnetism. Electrostatics magnetostatics, electric and magnetic properties of matter, Maxwell's equations, electromagnetic wave propagation. Prerequisite: *Physics 100* and *Mathematics 200*. Three class meetings, laboratory or problems session weekly.
K. De' Bell

Physics 325a

Electronics. A basic applied course in the electronic circuits most commonly used in laboratory sciences. Circuit theory, test instruments, operational amplifiers, semiconductor theory, measurement sensors, power control, digital circuits, AC circuit

theory, filters, DC power supplies, RC timing circuits. Prerequisite: *Physics 100* and OAC Calculus or equivalent. Three class meetings weekly, three-hour laboratory weekly. (Excludes *Physics-Computer Studies 223a* and *Physics 224b*)
J.W. Earnshaw

Physics 355a

Relativity and tensor analysis. Special relativity-kinematics: events and space-time, Minkowski geometry, four vectors, tensors in spacetime. Special relativity-dynamics: conservation of momentum and energy, covariant equations of motion. General relativity: geometry and space, the curvature tensor, equivalence principle and curved spacetime, principle of general relativity, metric form of spacetime, tests of Einstein's theory of gravitation. Prerequisite: *Physics 202a* and *Mathematics 200*. Three lectures weekly, tutorial fortnightly.

P.C. Dawson

Physics 400

Quantum mechanics. Review of elementary quantum mechanics. States and operators in Hilbert space, Dirac notation, interpretative postulates, representations, symmetry transformations, angular momentum theory, spherically symmetric potentials, approximation methods, scattering theory, identical particles. Selected special topics as time permits.

Prerequisite: *Physics 302a/b*, *Mathematics-Physics 301*. Three lectures, tutorial weekly.

L.C.R. Alfred, R.G. Johnson

Physics 420

Electromagnetic theory. General methods for the solution of Laplace's and Poisson's equations. Advanced treatment of Maxwell's equations. Relativistic transformation of electromagnetic fields. Motion of charged particles in electromagnetic fields. Electromagnetic radiation. Radiating systems. Prerequisite: *Physics 321*, *Mathematics-Physics 301*. Corequisite: *Physics 355a*. Three class meetings weekly.

L.C.R. Alfred, K. De' Bell

Physics 431b

Solid state physics. Crystallography, crystal binding, lattice vibrations and thermal properties, band theory, electron transport. Prerequisite: *Physics 300* or *302a*, *321* and *Mathematics-Physics 301*. Three class meetings weekly.

A.J. Slavin

Physics 441a

Nuclear physics. Nuclear properties, inter-nucleon forces, nuclear models, radiation and decay, nuclear reactions, applications, accelerators and detectors. Prerequisite: *Physics 302a*. Three class meetings weekly.

J.W. Jury

Physics 442b

Particle physics. High energy physics phenomena, elementary particles and their interactions, quarks and gluons. Electroweak unification. Grand unified theories. Prerequisite: *Physics 355a*, *Physics 441a* strongly recommended. Three class meetings weekly.

R.G. Johnson

Physics 460

Project course. An experimental or theoretical project on some topic of advanced physics. Past projects have included construction of a laser, field emission electron microscopy, atomic potential theory, wind turbine testing, surface physics, high temperature superconductivity, etc. Projects are selected in consultation with members of the Department; students must obtain approval for the project on the form provided, by the preceding March.

Physics 461c

Advanced laboratory. This course provides the opportunity for advanced laboratory work in several areas of physics. Prerequisite: All required courses at the one-hundred, two-hundred and three-hundred levels.

Physics 470a

Statistical and thermal physics. Fundamental concepts. Thermodynamic quantities. Statistical thermodynamics and applications. Statistical mechanics and applications. Phase equilibrium. Quantum statistics. Phase transitions. Computer simulation. Prerequisite: *Physics 300* or *302a*. Three class meetings per week.

K. De' Bell

Physics 490

Reading course. A course designed to allow advanced students in Physics to pursue independent study under the direction of departmental faculty. This course will be available only in exceptional circumstances, and with the approval of the Department of Physics.

Political Studies

Chair of the Department
To be named.

Professors Emeriti

M.P. Doxey, B.Sc., PH.D. (LONDON);
D. Kettler, M.A., PH.D. (COLUMBIA)

Professors

M. Gunther, B.A. (WITWATERSRAND), PH.D. (NORTH CAROLINA); K.R.V. Lyon, PH.D. (BRITISH COLUMBIA); D.R. Morrison, M.A. (SASKATCHEWAN), D.Phil. (SUSSEX); R.C. Paehle, B.A. (LEHIGH), M.A. (NEW SCHOOL FOR SOCIAL RESEARCH), PH.D. (BRITISH COLUMBIA) (on leave 1993-94); J. Wearing, B.A. (WESTERN ONTARIO), M.A. (TORONTO, OXFORD), D.Phil. (OXFORD) (on leave 1993-94)

Associate Professors

R. Campbell, B.A. (TRENT), M.A. (TORONTO), PH.D. (LONDON); J.D. Driscoll, M.A., PH.D. (QUEEN'S); D. Torgerson, A.B. (CALIFORNIA-BERKELEY), M.E.S. (YORK), M.A., PH.D. (TORONTO)

Assistant Professors

E. Helleiner, B.A. (TORONTO), M.A., PH.D. (LONDON); M. Neufeld, B.A. (WATERLOO), M.A., PH.D. (CARLETON); A. Pickel, M.A. (GUELPH), DIPL.POL. (BERLIN), PH.D. (YORK); E. Stavro-Pearce, M.A., PH.D. (TORONTO)

Conjunct Professor

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

Required Courses

The department provides for general study and concentration in one or more fields—political theory, Canadian politics, comparative politics, international relations, and public policy. Political theory is important for every field because all political analysis is theoretically informed. Students of politics are thus strongly advised to plan their studies in a way that will advance their theoretical development. The requirements for honours (see below) indicate the *minimum* a student needs to develop the theoretical understanding necessary for work at an advanced undergraduate level.

The single-major Honours program consists of nineteen courses. Minimum nine courses in Politics, including *Politics 100*, at least two courses at the *three-hundred* level, and at least three courses at the *four-hundred* level, and two

political theory courses chosen from 233, 333, 334, 3951, 430, 435. Alternatively, one of these political theory course requirements may be fulfilled by taking two *four-hundred* level courses for which a prior course in political theory is recommended.

Joint-major Honours program. Minimum seven courses in Politics, including *Politics 100*

at least two courses at the *three-hundred* level, at least two courses at the *four-hundred* level, and one political theory course chosen from 233, 333, 334, 3951, 430, 435. Alternatively, the political theory course requirement may be fulfilled by taking one *four-hundred* level course for which a prior course in political theory is recommended.

Single-major General program. Minimum six courses in Politics, including *Politics 100* and at least two courses at the *three-hundred* level.

Joint-major General program. Minimum five courses in Politics including *Politics 100* and at least two courses at the *three-hundred* level.

Special Provisos

Politics 100 or permission of the Department is a prerequisite for all *two-hundred* to *four-hundred* series courses.

—A course in political theory (*Politics 233* or *333* or *334*) is a prerequisite to entry into the fourth quarter of the Honours program.

—Students entering the fourth quarter of the Honours program are encouraged to discuss their program with the Department Chair in order to ensure that their courses have some substantive and coherent linkage with one another.

—In exceptional circumstances, proposals for reading courses will be considered under *Politics 390* and *490* and proposals for an Honours thesis under *Politics 402*. These must be developed in consultation with tutors and they must be approved and initiated by the Department Chair on the preregistration form.

—Access to *four-hundred* level courses is normally restricted to students entering the fourth quarter of the Honours program.

Details of the program in Political Studies may be obtained from the office of the Chair of the Department.

Politics 100

Introduction. The course employs literature, film and political writings to examine the ways in which questions of power, people and politicians are dealt with in the continuing effort to resolve conflicts within a democratic framework of government. These themes will be examined in the context of case studies including, among others, the constitutional question, the collapse of communism, the new economic order, and environmentalism. Two lectures and one tutorial weekly.

E. Stavro-Pearce and staff

Politics-Canadian Studies 201

Canadian politics. A general introduction to Canadian political institutions and practices, with emphasis upon the federal constitution, parliament and cabinet, political parties and elections, the Charter and the courts and the policy process. Regular lectures and tutorials.

R. Campbell

Politics 210

American politics. The objective of the course is to seek a fuller understanding of how liberal democratic governments might be made more responsive to the needs and aspirations of their citizens. The differing political systems of the United States and of Sweden, with particular emphasis on the US, are analyzed to determine the strengths and weaknesses of each. The political cultures, representative institutions, policy outputs, and proposals for reform of both systems are studied. The relevance of this external political experience to Canada is considered. Weekly lectures and tutorials.

V. Lyon

Politics 220

International politics. An introduction to the study of international politics including such topics as the Cold War, nuclear deterrence and the arms race, great power rivalry and crisis decision-making, North-South issues and aspects of Canadian foreign policy. Regular lectures and tutorials. (Support course for Comparative Development Studies)

M. Neufeld, E. Helleiner

Politics 233

Political theory. A survey of some classic texts in the history of western political thought with an emphasis on problems of interpretation and the ways in which a tradition of political discourse determines our conceptions of the political and legiti-

mates political activity. Lecture and tutorial weekly.

J. Driscoll

Politics 240

Comparative politics. Political processes and policy-making in authoritarian and liberal democratic regimes. Countries studied are China, Soviet Union, Cuba, Japan and Britain, but combination varies from year to year. Emphasis on historical origins, institutions, the economy and contemporary problems. (Support course for Comparative Development Studies)

M. Gunther

Politics 260

An introduction to political analysis and public policy. A comparison and evaluation of competing approaches to the study of public policy with special emphasis on problems of analysis and applications to Canadian politics. Lecture and tutorial or seminar weekly.

J. Driscoll

Politics-Canadian Studies-History 301

Canadian political culture, 1864 to the present. (See History)

Politics-Canadian Studies 305

Politics and society in Quebec. (Not offered this year.)

Politics-Canadian Studies 309

Ontario politics. The objective of the course is to seek a fuller understanding of how liberal democratic government can be made more responsive to the needs and aspirations of its citizens. The political system of Ontario is taken as a case study of liberal democratic regimes and its strengths, weaknesses and prospects are analyzed. The political culture, representative institutions and policy outputs of the Ontario polity are studied. The course concludes with a consideration of proposals to make the province and, by extension, liberal democracies generally, more democratic and their governments more effective. Weekly lectures and tutorials.

V. Lyon

Politics 320

Conflict and co-operation in international relations. A study from theoretical and practical perspectives of the nature of the international system; the causes of conflict between states and ways of handling it; the role of international institutions. Prerequisite: *Politics 220*. Regular lectures and tutorials.

M. Neufeld

Politics 321

International organization. (Not offered this year, but may be offered in Summer 1993.)

Politics-Canadian Studies 322

Canadian-American relations since World War II. An overview of Canadian-American relations with special focus on the emergence of a North American economic region within the international political economy. The course examines key relationships within the region (including Mexico) as well as the region's interactions with the broader international system. Regular lectures and tutorials.

E. Helleiner

Politics 333

Political theory. Theorizing political change. Through a careful examination of texts we will look at differing conceptions of truth, ideology, human agency, the state and the possibilities of political change. Debates within Marxism, anarchism, postmodernism, feminism, and radical democracy will be explored. Prerequisite: *Politics 233* or *334* or permission of the instructor. Regular lectures and tutorials.

E. Stavro-Pearce

Politics 334

Liberal democratic theory. (Not offered this year.)

Politics 340

Comparative European politics. A study of contemporary politics in Europe with special emphasis on the EC and problems of political and economic reform in Central and Eastern Europe. Prerequisite: A two-hundred level Politics course or permission of the instructor. Regular lectures and tutorials.

A. Pickel

Politics 341

Party organization and elections. (Not offered this year.)

Politics-Canadian Studies 362

Public policy and administration in Canada. An integrated study of the policy-making process in Canada, linking ideas ideologies and interests with political and administrative structures and processes. Students will carry out a year-long research project in a specific policy area. Regular lectures and tutorials.

R. Campbell

Politics-Canadian Studies 366

Canadian Political Economy. (Not offered this year.)

Politics 390, 391a, 392b

Reading course in politics. Open only to students majoring in Politics and designed to provide an opportunity for more intensive examination of material studied in other politics courses. Periodic tutorials. Prerequisite: permission of the Department, but see Special Provisos.

Politics 3951

Special topic. The political imagination. Political thought is by no means restricted to texts which fall neatly under the heading of political theory. Political themes occupy much of literature, film, and theatre in ways which can enhance both our understanding of politics and our approach to political theory. By focusing on political thought as it appears in a diversity of sources as well as in established texts of political theory, this course will examine the role of imagination in understanding, challenging, and constructing political reality. With the twentieth century and the politics of our own time forming a point of reference, the course is meant to open a particular route of access to both past and present political thought.

D. Torgerson

Politics 402

Honours thesis. A scholarly project on a specific topic to be developed and carried out under the supervision of a member of the department and for which a double credit will be given. (See Special Provisos)

Politics-Canadian Studies 405

Contemporary Canadian problems. An examination of the rise of interest group and Charter politics, the evolution of policy communities, and recent changes in Canada's governing institutions. Students will pursue a year-long research project in a specific policy area. Regular seminars.

R. Campbell

Politics 420

Contemporary problems in international politics. A critical study of selected problems and themes in international politics. Prerequisite: a political theory course is recommended. Regular seminars.

M. Neufeld, E. Helleiner

Politics 430

Contemporary political analysis. An examination of contemporary debates within feminist theory. Prerequisite: a political theory course is recommended. Weekly seminars.

E. Stavro-Pearce

Politics 435

Political ideologies. (Not offered this year.)

Politics-Comparative Development 440

Political economy and comparative politics. The course studies the link between economics and politics in capitalist and socialist states, and provides an introduction to theories of comparative, development and welfare politics. No previous background in economics needed. Prerequisite: A political theory course is recommended. Weekly seminars.

M. Gunther

Politics-Comparative Development 450

Problems of underdevelopment: democracy and democratization. A study of transitions from authoritarian rule from theoretical, historical, and comparative perspectives. Major themes include competing theories of democracy and democratization, the emergence of Western democracies, capitalism and democracy, state and civil society. Prerequisite: A two-hundred level Politics course or *Comparative Development 200* or permission of the instructor. A political theory course is recommended. Regular lectures and tutorials. This course is also open to students in the third quarter of the Honours program.

A. Pickel

Politics-Environmental and Resource Studies 460

Public policy in comparative perspective. (Not offered this year.)

Politics 490, 491a, 492b

Reading course in politics. Open only to students in the fourth quarter of a Politics major program. Periodic tutorials. Prerequisite: permission of the Department, but see Special Provisos.

Politics 4951

Special topics in political inquiry. (Not offered this year.)

Psychology

Associate Professor and Chair of the Department

P. Watson, M.A., PH.D. (WESTERN ONTARIO)

Professor Emeritus

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

Professors

C.H. Ernest, B.A. (SASKATCHEWAN), M.A., PH.D. (WESTERN ONTARIO); G.T. Reker, B.A. (MCMASTER), M.A.Sc., PH.D. (WATERLOO); C.T. Smith, B.Sc. (MANITOBA), M.A., PH.D. (WATERLOO) (on leave 1993-94); Gordon Winocur, M.A. (MANITOBA), PH.D. (WATERLOO); P.T.P. Wong, B.A. (CARLETON), M.A., PH.D. (TORONTO)

Associate Professors

B.L. Beach, B.A. (ACADIA), M.A. (DALHOUSIE), PH.D. (MCGILL); F.A. Bleasdale, B.A. (TORONTO), M.A., PH.D. (WESTERN ONTARIO); D.J. Kennett, B.A., PH.D. (MCMASTER); D.G. Lowe, B.A. (MCMASTER), M.A., PH.D. (WATERLOO); R.B. Morris, B.A. (REDLANDS), M.Sc. (WASHINGTON), PH.D. (ALBERTA); R.G. Settingington, M.A., PH.D. (TORONTO); C.F. Sproule, M.A. (TORONTO); H.J. Stanford, M.A., PH.D. (QUEEN'S)

Assistant Professor

J.B. Aubrey, M.Sc. PH.D. (ALBERTA)

Conjunct Assistant Professor

G.A. Burkhart, B.A. (CALVIN COLLEGE, MICHIGAN), M.Sc. (WATERLOO), PH.D. (WINDSOR)

Required Courses

The Department of Psychology offers two Honours programs, one course-based (normally leading to the B.A.) and one thesis-based (normally leading to the B.Sc.). Students intending to do an Honours program should discuss their program with the Chair of the Department or the Chair of the Honours Committee before choosing their *three-hundred* and *four-hundred* level courses.

The single-major (or joint-major) course-based Honours program consists of twenty courses with a minimum of eleven full-course equivalents (or eight if joint-major) in Psychology, including

Psychology 101

215

One from 221, 235, 271, 280

One of 315 or 333 (see Notes)

Two *Basic* full-course equivalents (or one if joint-major) from 302a, 306, 312b, 351, 375a, 376b, 470, 4952

Two *Specialized* full-course equivalents (or one if joint-major) from 301, 320, 330a, 340, 371, 382, 430, 480, 4951

Three additional *three-hundred* or *four-hundred* level Psychology courses (or two if joint-major)

The single-major (or joint-major) thesis-based Honours program consists of twenty courses with a minimum of eleven full-course equivalents (or eight if joint-major) in Psychology, including Psychology 101

215

One from 221, 235, 271, 280 315

Two *Basic* full-course equivalents (one for joint-major) from 302a, 306, 312b, 351, 375a, 376b, 470, 4952 (see Notes)

Two *Specialized* full-course equivalents (one for joint-major) from 301, 320, 330a, 340, 371, 382, 430, 480, 4951

402 (option of 401 if joint-major)

410

The General program consists of fifteen courses with a minimum of six full-course equivalents (or five if joint-major) in Psychology, including

Psychology 101

215

One from 221, 235, 271, 280

One *Basic* full-course equivalent from 302a, 306, 312b, 351, 375a, 376b, 470, 4952

One *Specialized* full-course equivalent from 301, 320, 330a, 340, 371, 382, 430, 480, 4951

One additional *three-hundred* or *four-hundred* level Psychology course (delete this sixth course if joint-major)

Notes:

- For students who have completed Psychology 101 after August 1987, a standing of C- (60%) or higher is

required in Psychology 101 in order to register in any other Psychology course; no credit is given for any upper level Psychology course completed at another University before a standing of C or higher is received in Psychology 101 or its equivalent.

- For students who completed Psychology 101 before August 1987, a standing of C- (60%) or higher is required in Psychology 101 in order to complete a major in Psychology.
- For all courses listed below with a Psychology 215 prerequisite, the former Psychology 211a is considered an acceptable alternative prerequisite.
- For students who have completed the former Psychology 311a, the Psychology 315 prerequisite will be waived.
- Students contemplating taking a reading course must consult with the course coordinator prior to April 30 of the preceding academic year.
- In addition to a variety of relevant courses in cognate disciplines, the following courses are highly recommended to students majoring in Psychology: Computer Studies 101a, Philosophy 105, and Philosophy 370.
- Students doing independent research involving animal subjects in any Psychology course must complete satisfactorily the University's Animal Care Course as part of the Psychology course requirements.
- For students majoring in Psychology, Psychology 215 fulfills the Mathematics requirement for the B.Sc.
- Psychology 470 is excluded from the list of Basic prerequisites for Psychology 401 and 402.
- Combined enrolment for Psychology 401 and 402 is limited to twenty students.
- Psychology 333 requirement will be waived for students who have completed the former Psychology 332b.

Psychology 101

Introduction to psychology. A survey of the major areas of psychology, including its historical development and the methods of the science, the development of behaviour, learning and memory, biological and perceptual processes, individual differences and personality, and social determinants of behaviour. Two lectures weekly; two-hour laboratory fortnightly.

H.J. Stanford and staff

Psychology 215

Basic experimental methods and statistics. An introduction to methodological and statistical techniques in psychological research and the application of these techniques to empirical research in the discipline. Prerequisite: C- or higher in *Psychology 101*. Three lectures weekly, workshop or laboratory weekly.

J.B. Aubrey, F.A. Bleasdale

Psychology 221

Introduction to physiological and comparative psychology. A consideration of the methods and techniques of physiological and comparative psychology, including neuroanatomy, sensory and motor systems, and physiological mechanisms of behaviour. Prerequisite: C- or higher in *Psychology 101*. Two lectures weekly; seminar fortnightly.

Staff

Psychology 235

Personality theory. An examination of significant personality theories including Freudian, Neo-Freudian, Behaviourist, Third Force, Existentialist and Phenomenological theorists. Prerequisite: C- or higher in *Psychology 101*. Lecture and seminar weekly.

B.L. Beach

Psychology 271

Social psychology. A discussion of contemporary research in attribution and social cognition; attitude formation and change, group structure and processes; social influence processes; and interpersonal relations, including liking, prejudice, aggression, and altruism. Prerequisite: C- or higher in *Psychology 101*. Two lectures weekly; seminar fortnightly.

C.F. Sproule

Psychology-Philosophy 277

Philosophy of mind. (See Philosophy) Not counted as part of the minimum requirements for the General or Honours degrees in Psychology.

Psychology 280

Child psychology. The development of the normal child from conception to adolescence, with emphasis on the empirical research and theoretical issues pertaining to child development and behaviour. Prerequisite: C- or higher in *Psychology 101*. Two-hour lecture weekly, seminar fortnightly.

Staff

Psychology 301

Educational psychology. An examination of the ways in which the methods and content of psychology may be applied in the search for solutions to problems of teaching and learning, with emphasis on the theoretical and empirical bases for decisions about what constitutes sound educational practice. Prerequisite: any two-hundred level Psychology course. Two lectures weekly; seminar fortnightly.

R. B. Morris

Psychology 302a

Psychology of language. (Not offered 1993-94.)

Psychology 306

Human information processing. An intensive examination of selected aspects of human behaviour which are analyzed by an information processing approach. Specific topics include detection, discrimination, decision making, sensory coding, pattern recognition, attention, and memory. Prerequisite: *Psychology 215*. Three hours weekly consisting of lecture or laboratory. (After 1986 students may not count both the former *Psychology 302* and *Psychology 306* for credit.)

Staff

Psychology 312b

Special topics in research methodology. (Not offered 1993-94.)

Psychology 315

Advanced statistics and research design. An intensive study of the application of statistical techniques to a variety of research questions and experimental designs. The course will prepare students for *Psychology 401* and *402* where they will be required to design, analyze and interpret their research. Focus is on the laws of probability, techniques of analysis of variance and covariance, correlation, regression, and multivariate procedures. Prerequisite: *Psychology 215*. Three lectures and workshop weekly. (Students may not count both the former *Psychology 311a* and *Psychology 315* for credit.)

D. J. Kennett

Psychology 320

Applied learning. The application of principles of learning and motivation to practical situations including teaching child rearing, public institutions, and animal training. The two areas of concentration are: a) basic principles of learning and b) their application. Prerequisite: any two-hundred level

Psychology course. Two-hour lecture weekly; tutorial fortnightly.

R.G. Setterington

Psychology 333

Advanced psychometrics. A detailed intensive examination of the principles of test construction, involving item writing, scaling, item analysis, reliability, validity, and validity checks. Advanced topics include factor analysis and multiple regression. Introduction to SPSS computer programming, test administration, and test evaluation. In the second half of the course, a number of educational, psychological, and clinical instruments will be examined in depth. Prerequisite:

Psychology 215. Two lectures weekly; two-hour laboratory fortnightly. (Students may not count for credit both the former *Psychology 332b* and *Psychology 333*.)

G.T. Reker

Psychology 340

Abnormal psychology. A survey of deviations and disorders in behaviour as investigated by experiments and other systematic procedures. Prerequisite: any two-hundred level Psychology course. Two lectures weekly; seminar fortnightly.

D.J. Kennett, F.A. Bleasdale

Psychology 351

Learning. In the first half of the course, major findings and issues in animal learning will be examined with the focus on classical and instrumental conditioning. In the second half, emphasis will be on the higher cognitive activities involved in human (verbal) learning, memory, and related areas. Prerequisite: *Psychology 215*. Two lectures weekly; two-hour laboratory or problem session fortnightly.

P.T.P. Wong, C.H. Ernest

Psychology 371

Social cognition. (Not offered 1993-94.)

Psychology-Biology 375a

Principles of the nervous system. An intensive coverage of the central nervous system, its anatomy and physiological interactions. The course emphasizes subcortical and cortical brain structures and their functional characteristics. Prerequisite: *Psychology 221* or an upper-level Biology course (which requires permission of the Department.) Two lectures and two-hour laboratory weekly.

G. Winocur

Psychology-Biology 376b

Neuropsychology. An examination of the relationship between brain function and psychological processes, drawing heavily from contemporary research involving humans and animals, and describing the neural bases for such psychological processes as learning, memory, language, and emotion. Special attention is given to behavioural abnormalities resulting from brain pathology. Prerequisite: *Psychology-Biology 375a*. Two lectures and seminar weekly.

J.B. Aubrey

Psychology 382

Exceptional development. (Not offered 1993-94.)

Psychology-Biology 386a

Animal behaviour. (See Biology)

Not counted as part of the minimum requirements for the General or Honours degrees in Psychology.

Psychology 390, 391a, 392b

Reading course. A course designed to allow advanced students in Psychology to pursue independent study under the direction of departmental faculty. Not counted as part of the minimum requirements for the General or Honours degrees in Psychology. Prerequisite: *Psychology 215* and permission of the department. (See Notes)

Department Chair

Psychology 401

Joint-major Honours thesis. This is the same course as *Psychology 402* with the exception of the thesis being jointly supervised by and given a single course credit by both participating departments. Prerequisite: same as *Psychology 402*. Corequisite: *Psychology 410*. For part-time students, *Psychology 401* and *410* are to be completed as the final requirements toward the B.Sc. degree. For 1993-94, combined enrolment for *Psychology 401* and *402* is limited to 22 students. Students must secure agreement of faculty for supervision before March 31, 1993.

F.A. Bleasdale

Psychology 402

Single-major Honours thesis. A double-credit course, for which a double fee is charged, during which students will design and execute a major piece of psychological research under the supervision of departmental faculty. Prerequisite: *Psychology 315*, one Basic full-course equivalent from *302a*, *306*,

312b (highly recommended), 351, 375a, 376b, 4952 (note that *Psychology 470* is excluded from this list). Corequisite: *Psychology 410*. For part-time students, *Psychology 402* and *410* are to be completed as the final requirements toward the B.Sc. degree. For 1993-94, combined enrolment for *Psychology 401* and *402* is limited to 22 students. Students must secure agreement of faculty for supervision before March 31, 1993.

F.A. Bleasdale

Psychology 410

Honours seminar. A seminar course in which students discuss empirical and theoretical issues related to their Honours thesis research, colloquia topics, and current issues in psychology under the direction of departmental faculty. Prerequisites: same as *Psychology 401* and *402*. Corequisite: *Psychology 401* or *402*. Two-hour seminar weekly.

D.G. Lowe

Psychology 430

Human abilities. In addition to historical background, the first half of the course includes a discussion and critique of psychometric theories of intelligence; information processing approaches to understanding the nature of specific abilities; and theories of the development of intelligence. The second half focusses on methodological and conceptual issues, as well as research findings, in the study of group differences and abilities. Topics addressed are sex differences, aging, race and culture, and heredity/environment issues. Prerequisite: Honours standing and at least four full (or equivalent) Psychology courses (including *Psychology 215*) as pre- or co-requisites. (Excludes *Psychology 330a*) Two lectures weekly; one seminar fortnightly, on average. (Students may not count both *Psychology 430* and *Psychology 330a* for credit.)

C.H. Ernest

Psychology 470

History and systems of psychology. A survey of the history and systems of psychology through a discussion of the work of various authors who may be considered important in the history of psychology because of their contribution to systematic theory, research, or the organization of the discipline. Not sufficient as the only Psychology Basic

prerequisite for *Psychology 401* or *402*.

Prerequisite: Any four Psychology courses as prerequisites or corequisites. Three hours weekly.

R.B. Morris

Psychology 480

Adult development and aging. A detailed examination of psychological processes associated with development in adulthood and old age. Topics include biological and psychological theories of aging; research methods; age changes in memory, intelligence, personality, attitudes, stress coping and health; successful aging; psychopathology; senile dementia; methods of assessment; methods of prevention and intervention. Prerequisite: Any four Psychology courses as prerequisites or corequisites, plus Honours standing. Two lectures weekly; seminar fortnightly.

J.B. Aubrey, P.T.P. Wong

Psychology 490, 491a, 492b

Reading course. A course designed to allow students in the fourth year of their Psychology program to pursue independent study under the direction of departmental faculty. (See Notes) Not counted as part of the minimum requirements for the Honours degree. Prerequisite: any four Psychology courses as prerequisites or corequisites, Honours standing, plus permission of the Department.

Department Chair

Psychology 4951

Special topic: Health psychology. This course examines, from a multidisciplinary perspective, the interface of psycho-social and biomedical processes in the prevention of illness and promotion of health. While the focus is on theory-based psychological research, there is also a strong emphasis on the practice of health psychology in terms of cognitive and behavioural principles. Topics include attribution theory, self-efficacy, stress and coping, life style and risk factors in various medical disorders such as cancer, cardiovascular disease and AIDS. Prerequisite-corequisite: Any four Psychology courses, plus Honours standing. Two-hour lecture and one-hour seminar/workshop weekly. (May be counted as a three-hundred/four-hundred level Specialized course.)

P.T.P. Wong, D.J. Kennett

Psychology 4952

Special topic: Psycholinguistics and reading processes. A survey of theory and research on the production and comprehension of spoken and written language. Topics covered include syntactic and semantic structure of language, mental representation, the relation between language and cognitive processes, language development, bilingualism, and reading processes. Pre-requisite: *Psychology 215*; pre- or co-requisite: any three other Psychology courses, plus Honours standing. Two-hour lecture weekly; one-hour laboratory fortnightly. (May be counted as a *three-hundred/four-hundred* level Basic course; students may not count both *Psychology 4952* and *Psychology 302a* for credit.)
P. Watson

Science

The Assoc. Dean of Arts & Science (Science), to be named, is responsible for the administration of all general science courses.

Physics 150/155

Introductory astronomy. (Formerly *Science 200*) See *Physics 150/155*.

Science 200

Discovering science. (Not offered this year.)

Science 220

Evolution. (Not offered this year.)

Science-Geography 240

Geology. Principles of mineralogy, petrology and sedimentology, palaeontology and structural geology; geophysics of the Earth's interior, and recent developments in geomagnetism, seismology and global tectonics. Open to students in second year and above, and to first-year students with permission of the instructor. Two hours of lectures and a two-hour laboratory session weekly, and field work.
J.G. Cogley

Science 350

Communicating science. (Not offered this year.)

Science-Mathematics 380

History of mathematics. (Not offered this year.)

Sociology**Professor and Chair of the Department**

R.T. Bowles, B.SC. (BRIGHAM YOUNG), PH.D. (OREGON)

Professor Emeritus

R.F. White, B.A., B.A.SC., M.COMM. (TORONTO), PH.D. (CHICAGO)

Professors

P. Bandyopadhyay, B.A. (CALCUTTA), M.A. (OXFORD, MANCHESTER), PH.D. (MANCHESTER); A. Heitlinger, B.A. (KENT), PH.D. (LEICESTER); J. Hillman, M.A. (OXFORD), PH.D. (SUNY, BUFFALO); R.A. Lockhart, M.A. (SIMON FRASER), PH.D. (ESSEX)

Associate Professors

D.M. Clarke, B.A. (TRENT), M.A. (MCMASTER), PH.D. (CARLETON); C.V. Huxley, B.A. (YORK, ENG.), M.A. (SIMON FRASER), PH.D. (TORONTO) (on leave Fall Term 1993); F. Nutch, M.A. (HAWAII), PH.D. (YORK); G.M. Thibault, B.A., B.ED., M.A., PH.D. (DALHOUSIE) (on leave 1993-94)

Assistant Professors

J.R. Conley, B.A. (ALBERTA), M.A. (TORONTO), PH.D. (CARLETON); S. Katz, B.A. (YORK), M.A. (MCGILL), PH.D. (YORK); S. Arat-Koc, B.A. (BOGAZICI), M.A. (WATERLOO), PH.D. (TORONTO); B.L. Marshall, M.A. (GUELPH), PH.D. (ALBERTA)

Required Courses

The single-major Honours program consists of nineteen courses. Minimum nine courses in Sociology, including *Sociology 100*

210

220

321a/b

322a/b or equivalent*

at least two *three-hundred* series courses (which can include 321a/b and 322a/b, and at least three *four-hundred* series courses.

Joint-major Honours program. Minimum seven courses in Sociology, including *Sociology 100*

210

220 (or 280 for SOC/CDS

Joint-major)

321a/b

322a/b or equivalent*

plus at least three *three-hundred* or *four-hundred* series courses (which can include 321a/b and 322a/b), of which at least two must be *four-hundred* series courses.

Single-major General program. Minimum six courses in Sociology, including
Sociology 100
 210
 220

plus two *three-hundred* series courses.

Joint-major General program. Minimum five courses in Sociology, including
Sociology 100
 210
 220 (or 280 for SOC/CDS

Joint-major), plus one *three-hundred* series course.

Notes:

The program has two tiers: foundation courses in basic areas of Sociology at the 100 and 200 level and *Sociology 400* and *Sociology 321a/b*, *322a/b*; and other courses in more specialized areas of Sociology at the 300 and 400 levels. The foundation courses aim to provide a basic grounding in the core theoretical and methodological aspects of the discipline. The specialized courses permit students to study in some detail particular substantive areas in sociology.

A standing of C- (60%) or higher is required in *Sociology 100* for registration in upper-year Sociology courses. Students enrolling in cross-listed courses have the option to substitute minimum 60% in *Sociology 100* with minimum 60% in the prerequisite for that particular Department or Program. The prerequisite is contained in the Calendar specification for the relevant courses.

Sociology 321a/b (Research Methods) and *322a/b* (Statistics), and *Sociology 400* (Contemporary sociological theory) are highly recommended for Honours majors and those wishing to enter graduate schools.

**Mathematics-Statistics 150* or *Psychology 315* will be deemed equivalent to *Sociology 322a/b* for program requirements. *Sociology 322a/b* is not open to students who have completed or are currently registered in either *Mathematics-Statistics 150* or *Psychology 315*.

Students are advised to take *Sociology 389* if they are intending to enter professional or graduate schools in Canada.

Students intending to enter the fourth quarter of the Honours program will be expected to attend a meeting with the Department in the spring prior to their entry to discuss course selection.

Four-hundred series courses are open to Sociology majors who have completed ten university level courses including *Sociology 210* and *220*, and to those with Departmental permission.

Sociology 100

Introduction to social analysis. An introduction to the basic ideas of sociological analysis. Two-hour lecture, workshop weekly.

A. Heitlinger, F. Nutch

Sociology 210

Classical sociological theory. An examination of the structure and scope of sociological theorizing. Conceptions of theory, method, and object of investigation will be explored with regard mainly to Marx, Weber and Durkheim. Prerequisite: C- or higher in *Sociology 100*. Lecture, workshop weekly.

J. Hillman

Sociology 220

Social inequality: class, gender, ethnicity. The sociological study of social inequality, concentrating on class, gender, and ethnicity as relations of domination will be explored through a variety of theories and methods. The course will focus on the structural analysis of these social relationships, their links with each other, and their effects on societies and individuals. Prerequisite: C- or higher in *Sociology 100*. Lecture weekly, workshop fortnightly.

J. Conley

Sociology 230

Self and society. An examination of the relationship between the individual and society. The first term investigates interactionist, dramaturgical and ethnographic frameworks. Topics include the social construction of identity, body language, socialization, power relations and marginality. The second term explores the cultural contexts which shape the meanings of personal experience. Prerequisite: C- or higher in *Sociology 100*. Lecture, seminar weekly.

S. Katz

Sociology 241

Family and kinship. Application of sociological frameworks to the analysis of different family forms, internal family processes and the societal contexts which shape families. Canadian and comparative materials will be used. Prerequisite: C- or higher in *Sociology 100*. Lecture, workshop weekly.

Sociology 245

Culture and society. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology-Comparative Development 280

Society and economy. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology 321b

Research methods. An introduction to the major research methods employed in sociological research. Pre- or co-requisite: *Sociology 210* or permission of the instructor. Lecture, seminar weekly.
F. Nutch

Sociology 322a

Statistics. An introduction to basic statistics and their application in sociological research. Pre- or co-requisite: *Sociology 210* or permission of the instructor. Lecture, seminar weekly.
F. Nutch

Sociology-Administration 333b

Social organization and bureaucracy. An overview of different approaches to the analysis of complex organization including classical theories of bureaucracy, the managerial tradition and perspectives drawn from contemporary sociology. Selected case studies are examined with special emphasis on the analysis of the modern enterprise. Prerequisite: C- or higher in *Sociology 100*, or *Administration 250*. Lecture, seminar weekly.
C. Huxley

Sociology 334a

Sociology of work. The nature and meaning of paid work in North America in the last half of the 20th Century. The effects of technological changes, the shift to a service economy, and the changing gender composition of the labour force on managerial and employee strategies to control the workplace. Prerequisite: C- or higher in *Sociology 100*, or *Administration 250*. Lecture, seminar weekly.
J. Conley

Sociology-Canadian Studies 340

Sociology of education. An examination of the role of schooling with particular emphasis on the relationship between family, education and society, education and inequality, the social organization of knowledge, education and social change, the politics of education. Prerequisite: C-

or higher in *Sociology 100* or *Canadian Studies 200* or *300*. Lecture workshop weekly.

R.A. Lockhart

Sociology-Womens Studies 342

Women, men and society. An analysis of gender and gender relations. Issues examined include masculinity and femininity, domestic and paid labour, health and reproduction and the feminist movement. Prerequisite: C- or higher in *Sociology 100* or *Women's Studies 200*. Lecture, workshop weekly.
B. Marshall

Sociology 347

Sociology of religion. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology-Cultural Studies 350

Modern social theory. (See Cultural Studies)

Sociology 361

Deviance and social control. This course examines major sociological theories and debates about deviant and criminal behaviour; informal modes of social control as they relate to gender and deviance or youth subcultures; and formal modes of social control including crime policing and the justice system. Prerequisite: C- or higher in *Sociology 100*. Lecture, seminar weekly.

Sociology 363

Sociology of health and illness. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology 366

Analysis of social policy. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology 380

State and class. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology-Comparative Development Studies 382

Historical sociology. An introduction to the comparative study and analysis of past societies. Elements of social structure economic practices, political authority and the cultural symbols, beliefs and products will be studied. This year the focus is on Ancient Israel and Medieval Islamic societies. Prerequisite: C- or higher in *Sociology 100* or *Comparative Development 200*.
P. Bandyopadhyay

Sociology 383a/b

Urban culture. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology 384a/b

Urban social structure. Prerequisite: C- or higher in *Sociology 100*. (Not offered this year.)

Sociology-Canadian Studies 389

The social structure of Canada. Topics to be covered include class and stratification the national question, regional differences and tensions, state organization and the formation of culture. Prerequisite: C- or higher in *Sociology 100* or *Canadian Studies 200* or *300*. Lecture, seminar weekly.

Sociology 395

Special topics in sociological investigation. This year: *Sociology-Women's Studies 3952*. Immigrant women in Canada. (See *Women's Studies*)

S. Arat-Koc

Sociology 396a, 397b, 398c

Special topics in sociological investigation. (Not offered this year.)

Sociology 400

Contemporary sociological theory. Advanced analysis of major questions in contemporary sociological theory. This year, the focus will be on debates around modernity in sociological theory. A broad spectrum of issues (including appropriate methodologies, the conceptualization of subjectivity, the relationship of theory and politics, and the challenge of feminist and postmodern theories) flow out of these debates, and will be examined through an in-depth analysis of one or two key figures in contemporary theory. Prerequisite: *Sociology 210* or permission of the instructor. Two-hour seminar weekly.

B. Marshall

Sociology 402

Honours thesis. A specific scholarly project on a well-defined topic, for which double credit will be given, to be worked out in consultation with the student's Honours supervisor. Prerequisite: 75% (B) average in sociology courses. Regular meetings with students writing Honours thesis.

Sociology-Cultural Studies 440

Special topics in the sociology of knowledge and culture. This year the course explores the relationship between

knowledge, power, and disciplinarity. Drawing on the inspiration of Michel Foucault and critical inquiries from history, feminism and cultural theory, topics include: the role of the human sciences in constituting subjects and populations; power and knowledge in professional, industrial and imperialist contexts; personal regimes of discipline structured through consumerism and lifestyle identities; counter-disciplinary challenges to dominant knowledges, forms of calculation and techniques of surveillance. Prerequisite: *Sociology 210*, *Cultural Studies 250*, or permission of the instructor. Seminar weekly.

S. Katz

Sociology-Canadian Studies 445

The media and communications in Canada. An examination and analysis of the communications industries and policies of Canada. The growth and development of newspaper, periodical and book publishing, and of film, radio, television and new communication technologies. Two-hour seminar weekly.

D. Clarke

Sociology-Women's Studies 461a

Women and deviance. Prerequisite: *Sociology 342* or *361*. (Not offered this year.)

Sociology-Women's Studies 462b

Women and social policy. Prerequisite: *Sociology 342* or *461a*. (Not offered this year.)

Sociology-Comparative Development Studies 470a

Religion and social movements in Latin America. (See *Comparative Development Studies*)

J. Hillman

Sociology 480

Comparative social analysis. This year the course entails a comparative study of social structure and policy implementation in the United Kingdom, Australia and Canada. Emphasis will be placed on such policy topics as provisions of welfare according to class and gender, women's equality programs, demographic trends, immigration and child care. Prerequisite: *Sociology 210* or permission of the instructor. Two-hour seminar weekly.

A. Heitlinger

Sociology 495

Special topics in sociological investigation. (Not offered this year.)

Sociology 4951

Special topics in sociological theory.
Prerequisite: *Sociology 210* or permission of the instructor. (Not offered this year.)

Sociology-Native Studies-Canadian Studies 496a

Special topics in sociological investigation. This year: Human development in community context. A systematic review and critique of development theory and application models. The assessment of community needs, wants and capacities is emphasized in order to highlight the importance of cultural particularism and appropriateness as a critical variable in "alternative" forms of development planning and implementation. Both the positive and negative experiences of Indigenous communities will be used to exemplify the need for "alternative" theories and models of human development. Seminar weekly.

R.A. Lockhart

Sociology-Native Studies-Canadian Studies 497b

Special topics in sociological investigation. This year: Community development in Native Canadian context. The course will focus on the current research projects of Sociology and Native Studies faculty with respect to Native Canadian social, economic and political development. These research projects are particularly informative with respect to the current Native aspirations for special nationhood status and self-governmental institutions. Seminar weekly.

R.A. Lockhart

Reading Courses

Both full- and half-year reading courses are available as *Sociology 390, 391a, 392b, 393c, 490, 491a, 492b, 493c*. Registration in reading courses is contingent on instructor's permission and Departmental approval in advance of course registration.

Statistics**Mathematics-Statistics 150**

A non-calculus-based introduction to probability and statistical methods. (See Mathematics)

Mathematics-Statistics 251a

Probability and statistics I. (See Mathematics)

Mathematics-Statistics 252b

Probability and statistics II. (See Mathematics)

Computer Studies-Mathematics-Statistics 351

Linear statistical models. (See Mathematics)

Mathematics-Statistics 451a

Sampling theory. (See Mathematics)

Mathematics-Statistics 452b

Theory of inference. (See Mathematics)

Vanier Chair**Vanier Professor**

T.H.B. Symons, O.C., B.A. (TORONTO), M.A. (OXFORD), LL.D. (CONCORDIA, DALHOUSIE, LAURENTIAN, MANITOBA, MOUNT ALLISON, NEW BRUNSWICK, PRINCE EDWARD ISLAND, TRENT, WILFRID LAURIER, YORK), D.U. (OTTAWA), D.LITT. (COLOMBO), DIPLÔME D'ÉTUDES COLLÉGIALES (DAWSON), F.R.S.C.

The present occupant of the Vanier Chair is Professor T.H.B. Symons, founding President of Trent University. Professor Symons is perhaps best known for his two publications, *To Know Ourselves* (1975) and (with James Page) *Some Questions of Balance* (1984), both of which have sparked considerable interest and controversy within the Canadian university community. He is also the author of publications dealing with human rights, international relations, language policy, education, native and northern studies, cultural pluralism, and other aspects of public policy in Canada. Professor Symons has served as Chairman of the Commission on Canadian Studies (1972-1984), VicePresident of the Social Sciences and Humanities Research Council (1978-1984), Chairman of the National Library Advisory Board (1987-1990), Chairman of the Ontario Human Rights Commission (1975-1978), Chair-

man of the International Board of United World Colleges (1980-1986), Chairman of the Association of Commonwealth Universities, as a member of the Federal Cultural Policy Review Committee (1979-1982) and of the Canada Council (1976-1979), Chairman of the Canadian Polar Research Commission Study (1988), and Chairman of the Canadian Educational Standards Institute (1986-1991). Since 1978 he has been a member of the Advisory Committee on Academic Relations for the Department of External Affairs and, since 1982, Special Adviser on Human Rights to the Secretary of State. He is currently Chairman of the Historic Sites and Monuments Board of Canada, and of the National Statistics Council. During the academic year 1992-93, he was a Visiting Fellow at the Centre of International Studies at Cambridge University while on sabbatical leave. See *Vanier Seminar Canadian Studies-Cultural Studies 413*.

Women's Studies

Chair of the Program
To be named.

Associate Professors

J. Sangster, B.A. (TRENT), M.A., PH.D. (MCMASTER); C. Verduyn, B.A. (TRENT), M.A., PH.D. (OTTAWA)

Assistant Professors

S. Arat-Koc, B.A. (BOGAZICI), M.A. (WATERLOO), PH.D. (TORONTO); W. Lem, M.A., PH.D. (TORONTO)

Associate Faculty

Anthropology, L. Hubbell; *Canadian Studies*, M. Lacombe; *English Literature*, J. Buckman; *History*, D. Evenden; *Sociology*, B. Marshall, G. Thibault

The Women's Studies Program provides an opportunity for students to pursue a joint-major Honours degree by combining Women's Studies core and support courses with a joint-major in another discipline.

Required Courses

The joint-major Honours program consists of nineteen or nineteen and a half full courses, depending upon the number of courses required by the paired discipline. Minimum seven courses in Women's Studies including

*Women's Studies 100**

*Women's Studies 201**

Women's Studies 300

Women's Studies 400

two other core courses. One other course, core or support.

Joint-major General program. Minimum five Women's Studies courses, including

*Women's Studies 100**

*Women's Studies 201**

Women's Studies 300

one other core courses, one other course, core or support.

* for students entering the program in 1993-94 or later. Students who began the program before 1993-94 require WS 200.

Please note that some Women's Studies core and support courses have prerequisites not listed here.

Students may include no more than one reading course in the minimum five Women's Studies courses required for the General joint-major, and no more than two in the minimum seven Women's Studies courses required for the Honours joint-major.

Core Courses

Women's Studies 100

Introduction to women's studies. An interdisciplinary introduction to women's studies. Areas to be examined include sex vs. gender, definitions of feminism, and issues in contemporary feminism. Lecture, seminar weekly. Not open to students with credit in *Women's Studies 200*.

S. Arat-Koc and staff

Women's Studies 201

Introduction to feminist analysis. (Not offered until 1994-95.)

Women's Studies-Classical Civilization 232b

The role in society of Roman women in the late Republican and Imperial period (100 B.C.-A.D. 300). (See *Classical Studies*)

Women's Studies-Canadian Studies-English 266

Canadian women's writing. (See *Canadian Studies*)

Women's Studies-Canadian Studies 275
Women in Canada. (See *Canadian Studies*)

Women's Studies 300

Feminist theory. An examination of the development of feminist theory through

classic texts and the debates those texts have inspired. The course focuses on key debates in Marxism and socialist feminism, literary theory, psychoanalysis, and feminist epistemology. Lecture, seminar weekly. Prerequisite: *Women's Studies 200* or permission of instructor. Staff

Women's Studies-English 310
Gender and literature. (See English)

Women's Studies-Canadian Studies-History 316
Women in North America. (See History)

Women's Studies-Comparative Development 325
Women and development. An exploration of the theoretical, analytical and political issues in the study of women and development, using case material from developing countries and regions within developed countries. Prerequisite: *Comparative Development 100* or *200* or *Women's Studies 200* or permission of the instructor. W. Lem

Women's Studies-Sociology 342
Women, men and society. (See Sociology)

Women's Studies-History 375
European women's history. (See History)

Women's Studies 390, 391a, 392b, 393c
Reading course. Designed to pursue special research interests in women's studies largely through independent study. Details to be arranged in consultation with Women's Studies staff and proposal to be submitted to Program for approval.

Women's Studies 395
Special topics: see Program Office.

Women's Studies-Sociology 3952
Special topic: Immigrant women in Canada. An exploration of different groups of immigrant women, beginning with early French and British immigrants and continuing with more recent arrivals.

Using both academic scholarly literature and material in women's own voice, the course will focus on the social, economic, and political and legal mechanisms which shape the status, conditions and lives of immigrant women in Canada. Prerequisite: *Sociology 100* or *Women's Studies 200* or permission of the instructor.

S. Arat-Koc

Women's Studies 400
Feminist praxis. Analysis of the issues, struggles, debates, conflicts and forms of organization which have shaped the first and second waves of feminism in North America and feminist movements in Third World today. The course will focus on the articulation of the feminist project with class and racial/national projects. Prerequisite: *Women's Studies 200* and *Women's Studies 300*. S. Arat-Koc

Women's Studies 401
Honours thesis. Single credit. Consult Program Office for information and procedure.

Women's Studies-Anthropology 422
Women: an anthropological perspective. (See Anthropology)

Women's Studies-Sociology 461a
Women and deviance. (See Sociology)

Women's Studies-Sociology 462b
Women and social policy. (See Sociology)

Women's Studies 490, 491a, 492b, 493c
Reading course. Consult Program Office for registration and procedure.

Support courses

Women's Studies Program Support
Courses are subject to yearly variation. Contact Program Office for current year's listings.

Graduate Academic Calendar

(See *University Diary* for overall Calendar and listing of observed holidays)

Spring Term 1993

May	3	Monday	Registration for Spring Term
June	4	Friday	Spring Convocation

Fall Term 1993

September	7	Tuesday	Registration for Fall Term
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Winter Term 1994

January	10	Monday	Registration for Winter Term
April	22	Friday	Last date for oral examinations for Spring Convocation
April	29	Friday	Last date for submission of Master's theses to Office of Research and Graduate Studies for Spring Convocation
May	2	Monday	Last date for recommendations for Master's degrees for Spring Convocation
June	3	Friday	Registration for Spring Term Spring Convocation

Graduate Study at Trent University

Postal Address:

Office of Research and Graduate Studies
Trent University
Peterborough, Ontario
K9J 7B8

Telephones:

Office of Research and Graduate Studies
.....(705) 748-1245
C.H. Taylor, Associate Dean of
Research and Graduate Studies
.....(705) 748-1478
Mrs. P. Strode, Graduate Studies
Officer(705) 748-1346

E-Mail I.D.:

PSTRODE@TRENTU.CA

Facsimile:

(705) 748-1625

Telex:

06-962824

Location:

Room 2.69, Otonabee College,
Nassau Campus

Administration:

The Office of Research and Graduate Studies is responsible for the administration of graduate degree programs offered at Trent University and the co-ordination and promotion of research and scholarship within the University.

The Office is administered by the Associate Dean of Research and Graduate Studies and the Graduate Studies Officer and University Research Officer in co-operation with University committees for specific areas.

The Committee on Graduate Studies consists of members of faculty and graduate students from various disciplines, and this body makes executive decisions regarding graduate admissions and the application of general regulations, standards and procedures.

Graduate Academic Information

Programs of Study

Programs of graduate study are introduced at Trent on a selective basis. Each program has been approved by 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.

The Master of Arts degree is offered in Anthropology, Canadian Heritage and Development Studies, and Methodologies for the Study of Western History and Culture, the Master of Science in Watershed Ecosystems, and the Master of Arts/Science in Applications of Modelling in the Natural and Social Sciences.

The Anthropology program stresses Archaeology. The program in Canadian Heritage and Development Studies involves study in one of three interdisciplinary areas: Native Studies; Environmental and Heritage Studies; Regions and Regionalism. The focus of the Methodologies for the Study of Western History and Culture Program is upon the foundations and structures of modern knowledge in its historical and cultural contexts.

Graduates in Biology, Geography, or Environmental Science may enrol in Trent's Watershed Ecosystems Program. Emphasis is placed on interaction between various biological and geographical aspects of water and catchment areas as elements in the environment.

The Applications of Modelling in the Natural and Social Sciences Program is oriented towards quantitative models, utilizing computational, mathematical or statistical techniques and is discipline-based but is not a program in Applied Mathematics.

In addition to degree programs at Trent, an agreement with Queen's University at Kingston allows for selective enrolment at the Master's and Doctoral levels in programs at Queen's with actual study and research supervision under Trent faculty on Trent's campus.

Complete information on each program offered under the auspices of the Office of Research and Graduate Studies is presented in the Graduate Programs of Study section of this calendar. Prospective applicants should note particularly the admission requirements, the fields in which advanced study and research may

be undertaken, and the program requirements, in addition to the regulations of the Graduate Studies Committee which are outlined in this Calendar.

Application

Initial enquiries concerning graduate study at Trent University may be made to the departments which offer graduate programs. However, applications for admission to graduate studies must be made on the prescribed form and submitted to:

Office of Research and Graduate Studies
Trent University
Peterborough, Ontario, Canada
K9J 7B8

The deadline for receipt of applications for fall admission to graduate study is February 15. In any case, students are urged to apply at an early date. Late applications from students who meet our minimum admission standards will be considered in the order received when vacancies remain in the chosen program.

Candidates must arrange to have submitted to the Office of Research and Graduate Studies by the appropriate officials of the university or universities they have attended, official transcripts showing the subjects studied and the standing received in all undergraduate and any graduate work so far undertaken. Normally, applications should be supported by letters of recommendation from at least two faculty members who are familiar with the work of the candidate. Letters of recommendation must be mailed directly by faculty members.

Applicants must list courses currently being taken and must arrange to have the final standings in them forwarded as soon as the results become available.

Admission

At least an upper second class standing (B+) in the final year at the Honours level in the department or interdisciplinary areas of the program in which the graduate degree is being sought at Trent, or its equivalent, will be required for approval of the admission of candidates for the Master's degree. Candidates who do not meet this requirement should consult the Graduate Program Director for guidance in developing a program which would make them eligible for consideration for admission to a graduate program. They will not become candidates for the Master's degree until their academic standing has been brought up to the Honours level.

All applications will be initially examined and evaluated by the appropriate programs. All supporting documents (transcripts, letters of reference, etc.) must be received before any application can receive formal consideration. A program's recommendation for those students being recommended for admission will be forwarded to the Office of Research and Graduate Studies whereupon the completed applications will be considered by the Graduate Studies Committee. The Office of Research and Graduate Studies will officially notify each applicant of the action taken on his or her application.

Official letters of acceptance are only for the academic year indicated. Successful applicants must reply in writing indicating whether or not they accept the offer of admission. If they are unable to commence studies in the term agreed upon, the programs reserve the right to reconsider their acceptance.

Transfer of Credit

Graduate courses completed at another institution may be accepted in partial fulfillment of Trent's degree requirements. Credit for such work will be determined by the Graduate Studies Committee on the recommendation of the program concerned.

Qualifying Year

Students whose background is not sufficient for direct entry into a Master's program may be admitted to a make-up or *Qualifying Year*. Applicants possessing undergraduate degrees which are comparable to an General (3-year) degree from Trent University (rather than an Honours degree) will normally be admitted to a Qualifying Year. Successful completion of a Qualifying Year recommended by the program concerned will permit the student to compete for admission on an equal basis with other applicants. Admission to a Master's program is not, however, guaranteed.

Language Proficiency

The Graduate Studies Committee may require a test of proficiency in the English language for candidates whose mother tongue is not English, by means of one of the following:

- a) The English Language Institute, Testing and Certification Div., North Univ. Bldg., University of Michigan, Ann Arbor, Michigan 48104, U.S.A.

- b) TOEFL, Educational Testing Service, Princeton, New Jersey 08540, U.S.A.

Applicants are expected to make their own arrangements for taking this test by contacting the centre in their locale or by writing to one of the above.

Where the language of instruction in the undergraduate program has been English, the Graduate Studies Committee is prepared to consider evidence of proficiency in the use of the English language other than that provided by the tests referred to above.

Graduate Record Examinations

Applicants for admission whose academic credentials are difficult to assess may be asked to take the Graduate Record Examination administered by the Educational Testing Service, Princeton, N.J. 08540. U.S.A. Students are expected to make their own arrangements and will bear the cost of taking the Graduate Record Examinations.

Master's Degree Regulations

Registration

Students whose applications for admission to graduate study have been approved for full- (or part-) time study should present themselves for registration on the dates recorded in the Calendar. Graduate students, full- or part-time, proceeding to a degree must maintain continuous registration, either active or inactive, in each successive term from the time of initial admission until the end of term during which the requirements for the degree are completed.

Registration consists of the completion of a registration form which requires a statement of the program of studies to be followed for the current year, the name of the student's supervisor, the names of the members of the student's supervisory committee, and the thesis topic. If it is not possible to state the thesis topic at the time of registration the field of research should be indicated. The registration form must be signed by the director of the program and the Graduate Studies Officer.

A personal data form must be completed at registration and revised in subsequent years.

Full-time students beyond second year, and part-time students beyond third year, carry out registration on a per term basis.

Failure to Register

Graduate students who fail to register for any term and have not been given an official leave of absence will be considered to have withdrawn voluntarily from their program.

For subsequent reinstatement, the student must make application to the Office of Research and Graduate Studies after which the program must make a written recommendation, outlining any academic conditions which it deems necessary.

Full-time, Part-time and Inactive Status

A graduate student may be either full-time, part-time or inactive.

Full-time

A full-time student is one who

- (i) is designated by the University as a full-time graduate student
- (ii) is geographically available and visits the campus regularly;
- (iii) is not regularly employed on other work for more than an average of 10 hours per week for any period for which he/she is registered as a full time graduate student, and is not employed outside the University except by permission of his/her supervisor; and
- (iv) in the light of the foregoing identifies himself/herself as a full-time graduate student.

Note: It is understood that a graduate student may be absent from the University while still under supervision (*e.g.*, visiting libraries, attending a graduate course at another institution, doing field work). If such periods of absence exceed four weeks in any term written approval must be obtained from the program director and the Graduate Studies Officer. Irrespective of this provision, a student conducting experimental work in an external laboratory would not normally be considered as a full-time student except by written permission of the Graduate Studies Officer upon recommendation of the supervisor.

If the student is employed on a Graduate Assistantship, the 10 hours per week should represent the *total* time spent by the student in connection with the appointment; that is, it includes time spent on preparation work, reading set assignments, marking examinations, etc.

Students who at any time cease to meet all of the criteria for full-time status, but

are in good standing and wish to continue with their studies, must change to part-time status. If this change in status takes place during a term, adjustments to time limits and fees are made effective from the start of the next term. Such a change requires the written consent of the student's supervisor and Graduate Program Director.

Part-time

Any student is considered to be part-time who does not meet the conditions for a full-time student. Normally, a part-time student will be taking considerably less than a complete program each academic year.

If a student changes his/her status from part-time to full-time, he/she must re-register. Such a change requires the written consent of the student's supervisor.

Inactive/Leave of Absence

Students who have valid reasons for not registering for a term may apply for permission exempting them from registering by:

1. writing to the Graduate Studies Officer stating the reasons for an exemption; and
2. requesting a statement from their supervisor that they will not be on campus (involved in activities related to graduate courses or the thesis) for four months, will receive no supervision, and will not use any university facilities (*i.e.*, library, laboratories, computer centre, or receive any type of supervision through correspondence). The statement, which must be forwarded to the Graduate Studies Officer, must confirm that *no thesis work of any kind will be pursued* during the term in question. Exemptions, if granted, will be for one term only.

Residence Requirements

Full-time Master's degree candidates shall spend a minimum of one year as full-time students after completion of an Honours program. A student may register as full-time off-campus provided that such an arrangement has been approved by the Graduate Studies Officer (see previous section). For part-time graduate students two years of part-time study shall be deemed equivalent to one year of full-time study, due adjustment being made for any time spent as a full-time student during the summer.

Time Limits

The maximum time allowed to complete *all* requirements for the Master's degree from initial registration is three years for a full-time candidate or five years for a part-time candidate. (Note: see regulations pertaining to full-time/part-time status.)

When students change status from full-time to part-time (or vice-versa) the time remaining to complete degree requirements will be adjusted with one term of full-time study being equivalent to two terms of part-time study. Such adjustments will take effect at the start of the next term. In all cases, the total time to complete all degree requirements will not exceed five years.

In the case of full-time students, the completion of course work is an absolute requirement by the end of two years in order to continue on in the program. After two and one-half years in the program a warning will be given regarding the three-year limit.

Extension of Time Limits

No extensions of the prescribed time limits will be granted except under extraordinary circumstances. In such instances, a Time Limit Extension Request form must be completed by the student in consultation with the supervisor and submitted to the Graduate Program Director. If the Director supports the request, a recommendation will be referred to the Associate Dean for approval.

College Affiliation

Every student is required to have college affiliation at Trent. All graduate students (full- and part-time) will be assigned to Peter Robinson College where arrangements have been made for access to Common Room and other facilities.

Full-time graduate students may request to be assigned or transferred to another of Trent's five residential colleges (in particular for purposes such as accommodation in residence or donning). Part-time graduate students may request to be assigned or transferred to Julian Blackburn College.

The colleges sponsor a series of guest lectures, sports and social activities, and have common areas for resident/non-resident students.

Residence Accommodation

A limited number of residence spaces are reserved for first-year graduate students. The rooms offered are in predominantly

undergraduate residences and the time of occupancy is normally the undergraduate academic year. Graduate room allocations are made by the Office of Research and Graduate Studies. All rooms must be confirmed by July 9, 1993 by completion of a College Application Form and payment of a residence deposit in the amount of \$200.

Supervision

A supervisory committee for each graduate student shall be named by the graduate studies committee of the program to which the candidate is attached and shall consist of the thesis supervisor and two other members of the program, with the supervisor as committee Chair.

The role of the committee shall be:

- a) To ensure that reasonable progress is being made by the student in his/her research and course work. The supervisor shall submit a report on this progress to the Graduate Studies Officer at the end of each Winter Term.
- b) To approve the thesis topic and any prescribed work.
- c) To recommend to the Graduate Studies Officer appropriate action (withdrawal further research or course work) in the light of the student's progress.
- d) To suggest the membership of the thesis examining committee when the final preparation of the thesis is in hand.

If a student's supervisor expects to be absent from the University for an extended period of time (*i.e.*, two months or more) it is his/her responsibility either to make suitable arrangements with the student and the program for the continued supervision of the student or to request the program to appoint another supervisor. Such arrangements should be communicated to the Office of Research and Graduate Studies before the supervisor leaves the University.

Guidelines for graduate programs, graduate students, faculty and graduate studies committees are available from the Office of Research and Graduate Studies.

Research and Thesis Requirement

Normally a candidate for a Master's degree will undertake research and write a thesis. In the thesis students should give evidence that they have made a logical and intelligent approach to the selected problem, and the language of the thesis

should be clear and precise. The thesis should be as original as possible. However, the goal of originality should not be stressed to the extent that it precludes the examination of old subjects in new ways; nor should it elevate the "undone" for its own sake, lest the obscure and trivial be emphasized.

In exceptional cases the thesis may be replaced by other appropriate course work. When the degree is taken by course work, a comprehensive examination may be required.

Although a thesis may be submitted at any time, candidates should note the thesis submission deadlines for the spring convocation in the academic Calendar.

Courses

Normally a student will be required to complete, with at least a second class standing (B-), no fewer than two graduate courses. This is the minimum course requirement for Master's students. A program may prescribe additional graduate courses and the student may be required or permitted by the program to take courses in addition to those prescribed for credit. Subject to a review of the candidate's competence in his/her major subject, a candidate may be permitted to take one course in another department/program.

Course Changes

A course change is the addition and/or deletion of one or more individual courses by a registered graduate student. A course change is the only acceptable procedure for revising a graduate student's registration. All course changes must be approved and authorized by the program director and forwarded to the Graduate Studies Officer by the last day in October.

Audit Courses

Upon the recommendation of his/her supervisor, and with the permission of the Graduate Studies Officer, a graduate student may register to attend a course without receiving a grade or credit. Details of the policy and regulations for audit students are available from the Office of Research and Graduate Studies. It should be noted in particular that no grade will be assigned, that permission must be obtained from the course instructor and that a fee is charged.

Grading System for Courses

The minimum passing grade for required graduate courses is second class (B-). Effective with the 1982 spring academic session, the letter grades and their numerical ranges are: A+ = 100-90; A = 89-85; A- = 84-80; B+ = 79-77; B = 76-73; B- = 72-70; F = 69-0.

In addition to alphabetical or numerical grades, the following symbols may also be used on grade reports. These symbols are also used on the academic transcript of students: AEG (Aegrotat Pass); DRP (Course Dropped); AUD (Audit Course); WDN (Withdrawn); INC (Incomplete).

Aegrotat Standing and Incomplete Standing

Petitions for special consideration because of sickness or misfortune at any time during the academic session should be sent to the Graduate Studies Officer as soon as possible, together with medical certificates or other evidence. The University may grant aegrotat standing, or permission to write special examinations, but because aegrotat standing must be based on the achievements of the student throughout the whole of the academic year, it is not appropriate to request such standing as a result of prolonged illness. (See also withdrawal section.)

Incomplete standing will be granted only in cases where a student is unable to complete in proper time the work requirement of a course for reasons beyond the student's control such as illness, physical or emotional disability, loss of or damage to work already completed or in progress, or adverse seasonal effects on field or laboratory projects. Failure by a student to organize the workload in a course will not in itself be considered an adequate reason.

Students wishing temporary incomplete standing at the end of a course must petition through the program involved and, where possible, properly support and document the reasons.

Incomplete should not be confused with aegrotat which applies only in cases where students are unable, through similar physical or emotional disability, to write or perform in final examinations.

Courses at Other Universities

Under certain circumstances it is permissible for a student admitted to a degree program and registered at one Ontario university to enrol in approved credit

courses at another university. Credit will be granted only if written permission is received from the Associate Dean and the program director prior to registration for the course work. Application forms for inter-university co-operation are available in the Graduate Studies Office.

Language Requirement

Some programs may require a reading knowledge of a language other than English. Consult the program listings for specific language requirements.

Grade Reports

Program directors must submit a grade report on each student at the end of every academic year indicating grades received in course work. A copy of the report will be mailed to the student by the Graduate Studies Officer.

Unsatisfactory Work

On the recommendation of the program, approved by the Graduate Studies Committee, a student whose work is unsatisfactory may at any time be required to withdraw from the University.

Appeals

Appeals procedures for graduate students parallel those established for undergraduates (see Undergraduate section of Calendar). In general, the procedures emphasize consultation and co-operation among the individuals most intimately concerned with any problem, while still allowing for an impartial review of difficult cases. Thus, problems concerning individual courses should first be discussed with the instructor, those concerned with course programs should be discussed with the student's supervisory committee, and problems concerned with the application of program or University regulations should be brought to the attention of the program director or the Graduate Studies Committee. Review is accomplished by the impartial body with the best knowledge of the particular problem, *e.g.*, the program director, the Graduate Studies Committee, or, in exceptional cases, the Special Appeals Committee.

Principles Governing Submission and Examination of Theses

The thesis will be defended by the candidate in an oral examination before a thesis examining committee. In the examination students will be required to give evidence

that they have a thorough knowledge of the field in which they have been working.

1. Submission of Thesis for Examination

- 1.1 Supervisory committee members shall review a complete typed version of the thesis and send a signed form to the Program Director verifying that the thesis should proceed to examination.
- 1.2 Depending on program requirements at least 3-5 copies of the thesis shall be deposited with the Program Director not less than ten weeks before the convocation at which the candidate expects to receive the degree.

2. Examining Committee

- 2.1 After the supervisory committee has confirmed that the thesis can proceed to examination, the supervisor identifies three potential external examiners to participate in the thesis examination and defence. The Examining Committee is named by the Graduate Program Director, in consultation with the Associate Dean, and the date, place and time of the defence determined.
- 2.2 The Examining Committee consists of 3-5 members, of whom at least one must be from outside the university.
- 2.3 The candidate's supervisor is a member of the Examining Committee and any or all members of the supervisory committee may be named as members of the Examining Committee, subject to the policy of the program concerned.
- 2.4 The External Examiner must not have any affiliation with the university or the candidate that might be construed as creating a conflict of interest.

3. Thesis Examination

Copies of the thesis shall be distributed amongst the Examining Committee by the Program Director at least three weeks before the scheduled date of the oral, along with a covering letter from the Associate Dean explaining the status of the thesis and the range of options for its disposition. A form is supplied on which each examiner should verify whether they recommend that the oral examination should proceed. These forms must be returned to the Program Director at least one week before the scheduled date of the oral.

4. Defence

The thesis will be defended by the candidate in an oral examination before the Examining Committee. In the examination candidates will be required to give evidence that they have a thorough knowledge of the field in which they have been working.

- 4.1 The defence normally shall be scheduled within a period of no fewer than three, and no more than six weeks from the submission of the thesis. The parties concerned may agree upon a postponement.
- 4.2 The Examining Committee, and the thesis defence examination, will be chaired by a person appointed by the Graduate Program Director.
- 4.3 Subject to the policy of individual graduate programs, any member of the university is free to attend a master's oral thesis defence examination.
- 4.4 The Chair will give priority to questions from members of the Examining Committee, and will adjourn the examination when the Examining Committee decides that further questioning is unnecessary.
- 4.5 The deliberations of the Examining Committee are held in camera. That is to say, only appointed members of the Examining Committee are present at this stage.
- 4.6 It is the responsibility of the Chair to see that a report on the examination is prepared before the Committee adjourns.
- 4.7 Four decisions are open to the Examining Committee, voting to be based on a simple majority:
 - i) the thesis is approved as it stands, or
 - ii) the thesis is approved provided certain minor or major revisions are made, or
 - iii) the thesis is not approved as it stands but may be resubmitted, and re-examined by some or all of the Examining Committee (this may or may not involve another oral defence), or
 - iv) the thesis is not approved.
- 4.8 If revisions are required, each member of the examining committee must provide a written list of required revisions to the Program Director

immediately following the oral.

Minor revisions are defined as corrections which can be made immediately to the satisfaction of the supervisor. **Major revisions** are defined as corrections requiring structural changes, or other substantive revision. When a thesis is accepted with major revisions, a precise description of the modifications must be included with the Examining Committee's report. It is then the responsibility of the candidate's supervisor to demonstrate to the Examining Committee that the required revisions have been made.

- 4.9 If the Examining Committee is not prepared to reach a decision concerning the thesis at the time of the thesis defence, it is the responsibility of the Chair to determine what additional information is required by the Committee to reach a decision, to arrange to obtain this information for the Committee, and to call another meeting of the Committee as soon as the required information is available. It is also the Chair's responsibility to inform the candidate that the decision is pending.

5. Final Submission

- 5.1 The Program Director, in consultation with the thesis supervisor, must verify that appropriate corrections have been made, and then submits a summary of the thesis defence and examination to the Office of Research and Graduate Studies.
- 5.2 An approved thesis may be submitted at any time following the oral defence. However, for candidates wishing to graduate at a particular convocation, specific deadline dates are printed in the Graduate Academic Calendar section of the Graduate Studies Calendar. The general formula for establishing these dates is five weeks before Spring Convocation. Candidates not meeting these deadlines are required to re-register until the thesis has been formally submitted and approved by the University.
- 5.3 The formal submission of the thesis to the University is made to the Graduate Studies Officer, Room 2.69, Otonabee College. At this point, the thesis should be in its final typed version, but only the original copy should be

submitted. The Graduate Studies Officer checks through the thesis with regard to format and then seeks final approval from the Committee on Graduate Studies. If there are any discrepancies in format, the student will be contacted by the Graduate Studies Officer.

5.4 After the thesis has been formally approved, the candidate submits the required copies and pays the cost for binding and microfilming.

6. Microfilming of Thesis

When the thesis is submitted, the candidate is required to complete a "Non-Exclusive Licence to Reproduce Theses" (Form NL/BN91 [90-09]). This gives consent for the thesis to be microfilmed by the National Library of Canada. There is a fee for this service and the candidate is billed for this at the time the final approved theses are submitted.

7. Binding of Thesis

These must be bound in Trent Green with front cover and spine writing in gold. Binding arrangements are made through the Office of Research and Graduate Studies.

8. Copyright Regulations

For information concerning thesis borrowing and copyright law, please refer to Appendix IV of "A Handbook for Graduate Students of Trent University".

Note:

1. Arrangements and expenses for typing the thesis are the responsibility of the student.
2. Subject to the approval of the program concerned, a candidate may write his/her thesis and be examined in French.
3. A Handbook for Graduate Students of Trent University including a detailed guide on the preparation of theses is available from the Office of Research and Graduate Studies.

Fees

The following regulations and fees apply to:

- (i) Canadian citizens within the meaning of the Canadian Citizenship Act;
- (ii) landed immigrants within the meaning of the Immigration Act;
- (iii) dependents of persons admitted to Canada under section 7(1)(a) of the Immigration Act (diplomatic, consular and other representatives of foreign countries, the U.N. and other international agencies, their dependents and suites);
- (iv) dependents of persons admitted under section 7(1)(h) of the Immigration Act for the temporary exercise of the profession, trade or occupation.



GRADUATE FEE SCHEDULE

(based on 1992-93 fees and subject to revision for 1993-94)

	Full-time \$	Part-time \$
TUITION		
Canadian/Landed Immigrant		
- 1st Year (3-terms)	2,588.50	1,294.00
- 2nd Year (3-terms)	1,294.00	1,294.00
- ensuing years	431.00/term	1,294.00 in 3rd Year then 431.00/term
Visa		
- 1st Year (3-terms)	11,403.50	n/a
- 2nd Year (3-terms)	5,759.00	
- ensuing years	1,919.67/term	
ANCILLARY		
- Student Health Service	28.00	2.50
- Athletics	103.80	52.00
- Graduate Student Activities	27.00	11.00
- Non-resident College Fee	61.00	30.50
- Convocation Fee	11.00	5.50
Optional		
- Transportation Fee	122.00	n/a
RESIDENCE - (MEAL PLAN included)	\$4,724.00 (September-April)	

Notes:

1. The University reserves the right to alter fees and fee structure.
2. Students enrolled under the Trent-Queen's agreement, while at Trent, are assessed Queen's tuition fees and Trent's ancillary fees.
3. All students must register at the beginning of their program of study and must re-register annually until thesis and course work have been completed or until the program of study is otherwise completed. This regulation includes the year in which a student convokes.
4. Per term tuition and ancillary fees will be charged to full-time students beyond the 2nd Year (part-time students beyond 3rd Year) of a graduate program. Convocation and Transportation fees will be charged in full in the Fall Term; Health Service, Athletics, Graduate Student Activities and Non-resident College Fees will be divided between Fall and Winter terms.
5. Pro-rated "part-term" refunds of tuition, ancillary and other University fees may be available to those who a) withdraw from a graduate program, or b) complete degree requirements part way through the third or subsequent year.

Programs of Study

Anthropology

The focus of the M.A. program in Anthropology is on the Art and Archaeology of the Americas. In coursework students may concentrate on prehistoric societies of a particular region (North, Middle or South America), on analysis and interpretation of native art and architecture, or on theoretical and methodological issues in art or archaeology. Other areas of interest can occasionally be accommodated in collaboration with faculty from the undergraduate department.

Graduate Director
To be named

Faculty

P.F. Healy, B.A. (CALIFORNIA-BERKELEY), M.A., PH.D. (HARVARD): Archaeology, New World Prehistory, Mesoamerica and lower Central America; H.S. Helmuth, D.S.C., DR.HABIL. (KIEL): Physical anthropology, osteology; Germany, North America, Maya; S.M. Jamieson, M.A. (MANITOBA), PH.D. (WASHINGTON STATE): Northeastern North American prehistory and ethnohistory, Boreal Forest archaeology, complex societies, lithic analysis, locational analysis; M.J. Tamplin, B.A. (TORONTO), M.A. (LONDON), PH.D. (ARIZONA): Paleoeecology, typology, computer applications; Boreal Forest, Europe, Africa; J.R. Topic, M.A., PH.D. (HARVARD): Archaeology, complex societies, spatial analysis; Peru, South America; T.L. Topic, M.A., PH.D. (HARVARD): Archaeology, ceramic analysis, prehistoric ideology, gender; Central Andes, South America; J.M. Vastokas, M.A. (TORONTO), PH.D. (COLUMBIA): Anthropology of art, art and architecture of Europe and the Americas, material culture, Northwest Coast, Arctic, Northeast; R.K. Vastokas, M.A. (TORONTO), PH.D. (COLUMBIA): Visual anthropology, minority groups, culture and communication; Eastern Europe, eastern Woodlands

Chair of the Undergraduate Department
To be named.

Conjunct Professors

P.L. Storck, PH.D. (WISCONSIN); H. Saradi-Mendelovici, B.A. (ATHENS), M.A., PH.D. (MONTREAL); C.D. White, M.A. (TRENT), PH.D. (TORONTO)

Research Associate

G. Watson, M.A. (TRENT)

Regulations

The general regulations and requirements of Trent University for the M.A. degree apply to graduate study in Anthropology. Students are admitted into the program only in September. Normally, candidates who have fulfilled the admission requirements will be required to take at least three graduate courses, *normally including Anthropology 510*, from those offered by the program. In consultation with their supervisors students select a research problem in their area of interest, conduct research, and write a thesis. Candidates shall maintain at least a second class standing in their work and shall pass an oral examination in defence of their thesis. In addition, students will be expected to demonstrate capacity to read in the language or languages relevant to their field of research and may be expected to show adequate background knowledge in a related discipline, e.g. art history. For further information write to the Graduate Director of the Department of Anthropology.

External Funding

All students contemplating application to the M.A. program in Anthropology at Trent are urged to apply for an Ontario Graduate Scholarship as well as to additional external (non-University) funding agencies. Applications for OGS materials are available from the Office of Research and Graduate Studies at Trent University.

Graduate Assistantships

All students admitted will be placed in competition for graduate assistantships, which involve a maximum of four terms, normally spanning two consecutive undergraduate academic years, of teaching and related work within the department. Most eligible students receive some form of financial assistance.

Courses Available to Graduate Students

Anthropology 510

Method and theory in archaeology (normally required). An examination and evaluation of major theories and methods and their relationship to problems in archaeological analysis and interpretation. Emphasis will be placed on recent advances and their implications for the development of the discipline.

Staff

Anthropology 520

Selected themes in Canadian archaeology. Research-oriented investigations into the archaeological record of Central, Eastern and Northern Canada and adjacent areas. Topics will vary according to interests of staff and students, but will include a review and analysis of regional methodological and theoretical approaches.

S.J. Jamieson

Anthropology 530

Problems in Mesoamerican archaeology. Review of the long and variegated history of human occupation in Mexico and Central America. Problems include the rise, the structure, and the fall of complex societies, cultural ecology, the nature of cultural frontiers, and other related issues of Mesoamerican prehistory.

P.F. Healy

Anthropology 540

South American archaeology. South American prehistory with focus on the evolution of social, political, and economic organization in a wide variety of environments. Factors such as warfare, trade, migration, craft production, subsistence, ritual and ideology are considered. Emphasis is given to Central Andean civilizations, though influence from and interaction with other regions is considered.

J.R. Topic and T.L. Topic

Anthropology 550

Problems in the art and architecture of the Americas. The development and character of prehistoric, historic, and contemporary native art of the Americas. Emphasis is laid upon an historical perspective and upon an interpretation of art/artifacts/architecture from the point of view of symbolic, semiotic, and dialogic anthropology.

J.M. Vastokas

Anthropology 555

Problems in Old World archaeology. Archaeological data and approaches from the Old World are employed to explore cultural problems common to all areas of the world. Research topics will vary from year to year.

M. Tamplin

Anthropology 560

Paleoecology of the Americas. This course examines the biology and ecology of prehistoric populations in various environmental and cultural settings.

M. Tamplin and H. Helmuth

Anthropology 570

Anthropology of art and material culture. Theoretical and methodological issues relevant to art and artifacts in general, whether prehistoric, historic, or contemporary world objects. Focus is on the concrete work in its broadest sociocultural context, with concern for the processes of its production and its reception within or without the cultural system. The course seeks to re-examine, to re-define, and to establish new procedures for the interpretation of art and artifacts in light of current interdisciplinary developments.

J. M. Vastokas

Anthropology 590

Special topics.

Staff

Applications of Modelling in the Natural and Social Sciences

This interdisciplinary graduate program provides for study towards an M.Sc. or M.A. degree in the application of techniques and theory of modelling in the natural sciences and social sciences. It encompasses the following traditional disciplines: Biology, Chemistry, Computer Science, Economics, Environmental Science, Geography, Mathematics, Physics, Psychology and Sociology.

The Master's program in the *Applications of Modelling in the Natural and Social Sciences* is designed to overcome some of the barriers to interdisciplinary collaboration by bringing together, at the graduate level, students who are actively applying modelling techniques in their thesis research in a broad range of disciplines. The research is in the social and natural sciences, and in fields in which Trent has demonstrated strong research performance. Although it is oriented towards quantitative models, utilizing computational, mathematical or statistical techniques, it is discipline-based and is not a program in Applied Mathematics. It has three primary objectives:

1. The teaching of fundamental and common analytical modelling techniques required for research in a large number of quantitative fields.

2. The cross-fertilization that comes from sharing ideas with researchers in other disciplines, and the development of the communication skills required for this to occur.
3. Sufficient training of the student in his/her chosen discipline, including coursework and a research thesis, to permit progression to a disciplinary Ph.D. program at another institution.

Students are involved both in thesis research and coursework in their "home" discipline, and in interdisciplinary study. They carry out coursework in the foundations and methods of quantitative modelling and participate in an interdisciplinary seminar. In this seminar the student discusses, in a way comprehensible to the audience, the system being modelled, the model developed, and the means of validation of the model; here the emphasis is upon the modelling process itself rather than on the relevance of the results to the discipline of the research. Through this seminar the students develop the skills required to communicate with researchers outside their own discipline, and develop a perspective on their own and other disciplines not obtainable from within a single-discipline context.

Specific Admission Requirements

The normal requirement for admission into this program is an upper second class (77 or better) (B+ at Trent) standing, or its equivalent, in a joint or single honours B.Sc. or B.A. degree in one of the traditional disciplines (see above). Prior to acceptance, a Core Faculty member must have been identified who will supervise the student's work. Prospective students must be reasonably well versed in mathematics, statistics and computing. They must have one calculus course beyond the introductory level and some familiarity with linear algebra.

Faculty

Director

A.J. Slavin, M.Sc. (TORONTO), Ph.D. (CAMBRIDGE)

Chemistry:

R.E. March, B.Sc. (LEEDS), Ph.D. (TORONTO); K.B. Oldham, Ph.D., D.Sc. (MANCHESTER); J.M. Parnis, B.Sc., Ph.D. (TORONTO)

Computer Studies:

R.T. Hurley, Ph.D. (WATERLOO); S.B. Regoczei, M.Sc. (TORONTO)

Economics:

D.C.A. Curtis, M.A. (QUEEN'S), Ph.D. (MCGILL); J. Muldoon, M.A. (GUELPH), Ph.D. (MCMASTER); K.S.R. Murthy, M.Sc. (KARNATAK), M.A. (DELHI, WESTERN), Ph.D. (WESTERN)

Geography:

J.G. Cogley, M.A. (OXFORD), M.Sc., Ph.D. (MCMASTER); C.L. McKenna-Neuman, Ph.D. (QUEEN'S); R. Ponce-Hernandez, M.Sc. (CHAPINGO), Ph.D. (OXFORD)

Mathematics:

D.G. Poole, M.Sc., Ph.D. (MCMASTER)

Physics:

K. De'Bell, M.Sc., Ph.D. (LONDON); J.W. Jury, M.Sc., Ph.D. (TORONTO); A.J. Slavin, M.Sc., (TORONTO), Ph.D. (CAMBRIDGE)

Psychology

D.J. Kennett, Ph.D. (MCMASTER)

Regulations

The general regulations and requirements of Trent University for the M.Sc. or M.A. degree apply to this graduate program. Candidates are required to submit and be examined on a research thesis supervised by one of the Core Faculty listed above. Selection of the research topic is made by the student together with her/his supervisor and graduate supervisory committee (typically three Core Faculty members including the supervisor and the Chair of the home department).

Coursework counts for about one-third of the work towards the degree. A grade of at least B- (70) must be obtained in each of the graduate courses. Each student must satisfactorily complete at least five one-term modelling courses, consisting of three courses in the philosophical, mathematical and computational aspects of modelling, and two courses in the home discipline. The required coursework is normally completed in two terms, allowing the summer terms and the entire second year to be devoted to uninterrupted research. The student is also required to attend a regular seminar on modelling and to make one presentation each year.

Courses Available to Graduate Students

AM 501, AM 502

Discipline-specific courses in the home department. These may be given by the research supervisor in a reading/project course format.

AM 561

The foundations of modelling. What modelling is and how it interfaces with related activities such as data gathering, simulation and hypothesis testing.

AM 571

Mathematical aspects of modelling. The course begins with a summary of essential linear algebra and statistics, and then proceeds to discuss the applications of mathematics to modelling with such topics as stochastic and deterministic modelling, dimensional analysis and non-linear systems. Prerequisite: a university calculus course beyond the introductory level.

AM 581

Computational aspects of modelling. Common computational techniques in modelling: simulation, numerical analysis, solutions of differential and difference equations. Prerequisite: the ability to program a computer in at least one computational language.

AM 590

Seminar on applications of modelling. Each student in the program makes one presentation per year on his/her research, with emphasis on the assumptions, methodology and analysis of the models used. These presentations are complemented by contributions from invited speakers and Core Faculty. This seminar course will be given a pass/fail grade every year, based on the presentations, attendance and participation by the student. A student's presentation will be attended and graded by her/his Supervisory Committee. Attendance is compulsory.

AM 562

Advanced topics in modelling. Prerequisite: *AM 561* or equivalent.

AM 572

Special topics in the mathematics of modelling. Prerequisite: *AM 571* or equivalent.

AM 582

Advanced topics in computational aspects of modelling. Prerequisite: *AM 581* or equivalent.

Students are normally required to take *AM 501, 502, 561, 571, 581*. Students with advanced preparation in the material covered in any of *561, 571* or *581* may appeal to take the corresponding advanced course instead: *562, 572* or *582*, respectively.

Financial Support

The majority of students accepted are offered a Teaching Assistantship. These stipends are frequently increased by research stipends provided from research funds. This occurs most often in disciplines in the natural sciences. Candidates are encouraged to apply for scholarships (NSERC and OGS awards). The program also provides funds to cover some overhead research costs such as laboratory and computing supplies, equipment and some conference travel.

Biology

(See Watershed Ecosystems and Trent-Queen's Programs)

Canadian Heritage and Development Studies

This collaborative interdisciplinary M.A. program is offered by the Frost Centre for Canadian Heritage and Development Studies and involves faculty from Canadian Studies, Native Studies, Environmental and Resource Studies, and Administrative Studies in addition to the departments of Economics, English, French, Geography, History, Political Studies, and Sociology. Areas of concentration within this M.A. program are the following: Native Studies, Environmental and Heritage Studies; Regions and Regionalism.

In each of these three areas, there is an interest both in the North and Heritage Management. The main emphasis will be on the research and writing of the thesis to be complemented by two graduate courses: *CHDS 500* and one of *CHDS 510, CHDS 520, CHDS 530, or CHDS 531*.

Applications will be considered from candidates with an Honours degree in a relevant area and an interest in interdisciplinary research.

Program Director

J.S. Marsh, B.A. (READING), M.Sc. (ALBERTA), Ph.D. (CALGARY)

Faculty

W.P. Adams, B.A. (SHEFFIELD), M.SC., PH.D. (MCGILL); J.M. Bordo, B.A. (MCGILL, ALBERTA), M.A., M.PHIL., PH.D. (YALE); R.T. Bowles, B.SC. (BRIGHAM YOUNG), PH.D. (OREGON); A.G. Brunger, B.SC. (SOUTHAMPTON), M.SC. (ALBERTA), PH.D. (WESTERN ONTARIO); R. Campbell, B.A. (TRENT), M.A. (TORONTO), PH.D. (LONDON); M.J. Castellano, B.A. (QUEEN'S), M.S.W. (TORONTO); D.M. Clarke, B.A. (TRENT), M.A. (MCMASTER), PH.D. (CARLETON); D.C.A. Curtis, M.A. (QUEEN'S), PH.D. (MCGILL); M. Gunther, B.A. (WITWATERSRAND), PH.D. (NORTH CAROLINA); M. Havas, B.SC., PH.D. (TORONTO); F.M. Helleiner, M.A., PH.D. (WESTERN ONTARIO); B.W. Hodgins, B.A. (WESTERN ONTARIO), M.A. (QUEEN'S), PH.D. (DUKE); M. Huberman, B.A. (MCGILL), M.A., PH.D. (TORONTO); C.V. Huxley, B.A. (YORK, ENG.), M.A. (SIMON FRASER), PH.D. (TORONTO); J.N. Jennings, B.A. (TORONTO), M.A. (CALGARY), PH.D. (TORONTO); E.H. Jones, B.A. (SASKATCHEWAN), M.A. (WESTERN ONTARIO), PH.D. (QUEEN'S); S.H.W. Kane, B.A. (CARLETON), M.A., PH.D. (TORONTO); K.E. Kidd, M.A. (TORONTO), F.R.A.I. (Emeritus); P. Kulchyski, B.A. (WINNIPEG), M.A., PH.D. (YORK); M. Lacombe, M.A., PH.D. (YORK); J.P. LaPointe, B.A. (R.M.C.), M.A. (MCGILL); R.A. Lockhart, M.A. (SIMON FRASER), PH.D. (ESSEX); J.S. Marsh, B.A. (READING), M.SC. (ALBERTA), PH.D. (CALGARY); D. McCalla, B.A. (QUEEN'S), M.A. (TORONTO), D.PHIL. (OXFORD); D.N. McCaskill, B.A. (WINNIPEG), M.A. (CARLETON), PH.D. (YORK); J.S. Milloy, B.A. (ST. PATRICK'S), M.A. (CARLETON), PH.D. (OXFORD); D.R. Morrison, M.A. (SASKATCHEWAN), D.PHIL. (SUSSEX); F. Nutch, M.A. (HAWAII), PH.D. (YORK); R.C. Paehle, B.A. (LEHIGH), M.A. (NEW SCHOOL FOR SOCIAL RESEARCH), PH.D. (BRITISH COLUMBIA); M.A. Peterman, A.B. (PRINCETON), M.A., PH.D. (TORONTO); R.D. Powell, LIC. EN HISTORIA (CORDOBA), PH.D. (MCGILL); M.L. Rubinoff, B.A. (QUEEN'S), M.A., PH.D. (TORONTO); J. Sangster, B.A. (TRENT), M.A., PH.D. (MCMASTER); S.D. Standen, B.A. (BRITISH COLUMBIA), M.A. (OREGON), PH.D. (TORONTO); J.E. Struthers, M.A. (CARLETON), PH.D. (TORONTO); T.H.B. Symons (Vanier Professor); D. Torgerson, A.B. (CALIFORNIA-BERKELEY), M.E.S. (YORK), M.A., PH.D. (TORONTO); C. Verduyn, B.A. (TRENT), M.A., PH.D. (OTTAWA); J.H. Wadland, M.A. (WATERLOO), PH.D. (YORK); K. Walden, M.A., PH.D. (QUEEN'S); J. Wearing, B.A. (WESTERN ONTARIO), M.A. (TORONTO, OXFORD), D.PHIL. (OXFORD);

A.L. Wernick, B.A. (CAMBRIDGE), M.A. (TORONTO); T.H. Whillans, B.A. (GUELPH), M.SC., PH.D. (TORONTO); R.F. White, B.A., B.A.SC., M. COMM. (TORONTO), PH.D. (CHICAGO) (Emeritus); A. Wilson, M.A. (DALHOUSIE), PH.D. (TORONTO) (Emeritus); P. Wylie, B.SC., (QUEEN'S, BELFAST), M.A., PH.D. (QUEEN'S)

Regulations

The general regulations and requirements of Trent University for the M.A. degree apply to the Canadian Heritage and Development Studies Program. Candidates must submit a thesis on an approved topic within a maximum period of three years. Candidates must attain at least a second class standing in the course work and must pass an oral examination in defence of the thesis. Additional requirements appropriate to the candidate's field may be specified by the supervisory committee.

Courses**CHDS 500**

The Frost Centre Colloquium: This course examines and provides examples of conceptual and practical aspects of interdisciplinary research in Canadian Heritage and Development Studies. In particular, it deals with the concept of, approaches to, sources for, and progress on an M.A. thesis.

J.S. Marsh and guests

CHDS 510

Native Studies: This course emphasizes community-based research perspectives which are sensitive to the cultural milieu in exploring the evolving relationship between native people and mainstream social economic and political structures. Approaches considered by faculty from a variety of academic disciplines will include cross-cultural relations, economic development, cultural aspects of personal and social identity, ethnohistory, adult education and social impact assessment. Fortnightly tutorial.

D.N. McCaskill

CHDS 520

Region and Place within Canadian Society. This course examines, from an interdisciplinary perspective, how ideas concerning the importance of region and a sense of place have been central to explanatory approaches to the study of Canada. This course examines the concepts of region and place through selected case studies flowing out of

each student's thesis research.
To be named

CHDS 530

Environment and Heritage: Bioregionalism. This concept has received increasing attention from persons interested in ecological planning, appropriate technology, sustainable development, and related initiatives. The focus will be on the Haliburton section of the Otonabee watershed. This area is considered from both a historic and a contemporary perspective.

J.H. Wadland, T.H. Whillans

CHDS 531

Environment and Heritage: Heritage Resources Management. This course concerns heritage resources and their management. Heritage resources are deemed to include historical buildings, sites, parks and landscapes, archaeological sites, reconstructed historical sites, museums artifacts, archives, historical documents and historical activities. The course approaches the subject of heritage resources from interdisciplinary, conceptual, practical, and mainly Canadian perspectives.

J.S. Marsh

Thesis Supervision

Theses will be supervised by a committee consisting of a primary supervisor, who must be a tenured faculty member of the Frost Centre, a secondary supervisor, who must be a member of the Frost Centre, and another secondary supervisor, who may be from outside the university, if appropriately qualified.

Financial Support

Applicants are encouraged to seek external scholarships where available. All students admitted will be considered for teaching and research assistantships for a maximum of four terms, normally spanning two consecutive undergraduate academic years.

For further information write to the Director of the Frost Centre, Trent University.

Chemistry

(See Trent-Queen's Program)

Classics

(See Trent-Queen's Program)

Freshwater Science

Admissions temporarily suspended.

The Freshwater Science graduate program is a collaborative Master's program involving Biology, Chemistry, Environmental and Resource Studies, Geography and Physics and is a special emphasis segment of Trent's Watershed Ecosystems Program.

The major fields within this segment of the program are chemical-physical studies of the environment with particular reference to water. Included is research into trace-element identification, instrumentation for measurement of dissolved oxygen, detection of radioactivity in natural waters and climate change with emphasis on ice and water.

Applications will be considered from Honours graduates in any of the five collaborating disciplines. Experience in Environmental Science is an advantage. Graduates from the program will receive a degree in their own discipline with 'Freshwater Science' in parentheses, thus "M.Sc. Chemistry (Freshwater Science)" or "M.Sc. Physics (Freshwater Science)" etc.

Candidates will be required to undertake research on a topic in the area of Freshwater Science approved by a Supervisory Committee of faculty drawn from the disciplines concerned.

Faculty

Associate Director

W.F.J. Evans, M.A., PH.D. (SASKATCHEWAN), F.R.S.C.

Chemistry

P.F. Barrett, M.Sc. (QUEEN'S), PH.D. (TORONTO); R.E. March, B.Sc. (LEEDS), PH.D. (TORONTO), F.C.I.C.; K.B. Oldham, D.Sc., PH.D. (MANCHESTER), F.R.I.C., F.C.I.C.

Physics

J.W. Jury, M.Sc., PH.D. (TORONTO); A.J. Slavin, M.Sc. (TORONTO), PH.D. (CAMBRIDGE)

Biology

M. Berrill, B.Sc. (MCGILL), M.Sc. (HAWAII), PH.D. (PRINCETON); D.C. Lasenby, B.Sc. (TRENT), PH.D. (TORONTO)

Geography

J.M. Buttle, B.A. (TORONTO), PH.D. (SOUTHAMPTON); J.G. Cogley, M.A. (OXFORD), M.Sc., PH.D. (MCMASTER); C.H. Taylor, M.A. (CANTERBURY), PH.D. (MCGILL)

Environmental and Resource Studies
R.D. Evans, B.Sc. (TORONTO), Ph.D.
(MCGILL); W.F.J. Evans, M.A., Ph.D.
(SASKATCHEWAN), F.R.S.C.

Regulations

The general regulations and requirements of Trent University for the M.Sc. degree apply to the Freshwater Science program. Candidates will be required to complete the course *Freshwater Science 500*, and one other graduate course, normally offered by the department (Biology, Chemistry, Geography, Physics) of the candidate's discipline. Candidates must submit a thesis on an approved topic within a maximum period of three years. Candidates must attain at least a second class standing in course work examinations and must pass an oral examination in defence of the thesis. Additional requirements appropriate to the candidate's field of enquiry may be specified by the supervisory committee. Attendance at general departmental lectures and research colloquia will be expected.

Geography

(See Watershed Ecosystems and Canadian Heritage and Development Studies Programs)

Methodologies for the Study of Western History and Culture

Trent's M.A. program in Methodologies for the Study of Western History and Culture was established in 1988 as the result of an initiative from faculty in a range of disciplines, including Cultural Studies, Philosophy, History, English, Classics and Sociology.

Interdisciplinary in spirit and emphasis, the program focuses on contemporary issues concerning the interpretation/analysis of Western culture, past and present, using the term "culture" in its widest sense. It responds to a situation in which the human sciences, without having resolved traditional problems concerning strategies for (and the status of) their various kinds of inquiry, have been overtaken by new problems in which

once foundational categories, assumptions and dichotomies have been radically challenged by deconstructionist, feminist psychoanalytic, ecological and anti-Eurocentric critiques.

The aim of the program is to enable students to engage with these issues in the context of substantive projects of research. Particular areas of emphasis are: textuality, semiotics and discourse analysis; nature, culture and technology; gender and feminist theory; media and popular culture; and the philosophy and history of science.

Student work centers on the thesis (to be supervised by faculty from two disciplines), and on the Methodologies Seminar which involves all students and faculty in the program.

The degree course is intended both as a preparation for doctoral studies, and as a qualification in itself for those (e.g. in teaching, media, law, or government service) pursuing a non-academic professional career.

Applications will be considered from candidates with an Honours degree in a relevant discipline or disciplines, and an interest in interdisciplinary research.

Faculty

Program Director

A.L. Wernick, M.A. (CAMBRIDGE), M.A. (TORONTO) [Cultural Studies]

Program Committee

Z. Baross, B.A. (U.B.C.), M.A. (LONDON), Ph.D. (AMSTERDAM) [Cultural Studies]; J. Bordo, B.A. (MCGILL, ALBERTA), M.Phil., Ph.D. (YALE) [Cultural Studies]; C.V. Boundas, M.A., Ph.D. (PURDUE) [Philosophy]; R.E. Carter, M.Div. (HARVARD), M.A., Ph.D. (TORONTO) [Philosophy]; J.A. Fekete, M.A. (MCGILL), Ph.D. (CAMBRIDGE) [Cultural Studies and English]; B.J. Hodgson, M.A. (TORONTO), Ph.D. (WESTERN ONTARIO) [Philosophy]; D.G. Holdsworth, M.Sc. (MCMASTER), Ph.D. (WESTERN ONTARIO) [Environmental and Resource Studies]; S.H.W. Kane, B.A. (CARLETON), M.A., Ph.D. (TORONTO) [English and Cultural Studies]; K.H. Kinzl, D.Phil. (VIENNA) [Classical Studies]; B.L. Marshall, B.A., M.A. (GUELPH), Ph.D. (ALBERTA) [Sociology, Women's Studies]; S.B. Regoczei, M.Sc. (TORONTO) [Computer Studies]; L. Rubinoff, B.A. (QUEEN'S), M.A., Ph.D. (TORONTO) [Philosophy]; E. Stavropoulos, M.A., Ph.D. (TORONTO) [Political Studies]; D.F. Theall, B.A. (YALE), M.A., Ph.D. (TORONTO) [English and Cultural

Studies]; D.K. Torgerson, A.B. (CALIFORNIA-BERKELEY), M.E.S. (YORK), M.A., PH.D. (TORONTO) [Administrative Studies and Political Studies]

Regulations

The general regulations and requirements of Trent University for the M.A. degree apply to the Methodologies Program. Candidates are expected to submit a thesis on an approved topic within two years. At least two courses are required: the Seminar, and one other in a related field. Candidates must attain at least a second class standing in the course work and must pass an oral examination in defense of the thesis. Additional requirements appropriate to the candidate's field may be specified by the supervisory committee.

Courses

M500

Seminar on methodology. The seminar brings together all faculty and students enrolled in the program for an intensive exploration of competing contemporary theoretical perspectives bearing on the study of Western history and culture. The focus will be on problems of value, ideology, interpretive "prejudice", language and cultural forms and situations, in the context of a broadly defined theme which will vary from year to year.

A. Wernick and staff

M590

Reading Course.

Thesis Supervision

Theses will be supervised by two faculty representing at least two of the disciplines or programs involved, one of whom will be named the principal supervisor. It may be recommended that additional supervision be provided by adjunct faculty or other members of the program.

Graduate Assistantships

Applicants are encouraged to seek external scholarships where available. All students admitted will be considered for teaching and research assistantships for a maximum of four terms, normally spanning two consecutive undergraduate academic years.

For further information write to the Director of Methodologies for the Study of Western History and Culture, Peter Robinson College, Trent University.

Physics

(See Trent-Queen's Programs)

Trent-Queen's

Under the terms of an agreement between Trent University and Queen's University at Kingston, faculty of Trent University may undertake the supervision and instruction, at Trent University, of graduate students enrolled for M.Sc. or Ph.D. degrees at Queen's University. The Trent faculty members who participate in this arrangement will have been admitted to the Graduate Faculty and will have been appointed as adjunct faculty at Queen's University. Students who wish to enrol at Queen's University and pursue graduate study at Trent University must make application initially to Trent University.

Associate Director

R.E. March, B.Sc. (LEEDS), PH.D. (TORONTO), F.C.I.C.

Trent Faculty Currently Holding Adjunct Appointments at Queen's

These are listed under the collaborating departments:

Biology/Environmental and Resource Studies

M. Berrill, B.Sc. (MCGILL), M.Sc. (HAWAII), PH.D. (PRINCETON); R.D. Evans, B.Sc. (TORONTO), PH.D. (MCGILL); T.C. Hutchinson, B.Sc. (MANCHESTER), PH.D. (SHEFFIELD); C.D. Metcalfe, B.Sc. (MANITOBA), M.Sc. (NEW BRUNSWICK), PH.D. (MCMASTER); E. Nol, B.Sc. (MICHIGAN), M.Sc. (GUELPH), PH.D. (TORONTO)

Chemistry

R.E. March, B.Sc. (LEEDS), PH.D. (TORONTO), F.C.I.C.; K.B. Oldham, D.Sc., PH.D. (MANCHESTER), F.R.I.C., F.C.I.C.; J.M. Parnis, B.Sc., PH.D. (TORONTO)

Classical Studies

J.P. Bews, B.A. (QUEEN'S), M.A., PH.D. (LONDON); I.C. Storey, M.A. (TORONTO), M.Phil. (OXFORD), PH.D. (TORONTO)

Physics

K. De'Bell, M.Sc., PH.D. (LONDON); J.W. Jury, M.Sc., PH.D. (TORONTO); A.J. Slavin, M.Sc. (TORONTO), PH.D. (CAMBRIDGE)

Psychology

P.T.P. Wong, B.A. (CARLETON), M.A., PH.D. (TORONTO)

Financial Support

All graduate students enrolled at Queen's University and resident at Trent are eligible for financial support from funds normally available at Queen's.

Financial support may be available to graduate students as compensation for assistance in teaching and research. Details are arranged individually by the supervisor of each graduate student.

For further information write to the Graduate Studies Officer.

Watershed Ecosystems

Applications will be considered from students with undergraduate Honours degrees in Biology or Geography, or Environmental Science and an interest in interdisciplinary study within the field of Watershed Ecosystems. The program offers instruction in three areas of emphasis: toxicology and fate of contaminants; ecological processes and ecosystem structure; and physical and chemical environmental processes.

Candidates will be required to undertake research on a topic that relates to the interests of a member of the faculty as outlined below. They will be encouraged to concentrate on interdisciplinary topics and to utilize the expertise and resources of each of the departments involved in the program.

Program Director

R.D. Evans, B.Sc. (TORONTO), PH.D. (MCGILL)

Faculty and Research Areas

P. Adams, B.A. (ENGLAND), M.Sc., PH.D. (MCGILL): *Hydrometeorology, snow and ice*; M. Berrill, B.Sc. (MCGILL), M.Sc. (HAWAII), PH.D. (PRINCETON): *Behavioral ecology*; J.M. Buttle, B.A. (TORONTO), PH.D. (SOUTHAMPTON): *Hydrology, fluvial geomorphology*; J.G. Cogley, M.A. (OXFORD), M.Sc., PH.D. (MCMASTER): *Fluvial Geomorphology, hydrology Arctic*; R.D. Evans, B.Sc. (TORONTO), PH.D. (MCGILL): *Environmental biogeochemistry, trace metal cycling*; W. Evans, B.A., M.A. PH.D. (SASKATCHEWAN): *Ozone depletion, global warming*; M. Fox, B.A. (PENNSYLVANIA), M.E.DES. (CALGARY), PH.D. (QUEEN'S): *Fish ecology, pond culture*; M. Havas B.Sc., PH.D. (TORONTO): *Acid*

precipitation, Toxicity of metals and acidification; T. Hutchinson, B.Sc. (MANCHESTER), PH.D. (SHEFFIELD): *Forest decline, terrestrial impacts*; R. Jones, B.Sc. (WALES), M.Sc. (KANSAS), PH.D. (WALES): *Plant ecology, biogeochemistry, disturbed habitats*; P. Lafleur, B.Sc. (BRANDON, MAN.), M.Sc. (TRENT), PH.D. (MCMASTER): *Forest-atmosphere energy interactions, impacts of climatic change*; D.C. Lasenby, B.Sc. (TRENT), PH.D. (TORONTO): *Limnology; biological, physical and chemical aspects of lakes*; C.L. McKenna Neuman, B.Sc., PH.D. (QUEEN'S), M.Sc. (GUELPH): *Process geomorphology, mechanics of sediment transport, periglacial/coastal aeolian geomorphology*; C.D. Metcalfe, B.Sc. (MANITOBA), M.Sc. (NEW BRUNSWICK), PH.D. (MCMASTER): *Aquatic organic contaminants*; E. Nol, B.Sc. (MICHIGAN), M.Sc. (GUELPH), PH.D. (TORONTO): *Behavioural and evolutionary ecology of birds*; R. Ponce-Hernandez, B.ENG. (UNIVERSIDAD, CHAPINGO), M.Sc. (COLEGIO DE POST-GRADUADOS), D.PHIL. (UNIVERSITY OF OXFORD): *Geographical information systems, Geostatistics and remote sensing techniques applied to suitability and impact assessments in agricultural and forest ecosystems*; P.M. Powles, B.A. (MCGILL), M.Sc. (WESTERN ONTARIO), PH.D. (MCGILL): *Ichthyology, larval and reproductive ecology of fish*; J. Sutcliffe, B.Sc. (WATERLOO), M.Sc., PH.D. (TORONTO): *Ecology and sensory physiology of biting flies*; C.H. Taylor, M.A. (CANTERBURY), PH.D. (MCGILL): *Hydrology fluvial geomorphology*; T.H. Whillans, B.A. (GUELPH), M.Sc., PH.D. (TORONTO): *Fisheries, wetland ecology, renewable resource management*

Conjunct Professors

Conjunct Professors have full academic appointments in the Watershed Ecosystems Program and are able to act as principal supervisor of graduate students.

M. Bardecki, PH.D. (YORK): *Wetland management and environmental impact assessment* (Ryerson Polytechnical Institute); J. Casselman, PH.D. (TORONTO): *Physiology and ecology of coolwater fish* (Ontario Ministry of Natural Resources); R.J. Cornen, B.Sc. (TORONTO), PH.D. (MCGILL): *Interactions of radioisotopes with ground water and lakes* (Atomic Energy of Canada); P.J. Dillon, PH.D. (TORONTO): *Nutrient cycling, trace metals,*

acid precipitation studies (Ontario Ministry of the Environment); R.J. Hall, PH.D. (MINNESOTA); *Invertebrate ecology (Ontario Ministry of the Environment)*; B.E. Hickie, B.S.C. AGR. (GUELPH), M.S.C., PH.D. (WATERLOO); *Environmental toxicology, pharmacokinetic modelling (Trent)*; M.L. Jones, B.S.C., PH.D. (U.B.C.); *Research, fisheries, ecology and modelling (Ontario Ministry of Natural Resources)*; D.R.S. Lean, PH.D. (TORONTO); *Phosphorus cycling, nutrient dynamics (Environment Canada)*; R. Norstrom, B.S.C., PH.D. (ALBERTA); *Analytical chemistry, pharmacokinetics (Canadian Wildlife Service)*; T.D. Prowse, PH.D. (CANTERBURY); *Northern rivers, particularly ice jams (Environment Canada)*; T. Scheuhammer, B.S.C., B.ED., PH.D. (WESTERN ONTARIO); *Toxicology of non-essential metals in birds and mammals (Canadian Wildlife Service)*; P. Welbourn, PH.D. (BRISTOL); *Cycling of metals in lakes, Algal toxicity, Lake acidification (Trent)*

Regulations

The general regulations and requirements of Trent University for the M.Sc. degree apply to the Watershed Ecosystems program. Candidates will be required to complete the equivalent of two full courses and to submit a thesis on an approved topic within a maximum period of three years (five for part-time students). Candidates must attain at least a second class standing in course work, and must pass an oral examination in defence of the thesis. *WF500a* is compulsory for all first-year students. Students without training in advanced statistics are strongly recommended to take *WF501a* as well.

Courses Available to Graduate Students

WF500a - Approaches to Science

This course will challenge students to examine their philosophy of science with particular reference to their own research. Current paradigms in watershed research will be examined and students will be encouraged to develop their understanding of the systems within which their research is conducted. Evaluation is on the basis of the presentation of a seminar on the student's thesis proposal and a written development of ideas presented during the seminar. This course ordinarily will be compulsory for all new graduate students entering the program.

WF501a - Research Design and Data Analysis

The course will emphasize advanced statistical techniques of use in field and laboratory studies in watershed research, including applications of linear and non-linear models, analysis of variance and multivariate statistics. An effort will be made to assist graduate students in planning the statistical design of their own research projects. The course will rely heavily on workshops and tutorials. This course is highly recommended for students who have not taken an advanced statistics course (e.g. analysis of variance, multivariate statistics) as an undergraduate. An introductory statistics course is required as a prerequisite. *E. Nol*

WF504b - Ecosystem Response to Changes in the Hydrosphere

The course will examine the responses of biological communities to changes in the physical, chemical and biological parameters of aquatic ecosystems. Discussions may include forest clear-cutting, waterlevel fluctuations, habitat rehabilitation, exotic species introductions, eutrophication, and acid rain. The course will be seminar-based, with an emphasis on examining case histories related to individual student's research. Not open to students who have taken *ES481a/b*.

WF505a - Measurement Techniques for Hydrochemical Fluxes

The course will examine techniques for monitoring hydrochemical fluxes within the hydrological cycle. The curriculum will cover problems relating to the measurement of variables such as discharge, soil moisture, organic and inorganic constituents in the saturated and unsaturated zones, atmospheric vapour fluxes, precipitation and snowcover. The focus of the lectures and labs will be on measurement, sampling techniques, and instrumentation. Course material will complement statistical concepts covered in *WF501a*. Not open to students who have taken *G0404a/b*.

J. Buttle, C. Taylor

WF506a - The Geochemistry of Natural Waters

The course will examine the chemical and physical properties of water, snow and ice. An emphasis will be placed on those parameters which influence the distribution of biota, nutrients and contaminants in the

aquatic environment. Topics for discussion will include the hydrologic cycle, the carbonate system and pH control, weathering and water chemistry, redox equilibria, hydrologic transport, and the properties of snow and ice. Not open to students who have taken BI/ES/G0406a.
D. Evans

WF507b - The Fate of Contaminants in the Aquatic Environment

The course will emphasize the mathematical modelling of the fate and distribution of aquatic contaminants, including models for toxic metals, organic xenobiotics and groundwater contaminants. The course will examine the basic algorithms and assumptions of contaminants models, and will give the students hands-on experience in applying existing models (e.g. MINTEQA, QWASI). An emphasis will be placed on using models to determine the dominant pathways influencing the fate of inorganic and organic contaminants in the aquatic environment. Not open to students who have taken BI/ES/G0407b.

D. Evans

WF590 (or WF590a/b) - Reading Course

This course option is available for graduate students who wish to receive instruction in a more discipline-specific course. The exact format of the course is designed by the student in consultation with the supervisory committee. A written justification for the need for this course must be made to the Program Director and must be arranged prior to registration for the course. The reading course can be a literature review or a small research project. A student can also register under the WF590 course number to take an upper-year undergraduate course for credit (e.g. Hydrology, Limnology, Aquaculture, Aquatic Toxicology), or to take a course from another academic institution for credit. In the case of an undergraduate course taken for credit, a graduate student would normally have to complete an additional graduate-level assignment.

Financial Support

Full financial support is provided for a maximum of six terms, normally spanning two consecutive undergraduate academic years, for any student admitted to the Watershed Ecosystems program through teaching assistantships, research assistantships or scholarships. Candidates are encouraged most strongly to apply for scholarships on their own behalf.

Further Information

Enquiries should be addressed to the Director of the Program.

Financial Assistance

Financial assistance for individual full-time graduate students may be available from the following sources:

1. Scholarships, fellowships and other merit awards from governmental, industrial and other granting bodies in Canada.
2. Graduate assistantships for a maximum of four terms, normally spanning two consecutive undergraduate academic years, in teaching and demonstrating.
3. Research assistantships with staff members who hold research grants.
4. Non-competitive awards and loans from the Ontario Student Awards Program.

All student support received through awards, research or graduate assistantships is taxable according to the federal and provincial tax regulations. Tax will be deducted by Trent's accounting department from any payments made to students for assistantships.

Teaching assistantships and research assistantships administered by Trent University will be paid through the university payroll office, on a monthly basis. Scholarships awarded for the calendar year are ordinarily paid in three equal instalments in September, January and May and may be picked up in the Office of Research and Graduate Studies.

Information on the more important scholarships and fellowships follows:

Ontario Graduate Scholarships

The Government of Ontario offers up to 1300 Ontario Graduate Scholarships per year which are tenable at the Ontario university of the student's choice. The awards are tenable in all disciplines and the scholars must have a high level of academic achievement. The awards are intended primarily for Canadian citizens as well as those who hold permanent resident status at the time of application; however, up to 60 awards may be made to students who, by the application deadline, have been admitted to Canada as visitors with student authorization. Awards will be for two or three consecutive terms; one-term awards will not be made. Application deadline is normally 1st

November. All eligible candidates who are interested in studying at Trent are urged to apply for one of these awards.

Natural Science and Engineering Research Council Awards

Awards from the Natural Science and Engineering Research Council (NSERC) are tenable in departments offering graduate studies in science. These awards are offered to assist students in undertaking graduate study and research leading to advanced degrees, and a limited number of postdoctoral fellowships for those wishing to add to their experience by specialized training. These scholarships are open to Canadian citizens or permanent residents and are awarded on the basis of high scholastic achievement and evidence of capacity to do research. For further information write to: Postgraduate Scholarships Officer, Natural Science and Engineering Research Council of Canada, 200 Kent Street, Ottawa, Ontario, Canada K1A 0H5.

Commonwealth Scholarship and Fellowship Plan

The Commonwealth Plan provides opportunities for Commonwealth students to pursue advanced studies in other Commonwealth countries. The fellowships are awarded to graduates of recognized universities for a period of two academic years and the intervening summer, and are intended to cover the holder's travel, living, and study expenses during the period of tenure. Application forms and full information concerning details of the award may be obtained from the Canadian Scholarship and Fellowship Committee, c/o AUCC, 151 Slater Street, Ottawa, Ontario K1P 5N1, or through the Canadian High Commissioner in those countries. Persons intending to apply are advised to enquire not later than mid-October, approximately one year prior to the date of tenure.

Note:

The Office of Research and Graduate Studies prepares a booklet annually for use by Trent undergraduates planning to apply to graduate schools and for scholarships and by graduate students planning further study. This includes a list of scholarships available and application deadlines. In the case of major scholarship competitions, students currently registered at Trent must meet an earlier deadline set by the University.

Graduate Assistantships

The Graduate Studies Committee, acting on the recommendations of the programs awards a number of assistantships to fulltime graduate students each year. In return for the stipend involved, the students are required to work for up to ten hours per week in the department, generally assisting with some aspect of the undergraduate teaching program.

A full-time graduate student may be eligible for support for a maximum of four terms, normally spanning two consecutive undergraduate academic years.

Graduate Awards

Trent University Graduate Entrance Awards

Approximately fifteen (15) awards will be made annually to eligible students entering the first year of a full-time graduate degree program at Trent University. The awards are valued at \$300 each and are intended for students with an average of A- (80%) or better in their last two years of study.

Ontario Graduate Scholarship (OGS) Program "Institutional Awards"

The Province of Ontario provides up to ten (10) OGS institutional awards tenable only at Trent University. Only first and second year students may hold awards. In order to be eligible, a student must meet the eligibility criteria and fulfill all scholarship conditions applicable to candidates in the open OGS completion. Nominees can be those who were on reversion or unsuccessful in the open competition, or have not yet applied. Students who were unranked for an OGS are not eligible.

The recommended candidates from Trent are decided when results of the open competition are known.

The Governor-General's Academic Gold Medal

The Governor-General's Gold Medal will be awarded to the graduate student who achieves the highest academic standing in his/her Master's degree program. The medal will be awarded on the recommendation of the Committee on Graduate Studies who solicits nominations from the graduate program directors, and will be

presented each year at Spring Convocation to a student among those who are graduating.

The R.B. Johnston Fund for Archaeology

The gift of an anonymous donor, this fund recognizes the contribution of the late Prof. Richard B. Johnston to Ontario archaeology. The fund supports thesis research by graduate students in the Anthropology program. Projects in the archaeology of northeastern North America are preferred, and one or more grants are awarded annually.

The David and Joyce Woods Graduate Scholarship

This scholarship, to honour David M. Woods, Chairman of the Board of Governors of Trent University from 1975 to 1980, and his wife, Joyce Woods, has been established by their children and friends and is to be awarded to a student in the Watershed Ecosystems Graduate Program. This is the first graduate scholarship to be established at the University.

International Graduate Students

In order to cover fees, books and living expenses, an international student in a graduate school in Ontario will need a minimum of \$22,000 per year. If this amount is not covered by independent means or financial support from his/her own country, and if he/she is therefore in need of fellowship support, he/she should be aware of the following facts. Because of government restriction on the money available, students from other countries entering Canada on student authorizations and proceeding to a graduate school in the province of Ontario are restricted in most cases to teaching assistantships involving no more than ten paid hours per week. Eligibility for most scholarships and teaching assistantships from university and Canadian sources is restricted to Canadian citizens or permanent residents. However, as noted in the previous section, a small number of Ontario Graduate Scholarships are available to non-Canadian students.

Therefore if you are not a Canadian citizen or permanent resident, you will not be eligible for most of the awards. On the other hand, to obtain permanent resident status, a student who is not resident in Canada must have long range plans which include an intention to settle permanently in Canada. If the Canadian immigration authorities refuse permanent resident status, it is then extremely difficult to obtain a student authorization as an alternative means of permission to study in Canada.

Entry into Canada without either status will result in a deportation order, and if the deportation order is not successfully appealed, any further application for landed immigrant status will almost certainly be denied. Application for such status therefore should not be made simply in the hope of obtaining more fellowship support.

Note: Students who have been admitted to Canada on student authorizations must obtain a work permit from the Department of Immigration before taking on any type of work for which they receive payment.

Student Services

Graduate Students' Association

All registered graduate students, full- or part-time and including those enrolled under the Trent-Queen's Agreement become, by virtue of the fee paid, a member of the Graduate Students' Association (GSA). This association exists separate from the Trent Student Union (TSU). It has four elected officers (President, Vice-President, Treasurer and Secretary) who organize social and informal academic events. Elections take place yearly. Graduate students are also represented on the University Senate, and the Research, Graduate Studies, Animal Care, Computer Services, Nature Areas, Status of Women Teaching Awards and Teaching Effectiveness committees. Those interested in serving either on the GSA executive or on one of the committees should contact the current GSA President.

The GSA publishes a newsletter throughout the year passing on information of direct concern to graduate students both

from within the university and from other graduate associations or from the National Union of Students (NUS) newsletters. As well as organizing social events such as wine and cheese parties, Christmas parties, and end-of-the-year banquets, the GSA presents informal slide and talk shows presenting current research by graduate students or faculty at Trent.

Conference travel allowances are made available through the GSA to qualifying graduate students on a first come/first served basis.

The aim of these programs is to provide opportunities for graduate students to communicate with each other, and with the entire University community about issues and problems of particular concern to graduate students.

The current executive welcomes the interest and assistance of all graduate students.

Other Services and Facilities

Full descriptions on Colleges, Athletics, Health Service, Computing Facilities and the Thomas J. Bata Library are to be found elsewhere in this Calendar.

For further information please write to:

The Office of Research and
Graduate Studies
Trent University
Peterborough, Ontario, Canada
K9J 7B8

or telephone:

Area Code (705) 748-1245

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Principal of Catharine Parr Traill College

Heather Avery, M.A.

Master of Champlain College

To be named

Principal of Lady Eaton College

H. John Stanford, M.A., PH.D.

Head of Otonabee College

Gordon Johnston, B.A., M.A.

Associate Dean and Principal of Julian Blackburn College

George Nader, B.A., PH.D.

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President and Vice-Chancellor

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(until September 1, 1993)

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Nancy Smith

University Secretariat

University Secretary

Nancy Smith

Secretary of Senate

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To be named

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Karen Taylor, M.A.

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Lynda Smith

Assistant Registrar (Admissions)

James Riva, B.A.

Assistant Registrar (Scheduling and Registration)

Don Giles, B.SC.

Manager, Schools Liaison

Jeff Macnab, B.A., B.ED.

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(Administration and Finance)

Vice-President (Administration and Finance)

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Jock Bryce, M.A.

Assistant Director of Human Resources (Organizational and Staff Development)

To be named

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University Printshop Manager

William M. Bowers

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(University Services)

Vice-President (University Services)

James E. Neufeld, B.A., M.A., PH.D.

Heads of College:

Peter Robinson College

To be named

Catharine Parr Traill College

Heather Avery, M.A.

Champlain College

To be named

Lady Eaton College

H. John Stanford, M.A., PH.D.

Otonabee College

Gordon Johnston, B.A., M.A.

University Librarian

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M.P.A.

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(Development)

Vice-President (Development)

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Ahlstrand, B. *Admin.St.*

Aitken, G.D. *M.L.&L. (Spanish)*

Alfred, L.C.R. *Physics*

Andrewsky, O. *History*

Annett, R.G. *Chemistry*

Arat-Koc, S. *Women's Studies*

Arvin, M. *Economics*

Aubrey, I. *Psychology*

Bandyopadhyay, P. *Comp. Dev.*

Barker, J.C. *History*

Baross, Z. *Cultural Studies*

Barrett, P.F. *Chemistry*

Beach, B.L. *Eng.Lit./Psychology*

Berkowitz, M.S. *English Literature*

Berrill, D. *Education*

Berrill, M. *Biology*

Bews, J.P. *Classical Studies*

Bilaniuk, S. *Mathematics*

Bishop, J. *Admin.St.*

Bleasdale, F.A. *Psychology*

Bordo, J. *Cultural Studies*

Boundas, C.V. *Philosophy*

Bowles, R.T. *Sociology*

Brown, S. *English Literature*

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Buckman, J. *English Literature*

Burbidge, J.W. *Philosophy*

Buttle, J. *Geography*

Campbell, K. *Admin.St.*

Campbell, R. *Political Studies*

Carter, R.E. *Philosophy*

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Chakravarty, I.C. *Mathematics*

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De'Bell, K. *Physics*

Dellamora, R.J. *English Literature*

Dodge, B. *Archivist*

Drewes, T. *Economics*

Driscoll, J.D. *Political Studies*

Earnshaw, J.W. *Physics*

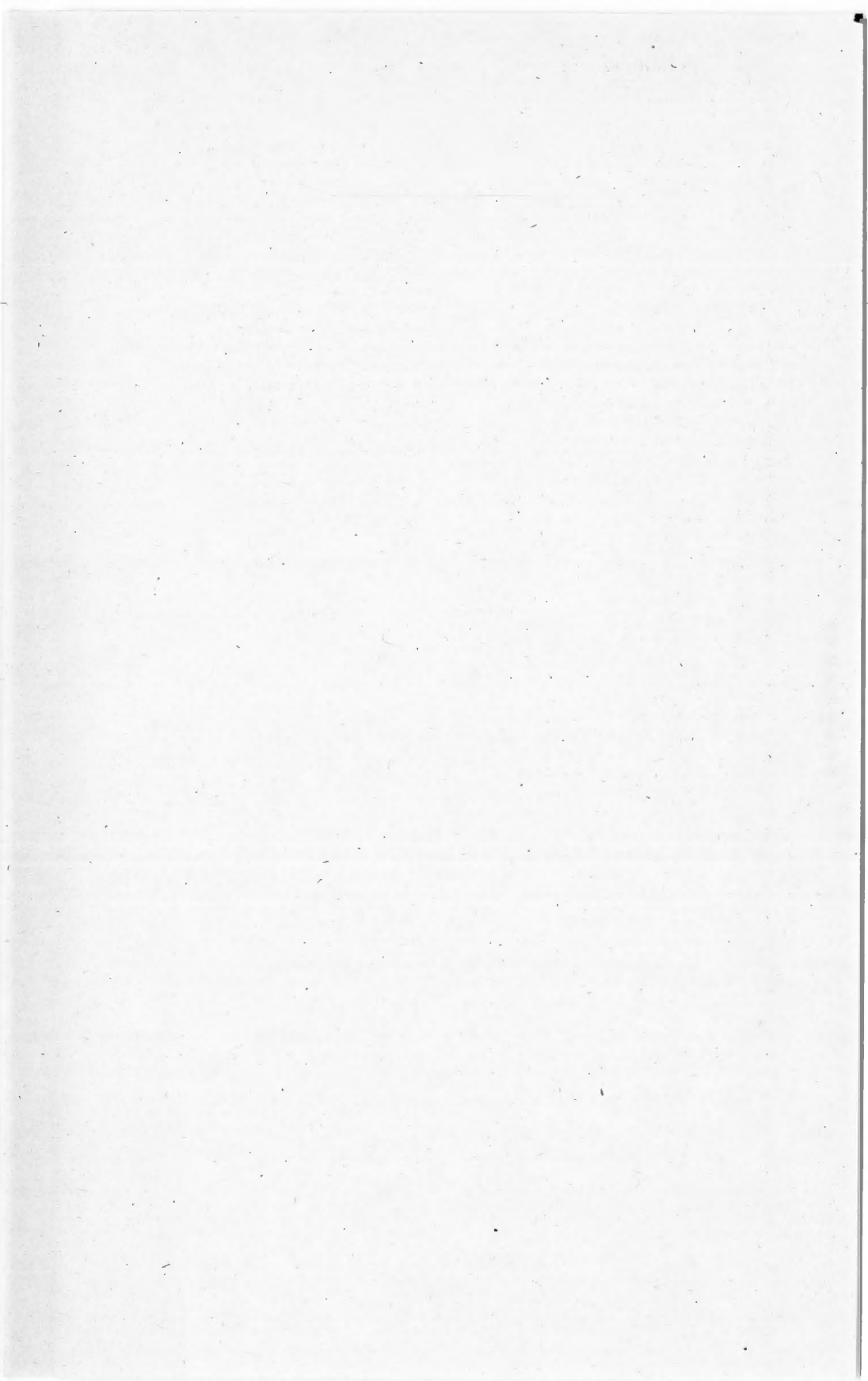
Eathorne, G.D. *English Literature*

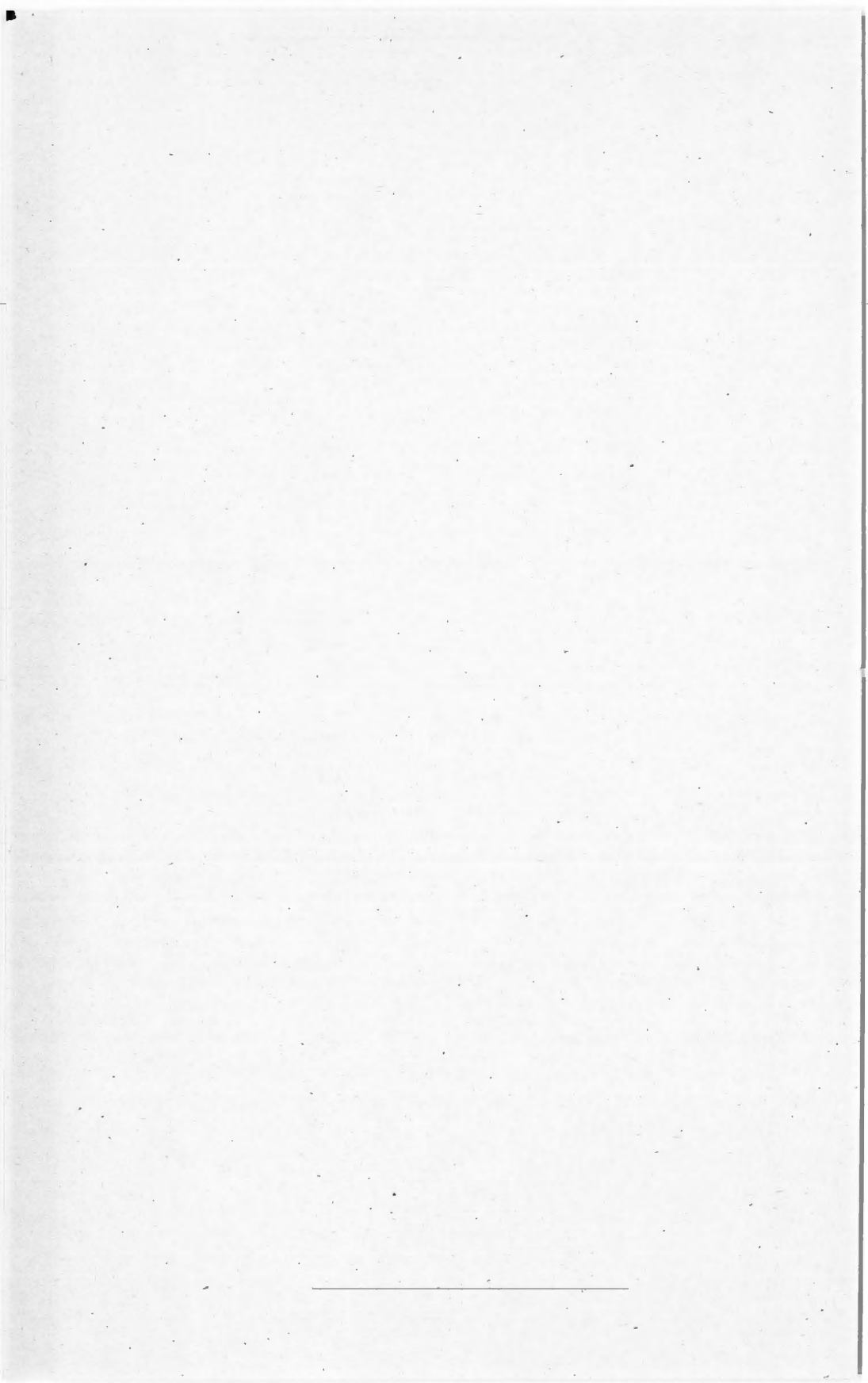
Elbl, I. *History*

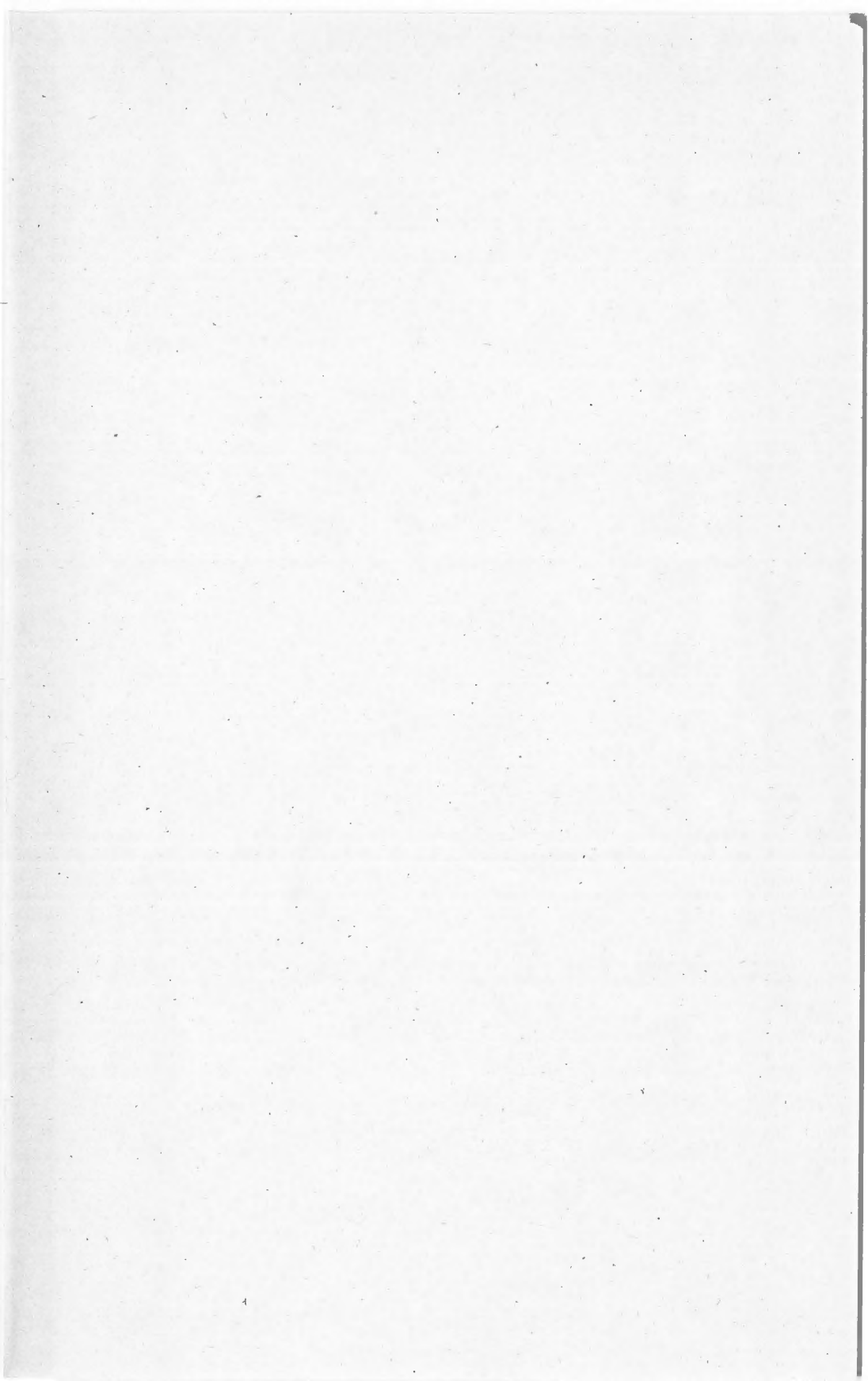
Ernest, C.H. *Psychology*

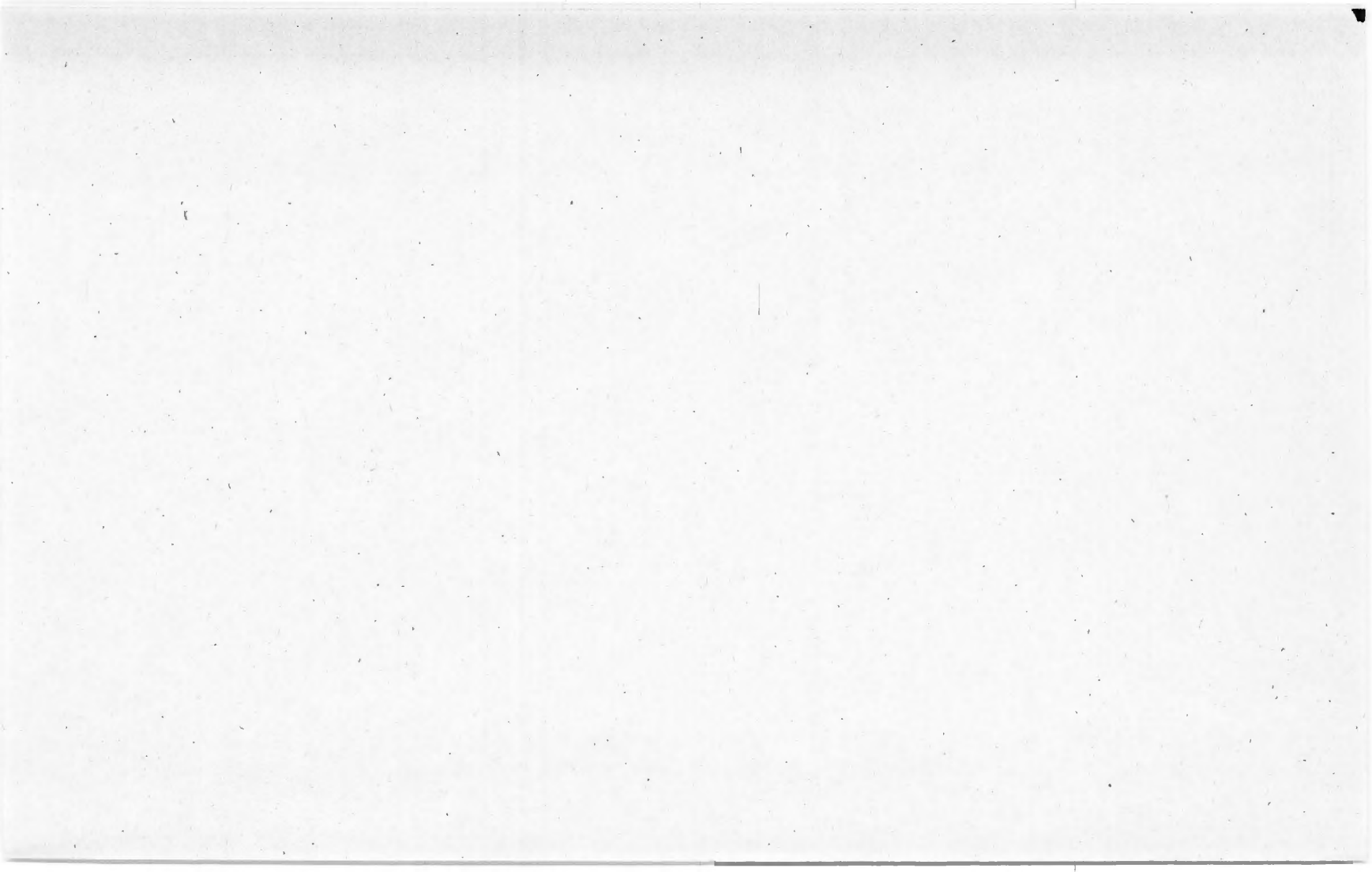
- Evans, D. *Env. & Res. St.*
 Evans, W. *Env. & Res. St., Physics*
 Evenden, D. *History*
 Fekete, J.A. *English Literature/Cult. St.*
 Fewster, I.C. *M.L. & L. (German)*
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 Greene, C.M. *History*
 Gunther, M. *Political Studies*
 Hagman, R.S. *Anthropology*
 Hamilton, G.F. *Mathematics*
 Havas, M. *ERS/Science Ed.*
 Healy, P.F. *Anthropology*
 Heitlinger, A. *Sociology*
 Helleiner, E. *Political Studies*
 Helleiner, F.M. *Geography*
 Helmuth, H.S. *Anthropology*
 Henniger J. P. *Mathematics*
 Hillman, J. *Comp. Dev./Sociology*
 Hodgins, B.W. *History*
 Hodgson, B.J. *Philosophy*
 Holdsworth, D. *Env. & Res. St.*
 Hollinger, V. *Cultural Studies*
 Horban-Carynyk, M. *M.L. & L. (French)*
 Hubbell, L.J. *Anthropology*
 Huberman, M. *Economics*
 Hurley, R. *Computer Studies*
 Hutchinson, T. *Env. & Res. St./Biology*
 Huxley, C.V. *Sociology/Comp. Dev.*
 Jamieson, S. *Anthropology*
 Jennings, J.N. *History*
 Johnson, R.G. *Physics*
 Johnston, G.A. *English Literature*
 Jones, E.H. *History*
 Jones, R. *Biology*
 Jury, J.W. *Physics/Computer Studies*
 Kane, S.H.W. *Eng. Lit./Cult. St.*
 Katz, S. *Sociology*
 Kennett, D. *Psychology*
 Kinzl, K.H. *Classical Studies*
 Kitchen, H.M. *Economics*
 Krüger, A.A. *M.L. & L. (German)*
 Kulchyski, P. *Native Studies*
 Lacombe, M. *Canadian Studies*
 Lafleur, P. *Geography*
 Lapointe, H.B. *M.L. & L. (French)*
 Lapointe, J.-P. *M.L. & L. (French)*
 Lasenby, D.C. *Biology*
 Leith, B. *Economics/Env. & Res. St.*
 Lem, W. *Comp. Dev./Women's Studies*
 Lewars, E.G. *Chemistry*
 Lockhart, R.A. *Sociology*
 Lowe, D.G. *Psychology*
 Lyon, K.V.R. *Political Studies*
 MacAdam, J.I. *Philosophy*
 March, R.E. *Chemistry*
 Marsh, J.S. *Geography*
 Marshall, B. *Sociology/Women's Studies*
 Matthews, T.R. *Biology*
 Maxwell, C.D. *Biology*
 Maxwell, E.A. *Mathematics*
 McCalla, A. *Librarian*
 McCalla, D. *History*
 McCaskill, D.N. *Native Studies*
 McKinnon, C. *Philosophy*
 McLachlan, I. *Eng. Lit./Cult. St.*
 Metcalfe, C. *ERS/Biology*
 Millard, J. *Librarian*
 Milloy, J.S. *Native Studies/History*
 Mitchell, O.S. *English Literature*
 Morris, R.B. *Psychology*
 Morrison, D.R. *Pol. St./Comp. Dev. St.*
 Morton, P.M. *History*
 Muldoon, J. *Economics*
 Murphy, T.N. *Mathematics*
 Murthy, K.S.R. *Economics*
 Nader G.A. *Geography*
 Neufeld, J.E. *English Literature*
 Neufeld, M. *Political Studies*
 Neumann, R.M. *Philosophy*
 Newhouse, D. *Native Studies/Admin. St.*
 Nol, E. *Biology*
 Noriega, T.A. *M.L. & L. (Spanish)*
 Nutch, F. *Sociology*
 O'Connor, A. *Cultural Studies*
 Oldham, K.B. *Chemistry*
 Paehlke, R.C. *Pol. St./Env. & Res. St.*
 Page, D.F.R. *Classical Studies*
 Parnis, M. *Chemistry*
 Peterman, M. *English Literature*
 Pickel, A. *Political Studies*
 Pollock, Z. *English Literature*
 Ponce-Hernandez, R. *Env. & Res. St./Geography*
 Poole, D. *Mathematics*
 Popham, E. *English Literature*
 Powell, D. *Comp. Dev./Anthropology*
 Powles, P.M. *Biology*
 Quaid, M. *Admin. St.*
 Regoczei, S. *Computer Studies*
 Reker, G.T. *Psychology*
 Robson, S.T. *History*

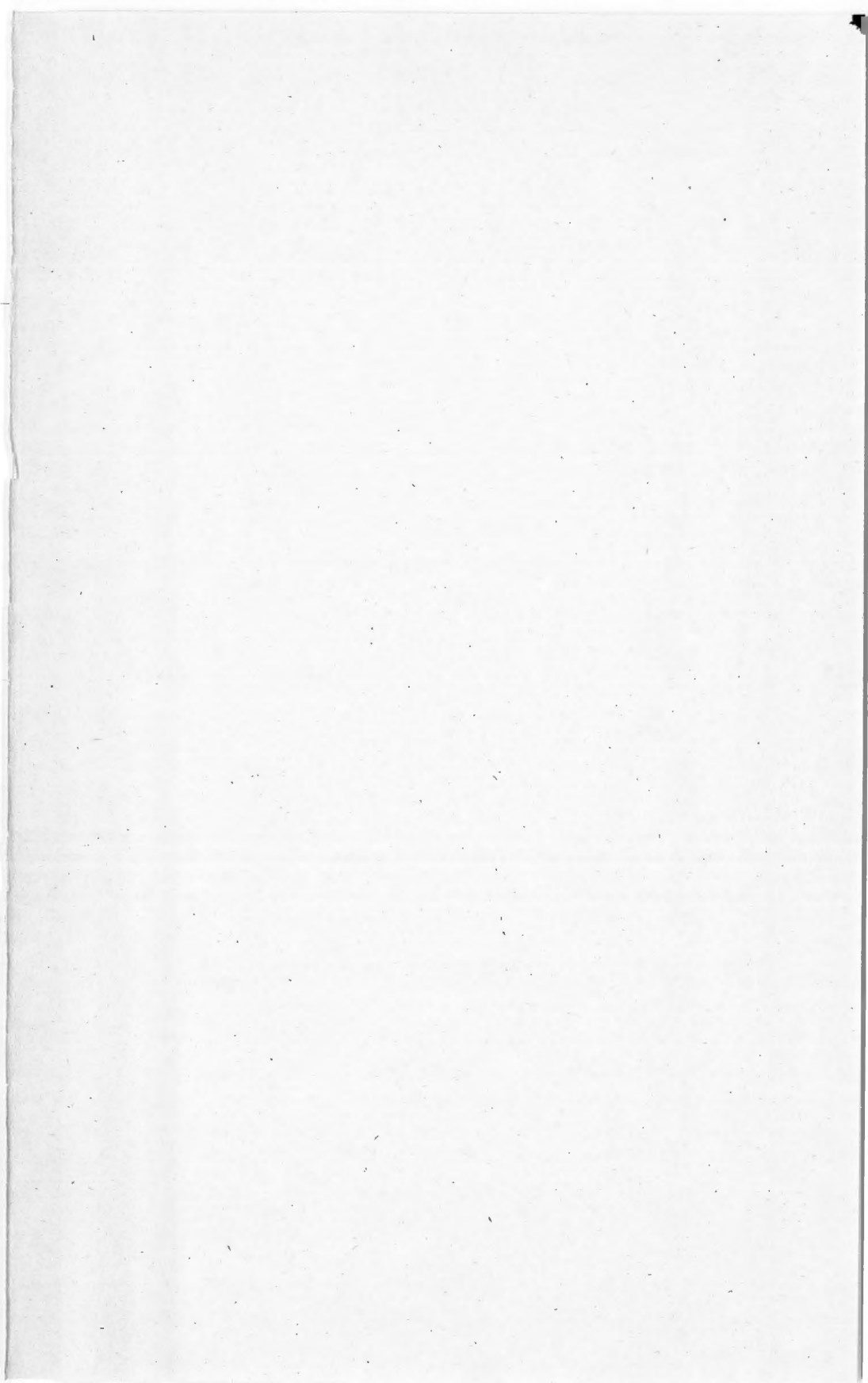
- Roesch, O. *Anthropology*
 Royle, P. *M.L.&L. (French)*
 Rubinoff, M.L. *Philosophy*
 Sandeman, I.M. *Biology*
 Sangster, J. *History/Women's Studies*
 Scigliano, M. *Librarian*
 Setterington, R.G. *Psychology*
 Sheinin, D. *History*
 Slavin, A.J. *Physics*
 Smith, C.T. *Psychology*
 Smith, D.L. *M.L.&L. (Spanish)/Cult.St.*
 So, J. K.-F. *Anthropology*
 Solway, J. *Comp.Dev./Anthropology*
 Sproule, C. *Psychology*
 Standen, S.D. *History*
 Stanford, H.J. *Psychology*
 Stavro-Pearce, E. *Political Studies*
 Storey, I.C. *Classical Studies*
 Struthers, J.E. *Canadian Studies/History*
 Sutcliffe, J. *Biology*
 Symons, T.H.B. *Vanier Professor*
 Syrett, J. *History*
 Tamplin, M. J. *Anthro./Comp.St.*
 Taylor, C.H. *Geography*
 Theall, D.F. *University Professor*
 Thibault, G. *Sociology*
 Thomas, Y. *M.L.&L. (French)*
 Tindale, C. *Philosophy*
 Todd, E.M. *Anthropology*
 Topic, J.R. *Anthropology*
 Topic, T.L. *Anthropology*
 Torgerson, D. *Admin.St./Pol.St.*
 Treadwell J.M. *English Literature*
 Tromly, F.B. *English Literature*
 Vastokas, J.M. *Anthropology*
 Vastokas, R.K. *Anthropology*
 Verduyn, C. *Can.St./Women's Studies*
 von Graeve, B.W. *Anthropology*
 Wadland, J.H. *Canadian Studies*
 Walden, K. *History*
 Watson, P. *Psychology*
 Wearing, J. *Political Studies*
 Wernick, A.L. *Cultural Studies*
 Whillans, T. *Env.&Res. St.*
 Williams, S. *Native Studies*
 Winocur, G. *Psychology*
 Wiseman, J. *Librarian/Can.St.*
 Wong, P.T.-P. *Psychology*
 Wylie, P. *Economics*
 Young, A.M. *Classical Studies*
 Zeleza, P. *History*
 Zhou, B. *Mathematics*
 Znamirowski, B. *Librarian*

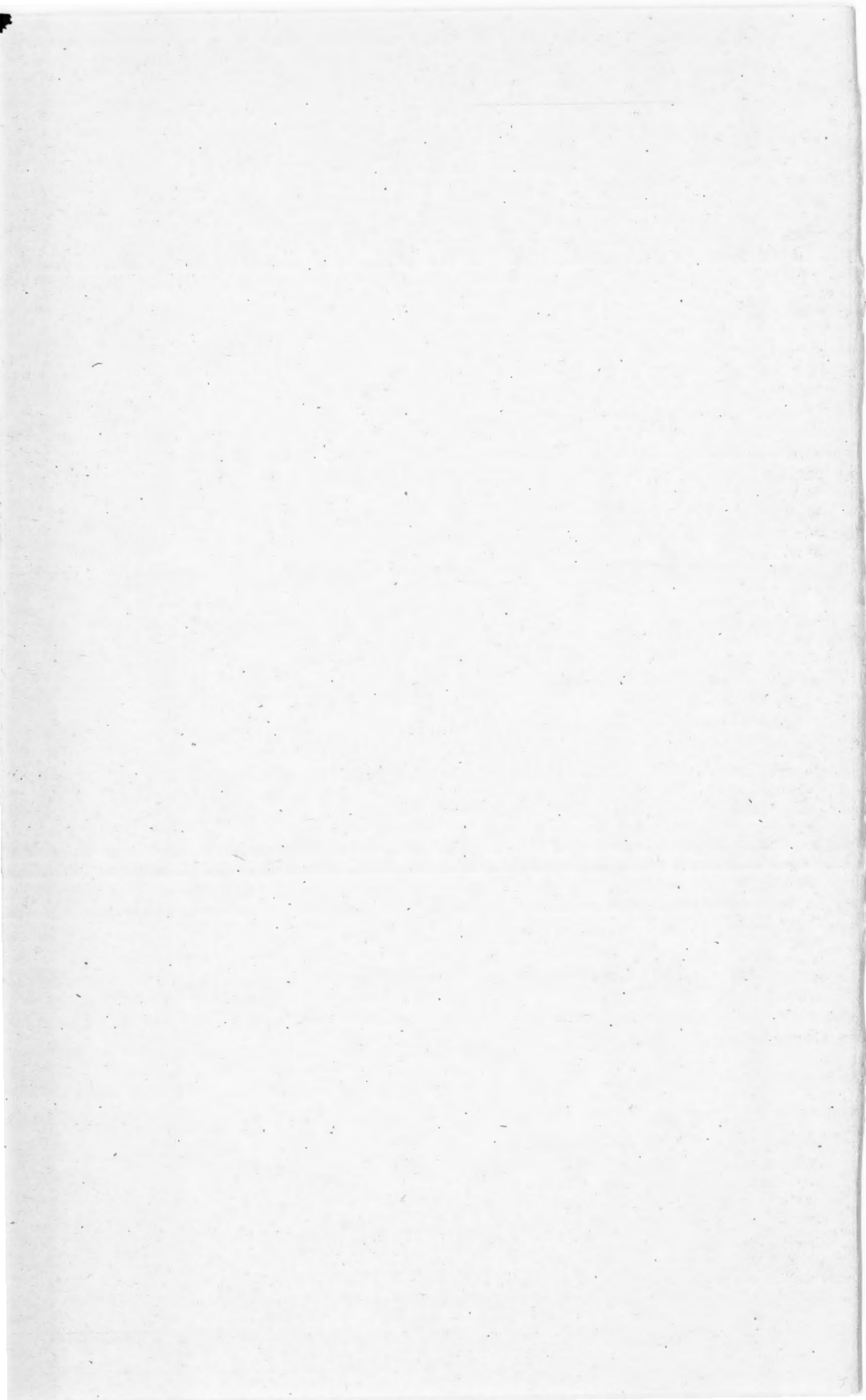














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