

Academic Calendar  
1990-91



**Saint Mary's**  
University

Halifax, Nova Scotia





The academic year to which this Academic Calendar refers begins on 1 September 1990. The University hereby gives notice that while the information contained in this Calendar is considered to be accurate at the time of preparation, there may be changes made subsequent to publication without prior notice. Publication date: 31 December 1989.

Students and other readers will appreciate that the matters dealt with in this Academic Calendar are subject to continuing review. Saint Mary's University reserves the right to alter anything described herein without notice other than through the regular processes of the University.

Saint Mary's University reserves the right to alter what appears in this Academic Calendar and, without limiting the generality of the foregoing, to revise or cancel particular courses or programs and to change the rate of fees and charges in order to serve the best interests of the University or because of labour interruptions or circumstances beyond its control. The University cannot accept responsibility or liability for any person or persons who may suffer loss, or who may be otherwise affected by such change.

While the University will make every reasonable effort to offer classes as required within degree, diploma and certificate programs, students should note that acceptance to an academic program does not guarantee admission in a particular year to a given class or a particular section of a class.

**Academic Calendar  
of  
Saint Mary's University**

**1990-91**

Saint Mary's University  
Halifax, Nova Scotia  
Canada  
B3H 3C3  
(902) 420-5400  
FAX (902) 420-5561 (General)  
(902) 420-5566 (Senior Academic and Administrative Offices)

## Using This Calendar

Some of the courses described in this Calendar will not be offered in 1990-91. Students are therefore advised to consult the academic timetable for those courses which will be taught in the 1990-91 academic year and the time(s) when they will be offered.

Frequently in this Calendar, the masculine includes the feminine and the plural includes the singular, and vice versa, as the context may require. This matter is subject to ongoing revision.

Inquiries regarding academic matters should be directed to the Registrar.

Although a university calendar is used by numerous people for many different purposes, one of its chief functions is to provide information for students interested in pursuing further study at the university level. The following paragraphs were prepared to assist such students in finding relevant material in this Calendar.

Section 3 of this book sets forth the requirements for the several degree and diploma programs offered at Saint Mary's University.

These programs include:

Bachelor of Arts  
Bachelor of Science  
Bachelor of Commerce  
Diploma in Engineering  
Bachelor of Education  
Bachelor of Education (Vocational Education)  
Master of Arts (in Atlantic Canada Studies, Education, History, International Development Studies, Philosophy, or Sociology / Criminology)  
Master of Education  
Master of Science (in Astronomy or Applied Psychology)  
Master of Business Administration  
Executive Master of Business Administration

After deciding on the degree program in which they are interested and studying the requirements of the program, students should consult Section 5 which contains descriptions of all the courses offered by the departments of the University. The timetable for the current academic year shows exactly which courses will be available, when they will be taught, and by which instructor. Keeping within the requirements of the particular program chosen, students may then select the courses with the greatest interest and appeal to them. Frequently a course will have several sections taught at different times. This is arranged in order to keep classes to a reasonable size and to provide time options for students in the preparation of their timetables.

The next step is to apply for admission. Complete information on how to proceed is set forth in the latter part of Section 2. This section also contains the academic regulations and provides academic information. Details on fees and financial information are found in Section 6, which also contains facts about academic awards and scholarships as well as bursaries and student loans.

Inquiries related to specific problems should be directed to the officers indicated below.

Academic Policies and Records  
Registrar (902-420-5582)  
(902-420-5566 — Fax)

Admission of Students  
Directors of Admission (902-420-5415) or Continuing  
Education (902-420-5492)

Alumni Affairs  
Director of Alumni (902-420-5420)

Fees  
Comptroller (902-420-5473)

Student Employment and Job Placement  
Manager of Canada Employment Centre on Campus  
(902-420-5499)

Residence Accommodation  
Director of University Residences (902-420-5598)

Scholarships and Student Loans  
Financial Aid Counsellor (902-420-5609)

Student Affairs  
Director of Student Services (902-420-5615)

Summer School  
Director of Continuing Education (902-420-5492)

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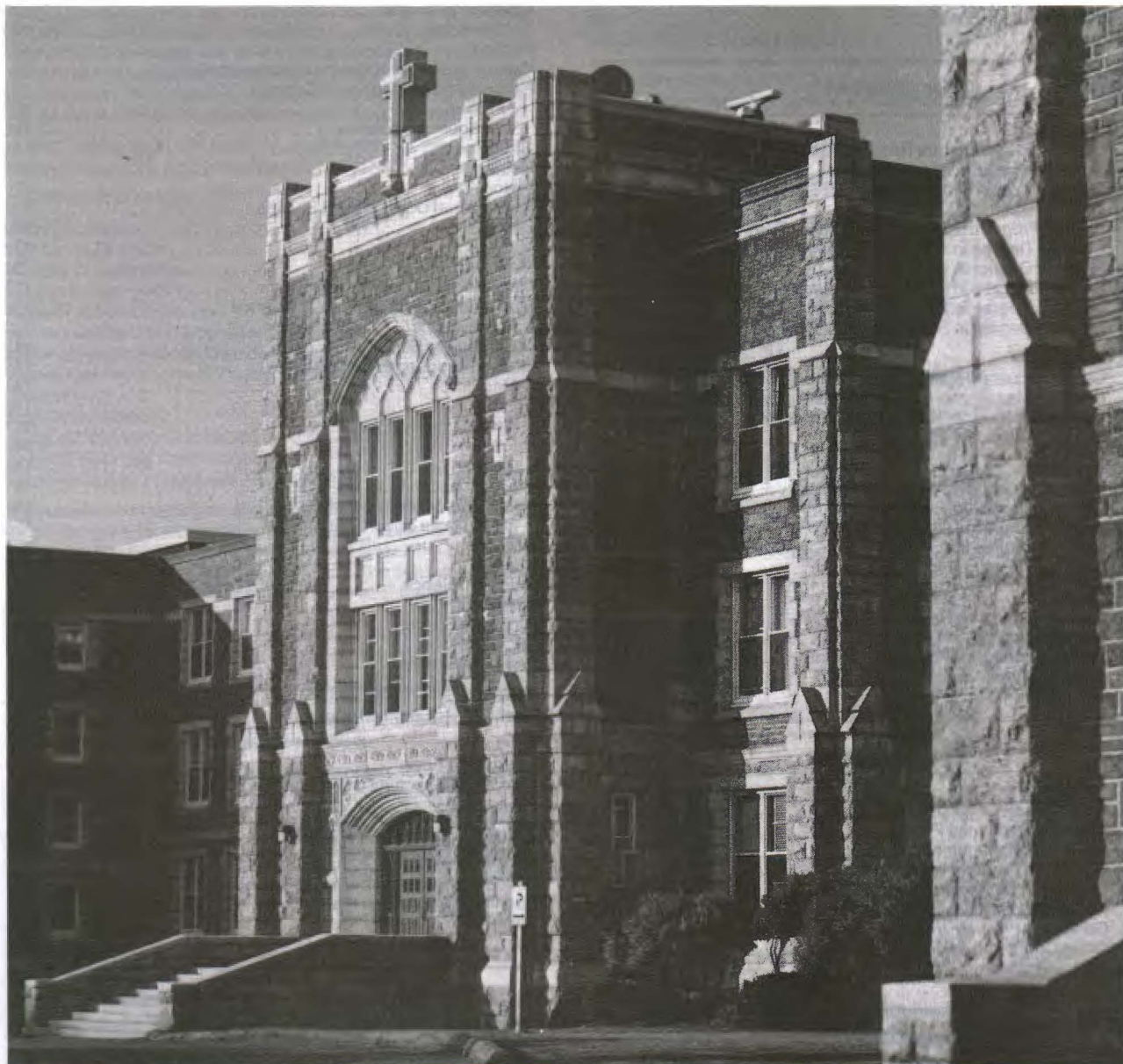
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McNally Building

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## Section 1

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# General Information

History  
Board of Governors and Senate  
Academic Officers and Faculty  
Administrative Offices



# General Information

## History

Since its founding in 1802, Saint Mary's University has developed into a modern, urban university with more than 7,000 full and part-time students. It is the oldest English-speaking, Roman Catholic initiated university in Canada. With meagre resources, the Reverend Edmund Burke founded the institution and, on being named Bishop of Nova Scotia, insisted that support for the college be continued as essential in fostering the Catholic community.

In 1841 the Nova Scotian House of Assembly gave formal recognition of the college's academic role and, eleven years later, granted it legal status. The next few years saw a great deal of uncertainty about the survival of the college. However, in 1913 the Christian Brothers of Ireland were asked by the Archdiocese of Halifax to direct the college and its academic programs. Its reputation as a liberal arts institution thrived in these years. Undergraduate programs were widely respected and new instructional programs were initiated, the most notable being the Faculty of Commerce which, when established in 1934, was among the first of its kind in Canada. In 1940 the Upper Province of the Society of Jesus (the Jesuits) was invited to succeed the Christian Brothers as administrators and teachers. For more than thirty years, until the new Act of Incorporation in 1970, the college remained under Jesuit supervision. It established itself in teacher education; initiated the first courses in continuing education in Halifax/Dartmouth; purchased the first computer in Atlantic Canada; and became co-educational. Also, the longstanding emphasis on liberal arts and commerce was complemented by new programs in engineering and science. The Act of 1970 gave legal status to the Board of Governors and Senate. Subject to the powers of the Board, the Senate is responsible for the educational policy of the University. In 1974, faculty members formed the Faculty Union which has become an influential voice in the affairs of the University.

From the Jesuits and their predecessors, Saint Mary's has inherited a strong commitment to meeting community needs and an equally strong tradition of emphasising excellence in teaching and excellence in research. During the past two decades Saint Mary's has evolved into a more complex urban university, with a full range of undergraduate programs in arts, commerce, education, and science. Now a publicly accessible, co-educational institution, functioning with a sense of its tradition, the University also offers pre-professional programs in law, medicine, engineering, theology, dentistry, architecture, as well as selected graduate studies. Through the co-operative efforts of the Division of Continuing Education, part-time students study in these programs and in a variety of non-credit programs all of which have been rapidly expanding both in numbers and geographic locations.

Over the last twenty years this commitment to academic and research excellence has seen the number of full-time faculty with doctoral degrees rise to eighty-five percent. Part-time faculty members are recruited on the strength of academic qualifications in addition to the expertise and experience they can bring to the classroom.

More dramatic evidence of faculty enrichment is demonstrated by their research activities. In the last ten years, sponsored contract and academic research has increased from \$250,000 to more than \$4,200,000. This 1580% increase reflects the University's firm belief that excellence in both teaching and research are essential

for professors and that research is an integral part of the contributions that universities must make to society.

The quality of instruction to students has been a focal point of Saint Mary's University since its founding. This long standing tradition of commitment to excellence in teaching has seen the introduction of new initiatives. The Quality of Teaching Committee has assisted faculty members by offering workshops on instructional techniques and innovations in teaching methodology including the use of computers. Awards for Teaching and Research Excellence are presented annually to members of faculty.

More than ten thousand students are enrolled during the academic year and in the two summer sessions at Saint Mary's University. They attend day and evening classes both on the thirty acre campus in the south end of Halifax and at off campus locations including the World Trade and Convention Centre in downtown Halifax, and in Dartmouth, Truro, and several other communities. Saint Mary's boasts residence facilities for single and married students, a Student Centre, Science Building, the Patrick Power Library, which is linked via computer to several other Halifax-Dartmouth universities, a multi-million dollar Computer Centre, and "The Tower" which is Atlantic Canada's most modern recreation and fitness complex. Over the last number of years, Saint Mary's University has become a teaching and research institution where tradition meets the future.

The traditions formed by its founder and early teachers, built upon by the sound educational values of the Christian Brothers, and strengthened by the imaginative leadership of the Jesuits, provide a stable base for future development. Saint Mary's has been innovative in seeking co-operative ventures with other Maritime universities. The results have included the Regional X-Ray Fluorescence Laboratory as well as the Gorsebrook Research Institute which contributes to the understanding of our regional culture within a national context. In response to the imperative that modern universities increase their outlook and outreach to other parts of the world, Saint Mary's University houses the Canada-China Language and Cultural Project. Our 'internationalization' has also seen formal teaching and research agreements signed with universities around the world including Japan. The Atlantic Centre of Support for the Disabled has grown remarkably over the last several years. This Centre provides a variety of support to an increasingly important sector of our student population. It also provides assistance to disabled students studying at other Maritime post secondary institutions.

Saint Mary's University concentrates on its mission of providing excellence in its service to students and the larger community around the campus. Its reputation is one of quality education on a campus environment where individual development is paramount. Saint Mary's student population is drawn largely from Halifax and Dartmouth with fifty-seven percent of its students from this area. Nova Scotia is the home province of eighty-seven percent of Saint Mary's students. There is also a distinct international aspect to the University with students from many countries including China, Japan, Bermuda, the United States, and Kenya. We are ambitiously pursuing a goal shared by many. It is a vision centred around continued academic excellence in teaching and research, accessibility for all Nova Scotians, strong community outreach, and facilities and instruction for the physically challenged. With its strong sense of where it has been, Saint Mary's University has focused clearly on the mission ahead — being "where tradition meets the future"



**Statement of Objectives**

The objectives of the University, as defined in the Saint Mary's University Act, 1970, are to:

- a. promote and disseminate learning and knowledge;
- b. give special emphasis to the Christian tradition and values in higher education;
- c. provide an atmosphere of freedom, responsibility, and mutual respect in the University community;
- d. aid in the improvement of society in all ways consistent with these objects.

**Memberships**

Saint Mary's University is a member of a number of organizations including Association of Universities and Colleges of Canada, Association of Atlantic Universities, and Association of Commonwealth Universities.

**Affiliations**

Saint Mary's University has been associated with the Technical University of Nova Scotia since 1916, providing the first two years of study leading to the degree of Bachelor of Engineering in civil, electrical, mechanical, mining, metallurgical, chemical, and industrial engineering. Formal association also exists between the University and Ignatius College in Guelph. The affiliation between Saint Mary's University and Regis College, Toronto, is presently in suspension in light of the association between the Toronto School of Theology and Regis College.

**University Crest**

The University crest was designed in the 1940s by the Reverend Daniel Fogarty, S.J. Each symbol in the crest has a significance relevant to the various phases and history of the University.

On the outer portion of the crest the name and location of the University are inscribed in Latin, and, in Roman numerals (1841), the date the University received its charter authorizing it to grant degrees.

The book shown above the shield represents learning and knowledge. The inscription on the page of the book is in Latin — "Age Quod Agis". This is the motto of the University which exhorts all those connected with the University to strive to do their best in everything that they do. This quotation is from the Irish Christian Brothers and symbolizes their contribution to the development of the institution.

The upper part of the shield has the official seal of the Jesuits with I.H.S. being the Latin initials for Christ's name. Below these initials are the three nails which represent the Crucifixion and surrounding these is the Crown of Thorns.

The two crowns represent a dual loyalty — to the then Dominion of Canada and to the British Commonwealth. Below these crowns is the thistle, which stands for Nova Scotia's Scottish heritage.

# Board of Governors and Senate

## Board of Governors

### Chairperson

Mr. E. J. Flinn, Q.C.

### Vice-Chairperson

Mr. J. G. (Jack) Keith

### Members Ex-Officio

Chancellor

Most Reverend James M. Hayes, J.C.D., D.D.

Vice-Chancellor

Very Reverend Monsignor John R. Campbell, V.G.

President

Dr. Kenneth L. Ozmon

Vice-President (Academic and Research)

Dr. Joseph G. Jabbra

Vice-President (Administration)

Mr. Guy L. Noel

### Members Appointed by the Roman Catholic

#### Episcopal Corporation

Rev. J. Christensen

to July 31, 1992

Mr. E. J. Flinn, Q.C.

to July 31, 1990

To be announced

### Members Elected by the Alumni Association

Mr. Robert Belliveau

to July 31, 1991

Mr. Phil Burns

to July 31, 1991

Mr. Paul Goodman

to July 31, 1990

Ms. Karen Henderson

to July 31, 1990

Mr. Donald Horne

to July 31, 1992

Mr. Gerald Walsh

to July 31, 1992

### Members Elected by the Academic Staff

Prof. J. Gale

to July 31, 1990

Dr. Cyril Byrne

to July 31, 1992

Mr. Perry Ronayne

to July 31, 1991

Dr. Frank Phillips

to July 31, 1992

Dr. K. Vaughan

to July 31, 1991

Dr. J. C. Young

to July 31, 1990

### Members Elected by the Students

Mr. Rob Costello

to July 31, 1990

Mr. Sandy Falconer

to July 31, 1990

Mr. Todd D. Soper

to July 31, 1990

Ms. Wendy Brookhouse

to July 31, 1990

### Member Appointed by the Upper Canada Province of the Society of Jesus

Reverend John C. Trainor, S.J.

to July 31, 1991

### Members Elected by the Board of Governors

Hon. Alan R. Abraham

to July 31, 1992

Mr. Louis R. Comeau

to July 31, 1992

Mrs. Iona Crawley

to July 31, 1992

Mr. Craig Dobbin

to July 31, 1992

Mrs. Bruce Jodrey

to July 31, 1991

Mr. J. G. (Jack) Keith

to July 31, 1992

Mr. David F. Sobey

to July 31, 1991

Mr. Mike Zatzman

to July 31, 1991

### Members Appointed by the Lieutenant-Governor in Council

Mr. L. Jerry Redmond

to July 31, 1990

Mr. James F. Snell

to July 31, 1991

## Academic Senate

### Chairperson

Mr. Ronald A. Lewis

### Vice-Chairperson

Dr. Keith Vaughan

### Members Ex-Officio

Dr. Kenneth L. Ozmon, President

Dr. Joseph G. Jabbra, Vice-President

(Academic and Research)

Dr. William R. Jones, Dean of Science

Dr. J. Colin Dodds, Dean of Commerce

Dr. Michael J. Larsen, Dean of Arts

Dr. Roger Barnsley, Dean of Education

Mr. Ronald A. Lewis, Librarian

Mrs. Elizabeth A. Chard, Registrar

Mr. Keith Hotchkiss, Director of Student Services

### Members Elected

To August 1992

To August 1991

Dr. W. Katz

Dr. W. Mills

Dr. B. Kiesekamp

Dr. S. Pendse

Dr. R. Konopasky

Dr. A. Seaman

Dr. R. Marshall

Dr. L. Van Esch

Dr. T. Whalen

Prof. S. Walter

To August 1990

### Student Senators (1989-90)

Prof. B. Emerson

Mr. Rob Costello

Dr. G. Pretty

Mr. Sandy Falconer

Dr. P. Ricketts

Ms. Laurie LaViolette

Dr. G. Thomas

Mr. Larry Sargent

Dr. K. Vaughan

Mr. Todd Soper

# Academic Officers and Faculty

## Academic Officers

### Vice-President (Academic and Research)

**Joseph G. Jabbra**, M.A. (St. Joseph's, Beirut), Ph.D. (Catholic University of America), Professor of Political Science

### Faculty of Arts

**Michael J. Larsen**, BA (Saint Mary's), M.A. (Dalhousie), Ph.D. (Toronto), Dean and Professor of English  
**Geraldine T. Thomas**, B.A., B.Ed., M.A., Ph.D. (Dalhousie), Associate Dean and Associate Professor of Classics

### Faculty of Commerce

**J. Colin Dodds**, B.Sc. (Hull), M.A., Ph.D. (Sheffield), Dean and Professor of Finance and Management Science  
**Paul S. Dixon**, B.A. (New Brunswick), M.Math., Ph.D. (Waterloo), Associate Dean and Associate Professor of Finance and Management Science

### Faculty of Education

**Roger H. Barnsley**, B.A. (Victoria), M.A., Ph.D. (McGill), Dean and Professor of Education

### Faculty of Science

**William R. Jones**, B.Sc., M.Sc. (Mount Allison), Ph.D. (McGill), Dean and Professor of Chemistry

## Faculty

**Ahlikpor, James C. W.**, B.Sc., M.Sc. (Ghana), M.A. (British Columbia), Ph.D. (Toronto), Associate Professor of Economics  
**Akbari, Ather H.**, B.Sc., M.B.A. (University of Karachi), M.A., Ph.D. (Simon Fraser), Assistant Professor of Economics  
**Amir-Khalkhali, Saleh**, B.A. (Shiraz), M.A., Ph.D. (Dalhousie), Associate Professor of Economics  
**Ansell, Robert N.**, B.A. (Cambridge), Ph.D. (Glasgow), Assistant Professor of Philosophy  
**Armstrong, Stanley A.**, A.B. (Brown), B.D. (Harvard), M.A., Ph.D. (Yale), Associate Professor of Religious Studies  
**Arseneau, D. Therese**, B.A. (St. Francis Xavier), M.Phil. and Ph.D. (Oxford), Assistant Professor of Political Science  
**Arya, Pyare Lal**, B.A., M.A., Ph.D. (Delhi), Associate Professor of Economics  
**Azhar, Rauf A.**, B.A. (University of Punjab), M.A. (Economics), Ph.D. (McMaster), Assistant Professor of Economics  
**Badawi, Gamal A.**, B.Comm. (Ain Shams), M.B.A., Ph.D. (Indiana), Associate Professor of Management  
**Baker, Janet**, B.A., M.A. (Queen's), Ph.D. (Dalhousie), Associate Professor of English  
**Barrett, L. Gene**, B.A. (King's College), M.A. (Dalhousie), D.Phil. (Sussex), Associate Professor of Sociology  
**Bartholdy, Jan**, B.A. (Copenhagen), M.A. (Dalhousie), Ph.D. (Queen's), Assistant Professor of Finance and Management Science  
**Bateman, D.**, B.B.A. (New Brunswick), M.B.A. (Dalhousie), C.A., Associate Professor of Accounting  
**Baydar, Vedat**, D.Econ. and Comm.Sc. (Istanbul), Associate Professor and Chairperson of the Department of Marketing  
**Beis, Richard H.**, B.A. (Western Ontario), M.A., Ph.D. (Notre Dame), Professor and Chairperson of the Department of Philosophy

**Bell, Sandra J.**, B.A., M.A. (Western Ontario), Lecturer in Sociology

**Bernard, Paul R.**, BA (Providence College), M.A.T. (Assumption College), Ph.D. (Pennsylvania State), Associate Professor of French

**Boobang, Francis**, B.A., M.Sc. (Ghana), M.A. (Saskatchewan), Ph.D. (Simon Fraser), Assistant Professor of Finance and Management Science

**Bollini, Robert J.**, B.A. (Cornell), M.S. (Georgetown), Ph.D. (California, Berkeley), Associate Professor of History

**Bowby, Paul W. R.**, B.A., M.A., Ph.D. (McMaster), Associate Professor of Religious Studies

**Bowles, Paul**, B.Sc. (Southampton), M.A. (Sussex), Ph.D. (London School of Economics), Associate Professor of Economics

**Boyle, W. Peter**, B.Sc., Ph.D. (Queen's Belfast), Professor of Engineering

**Breeze, John**, M.A. (Cambridge), M.B.A. (Saint Mary's), Adjunct Professor of Management

**Bridgeo, William A.**, B.Sc. (St. Francis Xavier), Ph.D. (Ottawa), Professor of Chemistry

**Byrne, Cyril J.**, B.A. (St. Dunstan's), M.A. (National University of Ireland), M.A. (Oxford), Ph.D. (Toronto), Professor of English and Coordinator of Irish Studies Program

**Cameron, R. Hugh**, B.A. (Toronto), Ph.D. (London), Associate Professor of History

**Carrigan, D. Owen**, B.A. (St. Francis Xavier), M.A. (Boston), Ph.D. (Maine), Professor of History

**Catano, Victor M.**, B.S. (Drexel), M.S., Ph.D. (Lehigh), Professor of Psychology

**Chadwick-Jones, John K.**, B.A., M.A. (Oxford), Ph.D., D.Sc. (Wales), F.A.P.A., F.B.Ps.S., Professor of Psychology

**Chamard, John C.**, B.A. (Saskatchewan), M.B.A. (Harvard), Professor of Management

**Chan, Tsang Sing**, B.B.A., M.B.A. (Wisconsin), D.B.A. (Indiana), Associate Professor of Marketing and Director of M.B.A. Program

**Charles, Tony**, B.Sc. (Hons.) (Carleton), Ph.D. (British Columbia), Associate Professor of Finance and Management Science

**Chauvin, Guy**, B.Comm. (McGill), M.A. (Dalhousie), Ph.D. (Trinity College, Dublin), Assistant Professor of Political Science

**Chesley, G. Richard**, B.Comm. (Mount Allison), M.A., Ph.D. (Ohio State), Professor and Chairperson of the Department of Accounting

**Chew, Milton**, B.S. (Juniata College), M.S., Ph.D. (Carnegie Institute of Technology), Associate Professor of Finance and Management Science

**Christiansen-Ruffman, Linda**, B.A. (Smith College), Ph.D. (Columbia), Professor of Sociology

**Cone, David K.**, B.Sc., M.Sc. (Guelph), Ph.D. (New Brunswick), Associate Professor of Biology

**Connelly, Dennis E.**, B.Sc. (Alberta), M.Comm. (Toronto), Ph.D. (Illinois), Associate Professor of Finance and Management Science

**Connelly, Patricia**, B.A. (Saint Mary's), Dip.Ed., M.A. (Dalhousie), Ph.D. (Toronto), Professor of Sociology

- Cosper, Ronald L.**, B.A. (Purdue), M.A. (Cornell), Ph.D. (Rutgers), Professor and Chairperson of the Department of Sociology
- Crooks, Shelagh**, B.A. (Saint Mary's), M.A. (Dalhousie), Ph.D. (Edinburgh), Assistant Professor of Philosophy
- Crowther, Roger H.**, B.A., M.A. (Cambridge), Professor of English
- Dar, A.**, B.A. (Hons.), M.A. (Delhi), M.A., Ph.D. (McMaster), Associate Professor of Economics
- Darley, James A.**, B.A., M.Sc., Ph.D. (Western Ontario), Professor of Psychology
- Das, Hari**, B.Comm. (Madras), M.B.A. (Indian Institute of Management), M.Sc., Ph.D. (British Columbia), A.I.C.W.A., Professor of Management
- Davies, Donald H.**, B.Sc. (Carleton), Ph.D. (Bristol), Professor of Chemistry
- Davis, Bernard E.**, B.S., Ph.D. (Massachusetts Institute of Technology), Associate Professor of Education
- Davis, Stephen A.**, B.A. (New Brunswick), M.A. (Memorial), Ph.D. (Oxford), Associate Professor of Anthropology
- Day, E. E. Douglas**, B.A., Dip.Ed. (Leicester), Ph.D. (Sheffield), Professor of Geography
- Dixon, Paul S.**, B.A. (New Brunswick), M.Math., Ph.D. (Waterloo), Associate Dean of Commerce and Associate Professor of Finance and Management Science
- Doak, Ervin J.**, B.Comm. (Saint Mary's), M.A. (Dalhousie), Ph.D. (Toronto), Associate Professor of Economics
- Dockrill, Frederick J.**, B.A., B.Ed., M.A. (Saint Mary's), Ph.D. (Dalhousie), Associate Professor of Education
- Dorp, Dieter**, B.P.E. (Toronto), M.B.A., Ph.D. (York), Assistant Professor of Finance and Management Science
- Dostal, Jaroslav**, Dip.Geol. (Prague), Ph.D. (McMaster), Professor of Geology
- Dougherty, Frank P.**, B.Comm. (Sir George Williams), M.Sc. (Clarkson College of Technology), Ph.D. (Pennsylvania State), C.A., Professor of Accounting
- Elson, Clive M.**, B.Sc. (Toronto), Ph.D. (Queen's), Professor and Chairperson of the Department of Chemistry
- Emerson, H. Bryan**, B.B.A. (Oklahoma), M.B.A. (Chicago), Assistant Professor of Accounting
- Erickson, Paul A.**, B.A. (Michigan), M.A. (Indiana), M.A. (Wayne State), Ph.D. (Connecticut), Professor of Anthropology
- Falk, Lilian**, B.A., M.A. (Jerusalem), Ph.D. (Harvard), Associate Professor of English
- Farrell, Anthony J.**, B.A., M.A. (California), Ph.D. (Princeton), Professor of Spanish and Chairperson of the Department of Modern Languages and Classics
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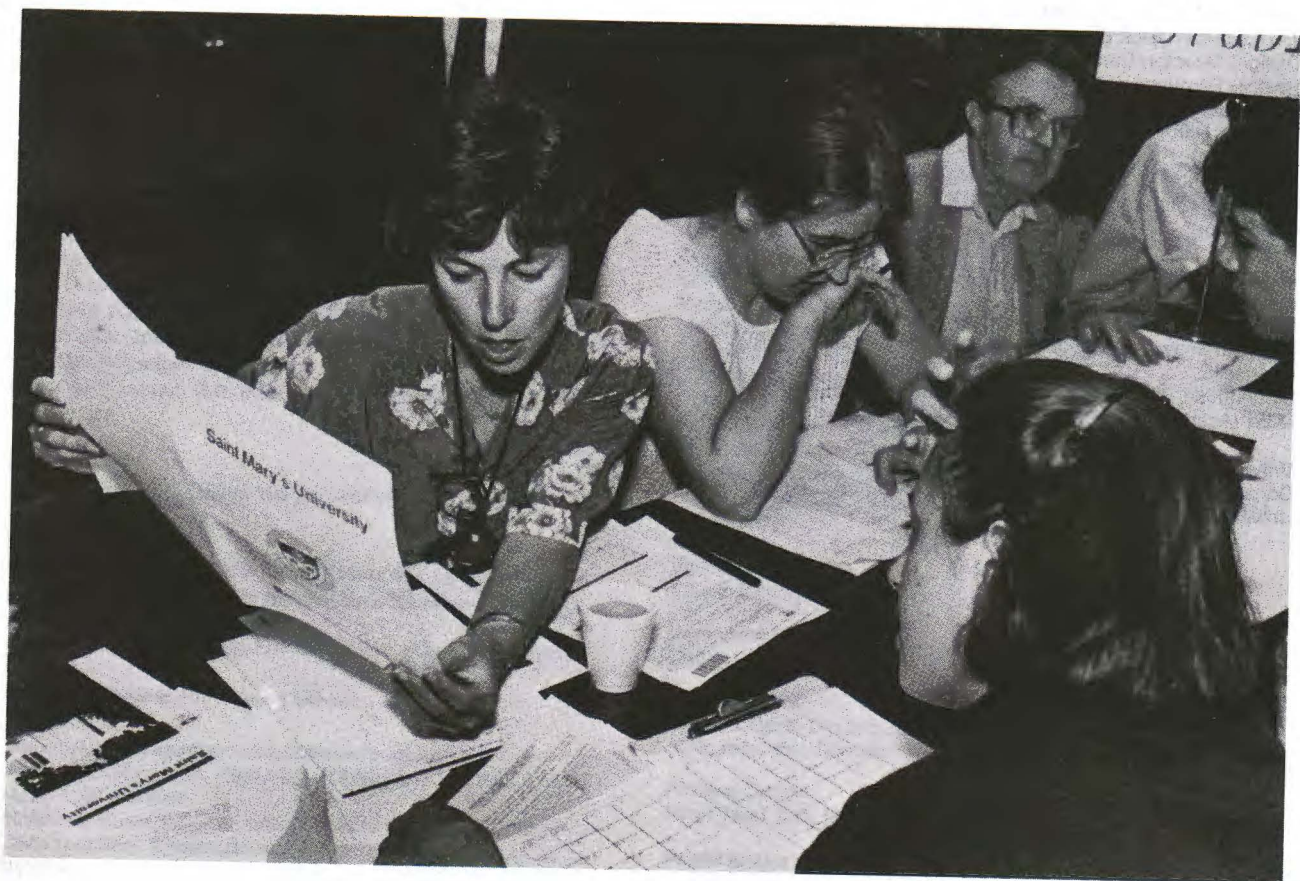
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## Section 2

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**Admission**

**Academic Regulations  
and  
Information**

**Registration**

Admission  
Academic Regulations and Information  
Registration



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### 1. Procedures for Admission to Undergraduate Programs

a. Applications from Canadian students (except those transferring from other post-secondary institutions) must reach the Admissions Office by 1 July for September admission; 1 November for January admission. For non-Canadian applicants, the deadlines are 1 April for September admission; 1 August for January admission. The deadline for receipt of applications from students who wish to transfer from another post-secondary institution to Saint Mary's University beginning in September is 1 June; beginning in January, the deadline is 1 October. Enclose provincial certificates or other accredited school certificates giving final grades or marks, and a processing fee of \$15.00 with the application forms.

b. Applicants who have completed courses at another post-secondary educational institution must request that institution to send an official transcript to Saint Mary's University. Failure to report all institutions attended may result in dismissal from the University.

c. (i) Former Saint Mary's University students who were not in attendance during the preceding academic year or during a period of up to four years who were not required to withdraw from the University and who wish to resume studies in the same degree program in which they were registered, must notify the Registrar in writing of their intent to return to the University before registering for any course and must fill in a Data Sheet

(ii) Students seeking to enrol in a different degree program or who have not been registered during the preceding four years or longer, or who have been required to withdraw must apply for re-

admission to the Director of Admissions (see Academic Regulations).

d. Students who were registered in a degree program during the entire preceding academic year are not required to reapply for admission to the University. Such students will automatically be sent information with respect to registration for the coming year.

## 2. Requirements for Admission to Undergraduate Programs

### a. General Considerations

(i) The following requirements have been established as a guide to applicants. Possession of these minimum requirements does not establish the right of an applicant to be admitted or readmitted to the University. The University reserves the right to accept or reject any applicant.

#### (ii) Definitions:

(a) "Satisfactory grades" means an average in five subjects of 65 per cent with no mark below 50 per cent.

(b) "Academically recognized subjects" means subjects offered in the university preparatory program of an approved school system.

### b. Nova Scotia

(i) Students from the Nova Scotia school system must have Grade XI with satisfactory grades in English and four other academically recognized subjects.

(a) Students intending to register in arts may be admitted if they meet the requirements of English and four other academically recognized subjects in Grade XI with satisfactory grades.

(b) Students intending to register in commerce may be admitted if they meet the requirements of satisfactory grades in English, mathematics, and three other academically recognized subjects.

(c) Students intending to register in science, engineering or pre-professional studies (e.g., medicine and dentistry) may be admitted if they meet the requirement of satisfactory grades in English, mathematics, two sciences and one other academically recognized subject.

(ii) Students entering from Nova Scotia Grade XII with satisfactory grades in English and four other academically recognized subjects, as defined below, may receive advanced standing.

(a) Students intending to register in arts may be admitted if they meet the requirements of English and four other academically recognized subjects.

(b) Students intending to register in commerce may be admitted if they meet the requirements of satisfactory grades in English, mathematics and three other academically recognized subjects.

(c) Students intending to register in science, engineering or pre-professional studies (e.g., medicine and dentistry) may be admitted if they meet the requirement of satisfactory grades in English, mathematics, two sciences and one other academically recognized subject.

(iii) Students who have completed Grade XII but whose final grades do not meet complete advanced credits under the provisions of 2-b above, may be given credit for courses in which

they have obtained a grade of at least 60 per cent. In the case of mathematics and science subjects, a grade of 75 per cent will be required for admission to further work in these subjects.

(iv) Students will not be granted credit for high school work done after their first registration at any post-secondary institution. Entrance requirements will be as follows:

From Nova Scotia Grade XI—

- (a) Faculty of Arts — English 431 plus 4 additional academic courses, one of which may be coded 331;
- (b) Faculty of Science — English 431, Math 431, 2 sciences at the 431 level plus one subject which may be coded 331;
- (c) Division of Engineering — English 431, Math 431, Physics 431, Chemistry 431 plus one subject which may be coded 331;
- (d) Faculty of Commerce — English 431, Math 431 or Math 432, and three other academic subjects, one of which may be coded 331.

From Nova Scotia Grade XII —

- (a) Faculty of Arts — English 441 plus 4 additional academic courses, one of which may be coded 341;
- (b) Faculty of Science — English 441, Math 441 or Math 442 (see Note A below), 2 sciences at the 441 level plus one subject at the 441 or 341 level;
- (c) Division of Engineering — English 441, Math 441 or Math 442 (see Note A below), Physics 441, Chemistry 441 plus one subject at either the 441 or 341 level;
- (d) Faculty of Commerce — English 441, Math 441 or Math 442, and three other academic subjects, one of which may be coded 341.

Note A — Students offering Math 442 are advised that they must complete Mat 100.0 at Saint Mary's. In these cases, students who have English and 4 academically recognized subjects (excluding Math 442) will receive five advanced standing credits providing (a) their average is at least 65% in English and these four other subjects (excluding Math 442) and (b) no grade is less than 50.

Students should be aware that admission with Math 442 (as opposed to Math 441) may necessitate a lengthening of time needed to complete an academic program, especially in engineering as well as computing science and business administration.

#### c. New Brunswick, Prince Edward Island, and Newfoundland

(i) Students entering from these provinces' school system who have completed Grade XII are subject generally to the provisions outlined for Nova Scotia Grade XII students.

#### d. Other Provinces

(i) Quebec: High School Leaving Certificate. Students who have completed the first year of CEGEP with high standing may be considered as having the equivalent of Nova Scotia Grade XII. Credits for students with two years of CEGEP will be assessed separately.

(ii) Ontario: Students who have been awarded a Secondary School Graduation Diploma (Grade XII) may be considered for admission while those who have completed a Secondary School Honors Graduation Diploma (Grade XIII/OAC) may be considered for advanced standing.

(iii) Manitoba, Saskatchewan and Alberta: Grade XI certificate. Students who have completed Grade XII may be considered for advanced standing.

(iv) British Columbia: Students who have completed a four year secondary school program may be considered for advanced standing.

#### e. United States

(i) Students who have graduated from high school with 16 points — 4 in English and 12 in other academic subjects — will be considered for admission. Students seeking admission to engineering and science must have 3 points in mathematics and at least 3 points in science subjects. Students seeking admission to commerce must have 3 points in mathematics.

(ii) Students must arrange to provide the Admissions Office with a high school transcript, CEEB and SAT test results.

(iii) Students who have satisfactorily completed a year or more of a university or college program, beyond high school, may be considered for advanced credit.

#### f. Other Countries

(i) Students who have completed the British or the Caribbean GCE at the Ordinary Level will be considered for admission. Passes must be obtained, at the minimum, in five subjects including English for arts; and English, mathematics, and two science subjects for engineering and science. Commerce students must have English, mathematics, and three other subjects.

(ii) Students who have completed the Advanced Level GCE examinations may be considered for advanced standing.

(iii) Students whose first language is not English, and who have not attended an English language secondary school, are required to take one of the standardized English language proficiency tests. These tests are administered by the University of Michigan, the College Entrance Examination Board, and the University of Cambridge. The University of Michigan English Proficiency Test is administered by the Language Institute at Ann Arbor, Michigan, U.S.A., 48104, and is given on request in any country in the world at any time during the academic year. The normal standards for admission to the University are as follows:

(a) a minimum score of 550 on the Test of English as a Foreign Language (TOEFL); or

(b) an aggregate grade of C or higher on the Cambridge First Certificate in English; or

(c) a minimum score of 90 on the Michigan examination.

One of the above examinations may be taken in almost any country of the world at almost any time of the year.

Applicants should apply directly to one of the following testing centres:

Educational Testing Service (TOEFL)  
Box 899  
Princeton, New Jersey 08514 U.S.A.

Cambridge Examinations in English  
Local Examinations Syndicate  
Syndicate Buildings  
Cambridge, England

University of Michigan English Proficiency Test  
Language Institute of Ann Arbor  
Ann Arbor, Michigan 48104 U.S.A.

(iv) Students whose first language is not English should note academic regulation 23 below.

Note: Non-Canadian students on visas, student authorization, or minister's letter are advised that they are responsible for complying with the Immigration Laws of Canada. Students are responsible for keeping informed of revisions and addenda to these Laws.

#### g. International Baccalaureate Diploma

Students who successfully complete the requirements for this diploma program may be regarded as having the equivalent of Nova Scotia Grade XII standing. As such they may be admitted as noted above in 2-b(ii).

#### h. Admission Requiring Interview

Applicants for full- or part-time study who do not meet the above admission criteria may apply for admission to the University on the basis of education, work or other experience which provides an indication of success in a program of university study. Such students will follow the regular procedures for admission to undergraduate programs and will additionally be required to meet with the appropriate Dean (or designate) who may attach specific conditions to the students' admission. Ordinarily admission in this category will be limited to students who are at least twenty-one years old and who have not been enrolled in any program of full-time study for at least three consecutive years. Applications for this category of admission must be received by the Office of Admissions at least three months prior to the academic term in which the student intends to enrol in a course(s).

### 3. Mature Admission

a. To qualify for admission as mature students, applicants must be at least twenty-two years of age and must show, through educational upgrading, work experience or community volunteer work, ability to benefit from university level education. Normally, mature applicants must have been out of school for at least five years.

b. The length of the degree program for mature students is as follows:

(i) Bachelor of Arts: a minimum of fifteen credits. Students may be asked to take more than the normal 15 credits where deemed appropriate by the Dean of Arts.

(ii) Bachelor of Commerce: twenty credits. For students lacking in mathematics background, Mathematics 113.0 may be required.

(iii) Bachelor of Science: twenty credits. Students may be eligible for up to five advanced standing credits for work completed in high school (Nova Scotia Grade XII or equivalent) and/or advanced standing credit examination (Academic Regulation #22).

(iv) Diploma in Engineering: sixteen and one-half credits. Students may be eligible for up to five advanced standing credits for work completed in high school (Nova Scotia Grade XII or equivalent) and/or advanced standing credit examination (Academic Regulation #22).

c. The application procedure for admission as mature students is as follows:

(i) Application forms may be obtained by writing, telephoning or visiting:

The Division of Continuing Education  
Room 101, McNally Building  
Saint Mary's University  
Halifax, N.S. B3H 3C3  
Telephone: (902) 420-5492

(ii) Send the completed application form with an application fee of \$15.00; a resume detailing educational upgrading, work experience and volunteer community service; and, if possible, a copy of high school marks.

(iii) Applicants who have registered for credit courses at another university or recognized post-secondary educational institution must ask that institution to send official transcripts of their work to the Division of Continuing Education. All official transcripts must be received by the Division of Continuing Education before the application for admission as a mature student will be considered.

(iv) Applications should be received by the Division of Continuing Education by the following dates:

First summer session — May 1  
Second summer session — June 15  
Fall semester — July 1  
Winter semester — November 1

### 4. Procedures for Other Admission Categories

#### a. Admission as a Transfer Student

Students who have been enrolled in a degree program at another university should follow the regular procedure for admission to Saint Mary's through the Admissions Office. If admitted, transfer students will receive advanced standing credit in conformity with the principles and procedures stated in academic regulation 20. Transfer students who also meet the criteria for mature students may apply for admission through the Office of Continuing Education.

#### b. Admission as an Upgrading Student

Students who already hold a degree or professional certificate may enrol in a course or courses to upgrade their qualifications. Special 'Application for Admission' forms are available in the Registrar's Office. Such students must meet the stated prerequisites for the course(s) for which they enrol. A separate application is required for each academic year or summer session when a student enrolls in this category.

#### c. Admission as a Student Auditor

Students who are interested in auditing a course (see academic regulation No. 2 below) are required to complete a special 'Application for Admission' form available in the Registrar's Office and to follow normal registration procedures. These students must meet any stated prerequisites for the course(s) in which they enrol.

#### d. Admission by Letter of Permission as a Special Student

Students currently working on a degree at another institution, who have letters of permission to take courses at Saint Mary's University for transfer of credit to their home institution, must complete a special 'Application for Admission' form available in the Registrar's Office. In addition, these students must have the Registrar of their university forward a Letter of Permission to the Registrar at Saint Mary's. In all cases the Registrar of Saint Mary's will forward the grades for these courses to the students' home universities. Saint Mary's shall not be held responsible for meeting the deadlines of other universities.

**e. Admission to Non Degree Status (NDS)**

(i) Individuals interested in taking one or more courses at the University without being registered in a degree program can seek admission as a non degree status student. Such students must meet the stated prerequisites for the course(s) for which they enrol. Students may take no more than five full courses (or half course equivalents) as non degree students. If non-degree students wish to continue to study at Saint Mary's beyond five full courses (or half course equivalents), they must formally be admitted to a degree program. Students who are admitted to degree or diploma programs from non-degree status may count the university credits that they have earned as non-degree students towards any degree or diploma programs at Saint Mary's to which they may later be admitted. All courses attempted at the University will remain a part of the students' permanent records.

(ii) Under special circumstances, high school students, with the permission of the appropriate Dean, may be admitted to enrol, as non-degree students in Saint Mary's courses for which they have the necessary prerequisites.

(iii) Non-degree students must apply through the office of the Director of Continuing Education. A separate application is required for each academic year or summer session(s) in which the student is enrolled with this admission basis.

**5. Graduate Admission**

Admission to a graduate program at the University is covered in Section 3 of this Calendar.

Note: At the time of initial application to a degree, diploma, or certificate program involving credit courses, each student is issued with a Saint Mary's University I.D. number. This number must be shown on all transactions with the University. If after being accepted, a student opts not to register for the upcoming academic year, the I.D. number is cancelled.

# Academic Regulations

The information, regulations, and guidelines contained in this section apply to all students at the University. Additional regulations pertaining to the Masters' programs are in Section 3 of this Calendar.

## Introductory Information

### Definitions

Academic Year	The period extending from Wednesday following Labor Day in September to and including Convocation Day in May of the following year.	Instructor	A member of faculty.
Academic Status	Senior: one who has 13.0 or more credits; Junior: one who has 8.0 to 12.5 credits; Sophomore: one who has 3.0 to 7.5 credits; Freshman: one who has 0.0 to 2.5 credits.	Major	A subject or area of concentration.
Admission	Acceptance of an applicant as a student.	Non Degree Status (NDS)	A status permitting a student to take a course although that individual has not been accepted in a degree program at Saint Mary's University.
Advanced Standing	Credit granted for work completed before admission to Saint Mary's University.	Prerequisite	A condition that must be fulfilled prior to registration in a particular course.
Audit	Attend a course without working for or expecting formal credit.	Probation	A conditional status assigned to a student who has shown evidence of academic weakness.
Bursary	A monetary grant based on financial need.	Program	An approved group of courses leading to a degree, diploma, or certificate.
Chairperson	Faculty member responsible for a department or area of study.	Qualifying Year	Pertains to the Faculty of Commerce and refers to the first year of study for those students required to complete more than 20.0 credits for their degree.
Course	A unit of instruction in a particular subject. The last digit of course numbers designates the following: .0 — full year course .1 — first semester half course .2 — second semester half course	Registration	Enrolment of a student in a course, courses, or program, including the payment of fees.
Credit	A completed unit of university work or recognized equivalent. One credit is granted for each successfully completed full-year course; a half credit is granted for a successfully completed one semester course.	Satisfactory academic standing (standard)	Maintaining a quality point average of at least 1.50.
Dean	Also called Dean of the Faculty; the chief academic administrator of a Faculty.	Scholarship	A monetary award based on academic achievement.
Elective	A course not specifically required by a student's program of studies.	Semester	A term or period of instruction corresponding to one half of the academic year; each semester lasts approximately fourteen weeks.
Faculty	When spelled with a capital F, refers to an academic unit offering its own degree program; when spelled with small f, refers to instructors in a Faculty.	Special Student	A student, working on a degree at another academic institution, who has a letter of permission to register for a course(s) at Saint Mary's University.
Grade	The letter indicating an instructor's evaluation of a student.	Subject	Also called a discipline; a specific field of study, e.g., accounting, chemistry, history.
		Summer Sessions	Periods of instruction normally lasting six weeks, during the months of May through August. Two summer sessions are offered each year.
		Transcript	An official report of a student's academic record.
		Transfer Credit	Credit granted for work completed at another institution after admission to Saint Mary's.
		Upgrading Student	A student who already holds an undergraduate degree or professional certificate and who wishes to take additional credit courses at Saint Mary's University.



**Course and Major Abbreviations:**

Accounting	Acc
Anthropology	Ant
Asian Studies	ASN
Astronomy	Ast
Astrophysics	ASP
Atlantic Canada Studies	ACS
Biology	Bio
Business Administration	Bus
Certified Management Accountant Program	CMA
Chemistry	Che
Chinese	Chi
Classics	Cla
Commercial Law	Cml
Communication	Com
Computing Science	CSC
Co-operative Education Program in Chemistry	COEC
Co-operative Education Program in Geology	COEG
Co-operative Education Program in Computing Science	COES
Creative Writing	CRW
Criminology Certificate Program	CRM
Data Processing Program	DPM
Economics	Eco
Education	Edu
Egyptian	Egp
Engineering	Egn
English	Egl
English as a Second Language	ESL
Executive Master of Business Administration	EMB
Finance	Fin
French	Fre
General Business Studies	GBS
Geography	Gpy
Geology	Geo
German	Ger
Greek	Gre
Hebrew	Heb
History	His
Human Resource Management and Industrial Relations	HRM
Image Studies	IST
Independent Study Program	ISP
International Development Studies	IDS
Irish Studies	IRS
Italian	Ita
Latin	Lat
Linguistics	Lin
Management	Mgt
Management Science	Msc
Marketing	Mkt
Master of Business Administration	MBA
Mathematics	Mat
Philosophy	Phi
Physics	Phy
Political Science	Pol
Psychology	Psy
Religious Studies	Rel
Sociology	Soc
Spanish	Spa
Women's Studies	WMS

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**It is the responsibility of students, faculty members, and administrative officers concerned with academic matters to be familiar with the rules and regulations published in this Calendar. In particular, it is the responsibility of students to ensure that the courses which they take are appropriate to the degree program in which they are registered, involve no timetable conflicts, and collectively satisfy all the requirements of that program.**

**1. Number of Courses in a Year**

a. Students must formally register for all courses. In the Faculties of Arts, Commerce and Science (exclusive of Engineering) the normal load in the academic session for a full-time undergraduate is five full courses (or the equivalent), per semester while in the Division of Engineering six full courses (or the equivalent) per semester constitute a normal full-time load. The Bachelor of Education program requires the completion of six and one-half credits. Undergraduate students registered for at least three courses in a semester are considered to be full-time, while students registered for fewer than three courses per semester are

part-time. During the same academic year it is possible for students to be full-time in one semester, and part-time in the other.

b. Students may apply to the Dean of their Faculty for permission to carry an extra half or full course. Normally permission will be granted only to students whose quality point average during the previous year was at least 3.00. Course overload request forms are available in the Registrar's Office and, on completion, must be filed with the Registrar for processing.

c. Students are normally permitted to take only one full course or equivalent during a summer session. In exceptional circumstances and where students have attained a quality point average of 3.00 during the previous academic year of full-time study, or proven consistent performance at least at the 3.00 level in the case of part-time study, two courses may be authorized at the discretion of the Dean of the Faculty. No more than three full courses or equivalent may be taken by students during the two summer sessions in any year. Forms to request a course overload during a summer session are available in the Registrar's Office and, on completion, must be filed with the Registrar for processing.

## 2. Auditing Courses

Students may audit courses but they must formally register as auditors in these courses. Auditors participate in all regular class activities, but are not expected to prepare formal assignments, write papers, or take quizzes, tests, or examinations. With the consent of the instructor, however, they may perform these activities and receive an informal evaluation of their work. Audited courses are not given credit or regular grades but the notation of AU is included on the students' official record. Within the normal time limits for changing courses (see 13-b), students may request permission to change from regular registration status in a course to auditing status or vice versa.

## 3. Academic Advising

a. Although students are responsible for ensuring that they meet the requirements of their degree programs, the University makes every effort to provide assistance in the selection of courses and programs. Such advice is readily available during Registration. At all other times, and indeed during Registration if particular problems arise, students who have already decided upon their areas of concentration will be advised by the chairperson of the appropriate departments or their appointees. All other students should seek advice from the Dean of their Faculty who will, if necessary, assign special academic advisors. It is strongly recommended that students consult with their assigned advisor prior to withdrawing from a course or courses.

Note: Students on academic probation are not permitted to register by mail during August.

b. Academic counselling is particularly recommended for the following students:

(i) all students who are on academic probation as defined in regulation 7-d;

(ii) all students who have previously incurred probationary status and who upon the completion of any subsequent course(s) have not yet achieved a minimum cumulative quality point average of 1.50;

(iii) all students who do not attain a quality point average of at least 1.50 in any given semester;

(iv) all students who are resuming their studies after having

been required to withdraw from the University because of academic weakness [see regulation 7-h(iii)];

(v) all full-time students who have received two or more grades of W, WP, WF, or F in any given semester;

(vi) all full-time students who are resuming their studies after having voluntarily withdrawn from the University;

(vii) all part-time students who withdraw from two or more of any five consecutive full courses or the equivalent.

c. Students who are urged to confer with their academic advisor will be notified by their Dean and will be urged to meet with their advisor within the time frame indicated in the Dean's notice. Students who have not yet officially declared a major program or concentration and who therefore do not yet have an academic advisor will be assigned to a faculty advisor by the Dean. It is strongly recommended that students consult with their assigned advisor prior to withdrawing from a course or courses.

## 4. Grading System

a. The final grade for a course will be based on the quality of a student's work including, where appropriate, essays and exercises, class tests, end of semester examinations, final examinations, reports, class participation, laboratory work, tutorial sessions, projects and field work.

b. Instructors must inform students in writing, within the time limits set down in 13-b, the grading system to be used in the course. The written statement must include the relative weight which will be given to class and/or laboratory participation, examinations, tests, written assignments and other means of evaluation, (see No. 19-b). Changes in this system must also be made available to students in writing. A copy of the grading system and any subsequent changes to it must be placed on file in the office of the Dean of the Faculty.

## 5. Undergraduate Rating, Grades and Quality Points

a. The rating of undergraduate students' performance is given as shown below in equivalent grades and quality points. There are no recognized percentage equivalents for these grades\*.

Quality Grades	Quality Points (Full Courses)	Percentage Points (Half Courses)	Equivalents* Rating
A+	4.000	2.000	80-100 Excellent
A	4.000	2.000	
A-	3.670	1.835	
B+	3.330	1.665	70-79 Good
B	3.000	1.500	
B-	2.670	1.335	
C+	2.330	1.165	60-69 Satisfactory
C	2.000	1.000	
C-	1.500	0.750	
D	1.000	0.500	50-59 Marginal Pass
F	.000		0-49 Failure or withdrawal after deadline (see No. 16)

\*These percentage equivalents are provided solely to assist other institutions in interpreting letter grades. They have no internal application.

b. The following grades shall be given when appropriate but will not be calculated in the quality point average:

Aegrotat standing (see No. 12)  
Authorized withdrawal from course  
(see No. 16-c)

AE  
W

c. The minimum passing grade is D. Students should be aware that a grade of D (or the equivalent) is not ordinarily transferable as a credit either to or from other educational institutions.

d. To receive a passing grade in a course, students normally must complete all course requirements, including all tests and examinations.

e. Students who have not completed the work of the course may, in special circumstances and with the approval of the Dean of the Faculty, be given the temporary grade IC (incomplete) by the instructor; if no final grade has been submitted to the Registrar by the instructor within six weeks of the last day of classes in the semester, a grade of F will automatically be substituted for IC, except in the following cases:

(i) Honors level courses; and (ii) graduate level courses. In these cases the IC will not automatically be converted to the grade of F until the end of the semester following the one in which the IC grade was given.

(iii) Masters' Theses/Projects where the IC remains until the work is completed or the time limits expire for registration in the program.

f. The maximum time limit permitted for a change of final grade is six months from the last day of classes in the semester.

g. Once a final grade has been determined, supplementary examinations or any additional assignments for the purpose of changing that grade are not permitted.

## 6. Quality Point Average

a. A quality point average (abbreviation: q.p.a.) is used to determine the standard of a student's performance for the academic year.

b. Each letter grade is given a quality point equivalent as described in 5-a above.

c. The quality point average is computed at the end of each academic year by dividing the total number of quality points obtained that year by the total number of full courses taken, or their equivalent.

d. The cumulative quality point average (abbreviation: c.q.p.a.) is based upon all courses taken for credit in any Faculty at Saint Mary's after 1 September 1974 other than those for which grades AE, W, or WP have been given (see No. 5-b above). Courses for which grades of F or WF have been given will be included in the calculation of the quality point average even if such courses are subsequently retaken and passed.

e. Grades for courses taken at other institutions for which advanced standing or transfer credit is given are not included in calculations for a cumulative quality point average, a quality point average, or in calculations for determining awards and distinctions.

## 7. Standing Required

a. The regulations governing continuance in a program are those in effect at the time students first register in that program, except as provided under b. below.

b. In the case of students readmitted after an absence of five or more years, or after having been required to withdraw for

academic weakness, or in the case of students transferring to a different degree program, the regulations in force at the time of readmission or transfer apply. In addition, the Dean may attach specific and binding conditions to the students' performance to assure that the normal standards of the degree requirements are met.

## c. Satisfactory Standing

(i) To qualify for a Bachelor's degree in Arts, Science, or Commerce, a student must achieve a cumulative quality point average of at least 1.50. For this reason, performance in any individual course below the grade of C minus or a quality point average below 1.50 in any given semester is considered unsatisfactory. Special average requirements exist in the Division of Engineering and pertain only to that program.

(ii) To qualify for a Bachelor's degree in Education, candidates are required to maintain a quality point average of at least 2.00. For individual courses the pass mark is D, with the exception of Practice Teaching I, II, and III for which the pass mark is C. No supplementary examinations are provided.

(iii) To earn a Master's degree, a student must achieve a quality point average of at least 3.00. For this reason, performance in any individual course below the grade of B or a quality point average below 3.00 in any given semester is considered unsatisfactory (see paragraph 6 in the section of this Academic Calendar dealing with the Master's Degree).

## d. Probationary Status

Probationary status is incurred

(i) if at the end of any academic year full-time students have not attained a quality point average of 1.50 for that year;

(ii) if, after taking any five consecutive courses (or half course equivalents), part-time students have not attained a quality point average of 1.50;

(iii) on readmission after being required to withdraw because of academic weakness (see h. below);

(iv) if students are required to confer with their academic advisor and fail to do so or fail to make appropriate efforts to resolve problems which are affecting their academic performance. See academic regulations 3-b and 3-c above.

Note: Students on academic probation are not permitted to register by mail during August.

## e. Removal of Probationary Status

(i) Full-time students with probationary status can have that status removed only by achieving a quality point average of 1.50 during their first year of full-time study after being placed on probation.

(ii) Part-time students with probationary status can have that status removed only by achieving a quality point average of 1.50 in respect of the first five courses taken after being placed on probation.

Note:

(a) Transfer to a different Faculty does not remove probationary status.

(b) Unless the permission of the Dean of the Faculty has been obtained in advance, courses taken at another educational institution cannot be used to remove probationary status.

## f. Required Academic Counselling

Students whose academic performance at the University is unsatisfactory or who fall into one of the categories as described in regulation 3-c above will be required to confer with their academic advisor.

**g. Required Withdrawal**

Withdrawal from the University for a minimum of one calendar year is required:

- (i) if students fail to obtain a 1.50 quality point average during the first year of full-time study after being placed on probation; or
- (ii) if students on academic probation fail to comply with any specific formal conditions governing their probation.

Students who are required to withdraw from the University may be denied the right to return to Saint Mary's.

Note: No credit will be given for any courses taken at another institution during the year of required withdrawal.

**h. Admission after Required Withdrawal**

- (i) Students who are not eligible for readmission to their former institution are normally not admissible to Saint Mary's University.
- (ii) Students who have been required to withdraw, and who wish subsequently to be readmitted, must apply to the Admissions Office.
- (iii) If readmitted, students will be placed on academic probation and must fulfill the terms outlined in the letter of readmission. These will include the requirement that full-time students achieve a quality point average of 1.50 during the academic year after readmission, or part-time students achieve a quality point average of 1.50 in respect of the first five courses taken after readmission. Students failing to satisfy the terms of readmission may be denied the right to further registration. (See also regulation 7-b.)

Note: Students are advised that all communications concerning probationary status and dismissal are sent by registered mail to the permanent address on file in the Registrar's Office. Therefore, students are urged to ensure that this address is both accurate and complete.

**8. Examinations**

- a. At the end of a semester, at the discretion of the department concerned, a formal examination may be held during the special periods set aside for this purpose in December and in April.
- b. All formal examinations held during the above periods are to be scheduled by the Registrar. The maximum time allowed for each examination is three hours.
- c. In a course for which a formal examination during the special period is not being held, no test or examination is permitted in the semester's last three weeks of lectures other than during a single, regular class period. During these last three weeks two or more tests or examinations are not permitted as a substitute for a formal examination allowed under 8-a and 8-b above, and laboratory periods may be used only for laboratory work, laboratory tests or laboratory examinations.
- d. (i) In a two-semester course, no single test given in a regularly scheduled class period (50 minutes or 75 minutes) shall contribute more than 20% of the overall evaluation for that course.  
(ii) In a one-semester course, no single test given in a regularly scheduled class period (50 minutes or 75 minutes) shall contribute more than 35% of the overall evaluation for that course.

e. To be eligible to write any type of test or examination in any course, students must be properly registered in that course. Students must write all such tests or examinations at the designated times and in the designated places.

f. Supplementary examinations are not offered.

**9. Evaluations**

a. At the end of each semester, instructors will submit to the Registrar, on the forms provided, their evaluations of all students registered in their courses. For full courses, interim grades will be submitted at the end of the first semester and final grades at the end of the academic year. The timeframes for the submission of mid-year and final grades to the Registrar are:

In the case of courses in which no formal examination was scheduled by the Registrar within the period designated by Senate for formal examinations, one week from the beginning of the examination period; and in the case of courses in which formal examinations were scheduled by the Registrar within the period designated by Senate for such examinations, three days from the last day in which examinations are scheduled.

b. First semester Grade Report Forms are available for pick-up at the beginning of the second semester. They are not mailed.

c. As soon as possible after the conclusion of the academic year and each summer session, Grade Report Forms showing the final grades for all courses in which students were registered are mailed to the students' permanent addresses, unless an alternate address card has been duly filed with the Registrar by the advertised deadline.

d. In the case of courses taught over the first three weeks of a summer session, final grades will be posted outside the Registrar's Office as soon as they have been received and processed. Grade Report Forms will be processed and mailed as soon as possible. Transcript requests for such courses cannot be honored until that particular summer session has been completed in its entirety.

e. Final grades are withheld from students who have money owing to the University, or who have either money or books owing the University Library system.

f. Grades given at the end of a semester shall not be made known to students except by the Registrar.

g. Grade changes for potential graduates received between the presentation of the graduation list to Senate and the actual graduation ceremony must be approved by the Dean of the Faculty in which the course is offered before they can be processed by the Registrar.

**10. Special Examinations**

- a. A special examination may be arranged
  - (i) if students present a legitimate reason, acceptable to the Dean of the Faculty, for not having taken a final examination on the scheduled date; or
  - (ii) if students have failed a course in exceptional circumstances which the instructor and Dean of the Faculty are satisfied justify a special examination being given; or
  - (iii) if the Committee on Academic Appeals has made a judgment that a special examination be given.

b. The standard grading system (see No.5) will be followed.

c. Special examinations will be scheduled by the Registrar. Except in the case of a.(iii) above, a processing fee of \$10.00 for one examination and \$20.00 for two or more examinations will be charged. This fee is to be paid the Registrar prior to the examination being written.

### 11. Academic Appeals

Students who have good reason to believe they have been subject to mistaken, improper or unjust treatment with respect to their academic work have the right to appeal to the Committee on Academic Appeals. An appeal must be based on solid evidence and not merely on injured feelings. Appeals shall be governed by the following procedures:

#### a. Appealing of Final Grades

The only grades that may be appealed are final grades.

(i) Students who wish to appeal a grade must first consult the instructor concerned within one month of receiving the grade and, if unsatisfied, should then consult the appropriate chairperson and dean. If the problem is still unresolved, students may forward their appeal to the Committee on Academic Appeals. This must be done in writing, through the Registrar, within three months from the last day of the semester in which the course is taken.

(ii) It is the responsibility of students and instructors to provide the Committee with all relevant available material on which the grade was based, such as examinations, tests, exercises, papers, reports, and other graded material.

(iii) The Committee will normally appoint two qualified examiners to review the evidence presented and reconsider the grade. The examiners will submit their report and the evidence reviewed to the Chairperson of the Committee.

(iv) On the appeal for a change of grade, the decision of the Committee shall be final.

#### b. Other Appeals

On appeals other than those for a change of grade, the procedures shall be as follows:

(i) Normally within one month of the event or the decision being received by students, they shall submit their appeal in writing and direct it to the Committee on Academic Appeals through the Registrar.

(ii) The Chairperson of the Committee on Academic Appeals shall forward a copy of the appeal to the Dean of the appropriate Faculty, and, if relevant, to the chairperson of the department and the instructor.

#### c. Decision

Within one month, if possible, of receiving any appeal under a. or b. above, the Committee shall render and communicate its decision through the Registrar to all parties concerned. Pending possible further appeal, the Committee will retain the evidence presented to it for a period of six weeks after rendering its decision.

#### d. Appeal of Committee's Decision

Except in the case of an appeal for a change of grade, students shall have the right to appeal an adverse decision to the Executive Committee of Senate. Such an appeal shall be governed by the following procedures.

(i) Within one month of receiving the decision of the Committee, students shall submit their appeal in writing to the Secretary of Senate who shall forward the appeal together with all previously considered evidence to the Executive Committee of Senate for its consideration.

(ii) Within one month of receiving the appeal, the Executive Committee shall render and communicate its decision through the

Secretary of Senate to the Registrar, who in turn shall communicate the decision to the student and to the Committee on Academic Appeals and take any further required action.

(iii) The decision of the Executive Committee shall be final.

#### e. Fee

All appeals to the Committee on Academic Appeals must be accompanied by a payment of a \$25.00 fee. Further appeal under d. above requires an additional payment of \$25.00. In the event of a decision favorable to the appellant, all payments will be refunded.

Note:

(i) Appellants may ask or be asked to appear before the committee(s) hearing their appeal.

(ii) Members of a committee cannot participate in the hearing of an appeal arising from an action to which they were a party.

### 12. Credit without Final Examination

Students who, for medical or compassionate reasons have been unable to write the final examination in a course but who have satisfactorily completed the other requirements, may apply to the Dean of the Faculty for a credit in that course without examination. They must support their request with adequate evidence. If the Dean permits the request to go forward, instructors involved will be asked to assign an estimated final grade. If the instructors judge that the student should be given credit for the course but are unable to determine a precise quality point grade, then they will assign the grade of AE (aegrotat). This grade will not be included in computing the quality point average. Students may apply for aegrotat standing for a maximum of five courses during their undergraduate program. This grade of AE is available only as a final grade and therefore cannot be awarded at mid-year for full courses, i.e., those designated as 0.

### 13. Course Changes

a. At the beginning of a course, a period of time is provided for students to alter their registration without the change being noted on their permanent records. During this period, a course or section may be added, dropped, or exchanged for another course or section.

b. The period of time provided from the first day of classes is

(i) one week in a semester or full year course;

(ii) three days in a half or full course in a summer session.

c. Changes can be effected only by filing with the Registrar a Change of Registration Form, indicating the desired change(s) and signed as follows:

(i) in the case of a change of section only (e.g., Egl 200.0A to Egl 200.0D), by the chairperson of the department offering the course.

(ii) in a case involving the adding, dropping or changing of an unsectioned course or courses (e.g., adding or dropping His 340.0, or changing from Ant 340.0 to Pol 350.0), by the chairperson of the department in which students are majoring, or (if no major has been declared) by the Dean of the students' Faculty.

(iii) in a case involving both courses and sections (e.g., adding or dropping Egl 200.0A, or changing from Egl 200.0A to Pol 200.0C), by the chairperson of the departments offering the sectioned course(s), and the chairperson of the department in which students are majoring, or (if no major has been declared) by the Dean of the students' Faculty.

**14. Declaration or Change of Major Area of Concentration**

a. In order to declare or change a major area of concentration, students must file a Change of Registration Form with the Registrar. This form must have been signed by the chairperson of the department in which the students intend to major. Students are strongly urged to declare their major areas of concentration before registering for their final ten credits.

b. The regulations governing the major program will be those in effect at the time of declaration, or change, of major.

**15. Procedure for Changing Faculty**

In order to register an official change of Faculty, students must file with the Registrar a Change of Registration Form which has been signed by the Dean of the Faculty into which the students intend to transfer. Upon receipt of such a Change of Registration Form, the Registrar, on the advice of the Dean of the Faculty, will inform the students of the number of credits (including advanced standing credits) being transferred to their new degree program. Students should be aware that a change of Faculty is not automatic.

Students on probation at the time of authorized transfer of Faculty automatically remain on probation.

**16. Withdrawing from a Course**

a. In the case of half courses, after the time limits indicated in 13-b above have expired, and provided the half course still has one quarter of the instruction time remaining, students may withdraw from the course. In the case of full courses, after the time limits indicated in 13-b above have expired, and providing the tenth day of classes in the second semester has not passed, students may withdraw from the course. In such cases a grade of W will automatically be awarded. Students cannot withdraw from a course after these time limits except with the grade of "F".

b. A student who registers for a course and does not withdraw is considered to be taking the course, and if no grade is assigned by the instructor, a grade of "F" will be recorded.

c. For purposes of registration sections of courses are considered to be individual courses.

d. It is strongly recommended that students consult with their assigned advisor prior to withdrawing from a course or courses. (See regulation 3 for further details.)

**Notes:**

(i) All withdrawals must be made officially on Change of Registration forms available in the Registrar's Office. Should it not be possible for students to obtain such a form, a letter of withdrawal can be forwarded to the Registrar. This must include the student's name, address, Saint Mary's I.D. number, and course(s) with section number(s) (if applicable) involved in the withdrawal.

(ii) Students should note that the deadlines for withdrawal academically, differ from those for financial adjustment.

**17. Retaking a Course**

a. Students may retake any course, with the prior written permission of their faculty advisors. Although all grades, including failing grades count in computing quality points for the year and for the degree, each course counts only once as a credit in the degree program.

b. In the cases where courses have been renumbered, changed in level, or where a full course has been split into two half courses, or vice versa, a student who received a credit for the original

course is not entitled to repeat the course in its new format or on its new level for an additional credit.

c. Students will not ordinarily be given credit for a course taken at another educational institution which they have already taken and failed at Saint Mary's.

d. In all instances in which a student is seeking to repeat a course for which credit has already been awarded (through advanced standing, transferring, or successful completion at Saint Mary's) permission is to be sought on a special form available from the Registrar. This form requires the authorization of the Dean of the Faculty in which the student is enrolled.

**18. Withdrawal for Academic Reasons**

Students whose participation, work, or progress is deemed to be unsatisfactory may have their registration terminated and be denied the right to continue at the University by the Dean of their Faculty.

**19. Academic Responsibility**

a. University students are expected to have a reasonable measure of self-discipline and maturity. While the University's teaching resources are available for help and guidance in the programs of study undertaken by students, and every effort will be made by instructors and staff to assist students with academic or other problems, the final responsibility for success or failure in academic studies rests on the students.

b. While the University does not compel attendance at every class, students should realize that failure to attend regularly may seriously jeopardize their chances of success (See No.4-b).

c. Students who do not adhere to traditional ethical standards in the conduct of their academic work will be subject to penalty, including the possibility of being expelled from the University.

**20. Advanced Standing****a. High School**

Students from Nova Scotia Grade XII (or the equivalent) seeking advanced standing must forward their final transcript or certificate of marks to the Director of Admissions. A maximum of five credits can be awarded in respect of work completed in high school.

**b. University and Post-Secondary Institutions**

After an official transcript has been received by the Registrar, students transferring from other recognized universities or other post-secondary institutions to a degree program at Saint Mary's will be given advanced standing credit, if appropriate, by the Dean of the Faculty. To obtain a first baccalaureate degree or a diploma they must fulfil all requirements for that degree or diploma and successfully complete a minimum of seven full courses (or the equivalent) at Saint Mary's of which a minimum of three full courses (or the equivalent) must be in the students' major subject or area of concentration. In the case of students in an honors program the minimum number of courses required at Saint Mary's is twelve of which a minimum of eight full courses must be in the subject(s) of honors.

**Note:**

(i) A request for advanced standing will not be considered after one year from the date of the students' first registration in a degree program at Saint Mary's.

(ii) Advanced standing will be given only for courses with satisfactory grades as required by the relevant Saint Mary's program. Grades of D or lower are not acceptable for undergraduate programs and grades of B- or lower for graduate programs.

(iii) Credit will not automatically be recognized for university courses completed more than ten (10) years prior to the students' return to university study. The Dean's assessment of the number of credits that students must complete to satisfy their degree requirements is final.

For further information on credit granted for work done prior to admission to Saint Mary's, see Admission Requirements.

### 21. Transfer Credit

a. While registered at Saint Mary's University students may be authorized by the appropriate Dean to take courses at another academic institution for transfer credit to a degree program at Saint Mary's. Students applying for such permission must provide the Registrar with a full description of the course(s) involved. The description from the academic calendar will suffice. The Registrar will notify the students of the Dean's decision and, if permission has been granted, will forward a Letter of Permission directly to the institution at which students are permitted to study. Students are responsible for completing the proper registration procedures at the designated institution. These procedures also apply to summer session courses.

b. The University will pay the tuition fee of full-time students who have been given permission to register in a credit course at another Halifax institution unless the course is an overload or summer session course, in which case the students must pay the fee directly to that institution.

c. In cases where the University has entered into a special arrangement with another educational institution for shared instruction in a particular program, the normal registration process (see section on Registration) will be followed.

d. In the case of correspondence courses, the normal procedures for transfer credits are to be followed. In addition, proof must be presented that the institution offering the correspondence course also recognizes it as a credit course.

e. Before transfer credit can be considered, students must have the university concerned send to the Registrar an official transcript of the work done.

f. For undergraduate programs, no transfer credit will be given for courses with grades of D (or the equivalent in numeric terms, namely 50-59). Students should also note that in some departments a grade of C or higher is required if the course is to be considered as part of the students' major. For graduate programs, no transfer credit will be given for courses with grades below B (or the equivalent).

g. Except under the above provisions, students may not register concurrently at Saint Mary's and at another academic institution. Should a student's concurrent registration be discovered, the University, on the advice of the Dean of the Faculty concerned, reserves the right not to grant the student any credit for a course or courses taken at another institution and to cancel that student's registration at Saint Mary's University.

### 22. Advanced Standing Credit by Examination

a. Students who have been admitted to Saint Mary's may obtain a limited number of credits in introductory (100 and 200) level courses by passing Advanced Standing Credit Examinations.

b. An Advanced Standing Credit Examination is given at the discretion of and administered by the Department.

c. For a course with an accompanying laboratory, the Department may require demonstration of appropriate laboratory

skills as a prerequisite to taking the Advanced Standing Credit Examination.

### d. Grading

(i) Advanced Standing Credit Examinations will be graded either P (pass) or F (fail).

(ii) Advanced Standing Credit Examination failures will not be recorded on students' transcripts.

(iii) If the Advanced Standing Credit Examination is passed, credit for the course will be recorded on the students' transcript along with an indication that credit was obtained by passing an Advanced Standing Credit Examination.

### e. Conditions

(i) A request for Advanced Standing Credit Examinations will not be considered after one year from the date of the students' first registration in a degree program at Saint Mary's University.

(ii) The Advanced Standing Credit Examination for a given course may be taken only once.

(iii) Advanced Standing Credit Examination cannot be taken in courses for which the student has already received grades of AU, WF, or F.

(iv) Credits obtained from Advanced Standing Credit Examinations cannot be used to reduce a twenty-course program to less than a fifteen-course program or a twenty-five course program to less than a twenty-course program.

(v) Advanced Standing Credit Examination credits in excess of the above allowance will be entered as credits on the students' transcripts but will not be used to reduce the number of courses required for a degree.

### f. Registration Procedures

Advanced Standing Credit Examinations are usually given three times a year. Dates and specific registration procedures may be obtained from the Registrar.

### g. Fees

Information available from the Registrar.

### 23. Students Whose First Language is Not English

a. All students whose first language is not English or French are required to take the Saint Mary's Test of English Language Competence prior to their first year of study at Saint Mary's. Those who fail to achieve an acceptable score will be required to pass ESL 100.0 before being permitted to take a more advanced level course in English, i.e., Egl 200.0.

b. The Saint Mary's Test of English Language Competence is administered during the first week of any term or summer session in which ESL 100.0 is offered.

c. Students are strongly advised to take ESL 100.0 during the summer prior to their first year of study at Saint Mary's.

d. Students who are required to take ESL 100.0 and do not pass the course may be required by their Dean to withdraw from the University.

### 24. Second Undergraduate Degree

a. Students who hold a first baccalaureate degree from Saint Mary's University may earn a second baccalaureate degree in a different Faculty by completing all the requirements for that degree, as specified by the Dean of that Faculty. In so doing, they

must obtain credit for at least five additional full courses (or the equivalent) and may not use the same major program or concentration to complete the requirements for both degrees. All of the courses required for the second baccalaureate degree must be taken at Saint Mary's.

b. Students who hold a first baccalaureate degree from a post-secondary institution other than Saint Mary's may obtain a second baccalaureate degree in a different Faculty by completing all of the requirements for that degree, as specified by the Dean of that Faculty. In so doing they must obtain credit for the minimum number of credits at Saint Mary's as stipulated in Regulation 20-b and may not use the same major program or concentration to meet the requirements for both degrees. All of the courses required for a second baccalaureate degree must be taken at Saint Mary's.

c. All students who wish to register in a program leading to a second baccalaureate degree must complete the appropriate application in the Admissions Office at least three months prior to the term in which they expect to enter the second degree program. The admission of students who earned their first degree at a post-secondary institution other than Saint Mary's prior to September 1974, must be approved by the appropriate Dean who may attach specific and binding conditions to the students' academic performance.

d. Students who wish to satisfy simultaneously the requirements for two baccalaureate degrees in the Faculties of Arts, Commerce, or Science may do so. Such students will formally declare their status as dual degree candidates by filling out the appropriate form in the Registrar's Office and having the form signed by each appropriate Dean. Prior to signing this form each Dean will assess the students' university course work to date and inform the students in writing of other general requirements that must be completed in order to earn a degree within that Faculty. Specific program requirements should be discussed with the chairperson of the department of the students' major. Dual degree students may receive both of their degrees at the same Convocation.

#### 25. Honors Equivalency: Certificate of Honors Standing

a. The Certificate of Honors Standing was established by the University Senate to provide a means of granting appropriate recognition to those Saint Mary's graduates who did not follow the regular honors program of the University, but have subsequently completed all requirements for graduation in such a program, and having already received a degree, cannot have a second undergraduate degree in the same Faculty conferred upon them. To earn the Certificate of Honors Equivalency, students must complete all the requirements for the appropriate honors program.

b. Students who have earned a first undergraduate degree from another post-secondary institution are not eligible for the Certificate of Honors Equivalency but may enrol as upgrading students if they wish to take additional courses to qualify for admission to a Master's degree program.

#### 26. Convocation Dates, Degrees and Diplomas

a. Students must file an Application for Graduation from a specific program with the Registrar by the dates stipulated in the University Calendar of Events (see centrefold of this Calendar), and pay the graduation fee. This fee does not have to be paid when the application is filed. If, at the discretion of the Registrar, there are circumstances which warrant waiving the stipulated deadline for graduation application the student will be assessed twice the normal graduation fee or permitted to wait until the next Convocation in order to graduate. If, during the course of the

students' final academic year at the University a change is made in the Faculty or in the type of program in which the student is enrolled (i.e., from honors to major) it will be necessary for the student to reapply for graduation and the above-noted deadlines will apply, as will the Registrar's discretionary authority.

b. Normally there is only one convocation exercise each year, in May. The names of students who complete their degree or diploma requirements during the summer months are presented to Senate, usually in November. Successful fall candidates will be notified by the Registrar and may opt either to graduate the following May at the regulation convocation exercise, or to obtain their degrees as soon as they have been printed. Students who choose the first option can, upon application to the Registrar, be granted a letter testifying they have filed an application for graduation for the next Convocation.

c. The parchment shows the degree which has been conferred but not the major area of concentration nor any distinction which may have been awarded. These, however, are noted in the students' official academic record and hence appear on any transcript issued, whether official or unofficial.

d. The University grants the following degrees:

Bachelor of Arts	B.A.
Bachelor of Science	B.Sc.
Bachelor of Commerce	B.Comm.
Bachelor of Education	B.Ed.
Bachelor of Education (Vocational Education)	B.Ed.(Voc.)
Bachelor of Education (in Association with The Nova Scotia Teachers College)	B.Ed.N.S.T.C.
Master of Arts	M.A.
Master of Business Administration	M.B.A.
Master of Education	M.Ed.
Master of Science	M.Sc.
Doctor of Civil Law, Honoris Causa	D.C.L.
Doctor of Laws, Honoris Causa	LL.D.
Doctor of Letters, Honoris Causa	D.Litt.
Doctor of Science, Honoris Causa	D.Sc.

The University grants the following diplomas and certificates:

Diploma in Engineering	D.Egn.
Certificate of Honors Standing	—
Cooperative Education Certificate	—
Criminology Certificate	C.C.P.

e. Students whose accounts are in arrears may be denied the right to graduate until the debt is cleared.

#### 27. Degree or Diploma in Absentia

Provided that candidates have officially notified the Registrar at least ten days in advance that they will not be present at convocation, they may receive their degrees or diplomas in absentia. Failure to give such notification will result in a \$10.00 penalty which must be paid, in addition to the graduation fee, before the parchment will be mailed to them.

#### 28. Distinctions

a. In the general undergraduate degree and diploma program, distinctions are awarded to successful candidates on the basis of the following quality point averages in respect of the courses specified in b. below.

Program:	Quality Point Average	Distinction:
B.A., B.Sc., & B.Comm.		Diploma in Engineering
summa cum laude	3.91-4.00	With greatest distinction
magna cum laude	3.76-3.90	With great distinction
cum laude	3.50-3.75	With distinction



b. The above quality point averages will be calculated on the basis of the highest grades attained in twelve full courses (or the equivalent) taken at Saint Mary's, including the last ten full courses in the students' program. The only exceptions to this are (a) in the Diploma in Engineering program where the minimum number will be ten full courses (or the equivalent) or (b) when the student has earned the equivalent of 5.0 courses at Centre International d'Etudes Françaises (C.I.D.E.F.) de l'Université Catholique de l'Ouest, Angers, France. Students who have taken fewer than twelve courses at Saint Mary's are not eligible for distinctions except as noted above for the Diploma in Engineering program and the Angers program.

c. No distinctions are awarded in the Bachelor of Education program, nor in graduate and certificate programs.

d. Students whose academic records contain a grade of F or WF will not be awarded a distinction except upon the recommendation of the appropriate chairperson and Dean of the Faculty, and with the approval of Senate.

e. Bachelor's degree with Honors: A Bachelor's degree with Honors will be awarded with the distinction "First Class" when the cumulative quality point average for 17 full courses (or the equivalent) taken at Saint Mary's, including the last 15 in the student's program, is at least 3.60. Otherwise the Honors degree will be awarded without special distinction.

## 29. University Medals

At each Convocation the following are presented:

### a. Governor General's Gold and Silver Academic Medals

These medals are awarded annually to the graduate (gold) and the undergraduate (silver) deemed to be the top candidates at their respective levels of study.

### b. Faculty and Division Medals

In the Faculties of Arts, Science, Commerce and Education and in the Division of Engineering, medals are awarded to the undergraduate students with the highest cumulative quality point average. Medals are also presented to the students with the highest cumulative quality point averages in the M.B.A., the M.A. (Education) and the M.Ed. graduate programs.

Note: The cumulative quality point averages will be calculated on the same basis as that for determining distinctions (see No.28). In the case of a tie, Senate will determine the recipient of the medal.

### c. The Reverend William A. Stewart, S.J., Medal for Teaching.

The Alumni Association with the cooperation of the Faculty Union and the Students' Representative Council established the awarding of the Reverend William A. Stewart, S.J. Medal for Teaching in 1983. This award is open to faculty members who have made an extraordinary contribution to the education of Saint Mary's students through teaching in the Saint Mary's tradition of quality undergraduate education. Nominations are invited from alumni, students, and faculty members. The award is presented each year at Convocation.

## 30. Dean's List for Undergraduate Programs

a. At the end of the academic year, full-time students whose quality point average indicates high academic achievement will be placed on the Dean's List. To qualify for this recognition, students must have taken at least five courses (or the equivalent) during that academic year and have achieved a quality point average of 3.50 or higher.

b. For part-time students to qualify for placement on the Dean's list they must have taken and completed at least five full courses (or equivalent) while registered as a part-time student as defined

in Academic Regulation 1-a. They must have achieved a minimum quality point average of 3.50 on these courses. A minimum of five of these courses must be from Saint Mary's University. After a part-time student has been placed on the Dean's List they must take at least five additional courses to qualify again for placement on the Dean's List. Placement on the Dean's List will be assessed at the end of each academic year and recorded on students' transcripts. Because the Student Information System cannot easily identify those students who qualify for placement on the Dean's List under this part-time criteria, students must apply for placement on the Dean's List. Application forms are available from the Registrar's Office and can only be filed after final marks have been processed and officially received by the student.

## 31. Transcripts

a. Students' transcripts of records are privileged information and to that end will not be released by the Registrar to those outside the University without the prior written permission of the students.

b. To request a transcript students must complete the appropriate form obtainable from the Registrar or forward a letter of request to the Records Office. It is not possible to accept a transcript request over the telephone. Transcript requests are processed strictly in the order in which they are received. Although the normal processing time is approximately ten working days, additional time will be needed at peak periods of the year. Transcripts include the following information:

- (i) Faculty, program and area of concentration;
- (ii) advanced standing credits;
- (iii) grades (failing as well as passing) in respect of all academic work attempted while registered at Saint Mary's.

c. Where appropriate reference is also made to:

- (i) placement on, and removal of, academic probation;
- (ii) requirement to withdraw for academic weakness, or for disciplinary reasons;
- (iii) distinctions and scholarships, including placement on the Dean's List.

d. The cost is \$2.00 for the first copy of the transcript and \$1.00 for each copy made at the same time. Official transcripts are those forwarded directly from the Registrar's Office to an official third party. If detailed course descriptions are also required, there will be an additional fee of \$1.00 per description. Students whose accounts are in arrears will be denied transcripts until the debt is cleared.

e. While the University takes every reasonable precaution to ensure the confidentiality of student records, students should be aware that the University is connected to a number of external electronic systems.

## 32. Plagiarism

Plagiarism is a serious academic offence and will result in penalties being imposed, including the strong possibility of dismissal from the University.

Intentional plagiarism is academic theft. It consists in taking the work of others and presenting it as your own. Accidental plagiarism is simply bad paraphrasing or careless documentation. Learn to paraphrase correctly and to acknowledge your sources.

# Registration

## 1. Procedures

Registration procedures are the responsibility of the Registrar and will be made known to students, instructors and administrators.

## 2. Registration in August (formerly "Early Registration")

Registration takes place during the month of August on the dates and at the times noted in the Calendar of Events (see centre pages of the Academic Calendar).

This involves (a) the selection and approval by the appropriate authorities of students' courses for the coming academic year and (b) the payment of tuition fees, as duly promulgated by the University. Those who register early are required to make satisfactory arrangements with the Business Office no later than 30 September in respect of any remaining tuition fees.

Students (except those on academic probation) may also complete their Registration by mail during the first two weeks of August.

## 3. Registration in September (formerly "Regular Registration")

The dates and times for registration in September are given in the Calendar of Events (see centre pages of this Academic Calendar).

## 4. Late Registration

On payment of the stipulated late fee, students may register after the final day of regular registration but before the expiration of the time limits specified in Academic Regulation 13-b.

## 5. Changes to Registration

In addition to having completed initial procedures, registration also consists of maintaining the accuracy of one's record by properly completing and filing "Change of Registration" forms for changes in course and/or section numbers, address, telephone, name, application for graduation, etc. Only students can initiate these changes; only the Registrar can officially register these changes. Changes made in any other way, formally or informally, or solely by arrangement with an instructor, are not honored.

## 6. Registration in Dual Degree Programs

Students are advised that if they are concurrently registered for either two degrees in a dual degree program or registered for a degree and a certificate and/or diploma and graduate with only one of these qualifications, they are assumed to have discontinued the second program. To reactivate their status, the student must complete a data sheet in advance of registering for any additional courses. Students are strongly advised to reactivate their status at least four (4) weeks before they undertake any registration procedures.

## 7. Alterations in Timetable

The University reserves the right to change the times and the instructor(s) of a course from those advertised in the official timetable.

## 8. Cancellation of Courses

If the number of students registered for a course is insufficient to warrant being offered, that course may be cancelled by the Dean of the Faculty. Other circumstances may also require the cancellation of a course or a section of a course by the Dean of the Faculty.

## 9. Addresses

During the academic year, all communications mailed to students are sent to local addresses. Therefore students are urged to keep their addresses up-to-date in the Registrar's Office. During the summer months communications are normally sent to the students' permanent addresses unless the student has filed an alternate address card with the Registrar by the advertised deadline.

## 10. Identification Cards

At the time of first registration students are required to purchase an I.D. card at a cost of \$5.00. This card is issued upon presentation of the Registration Form duly signed by the University cashier. It provides the student with a University identification, serves as a Library card, allows access to The Tower (Fitness and Recreation Centre), and enables students to obtain discounts from some local business establishments.

Each subsequent year I.D. cards are validated during registration. There is no charge for validation. A replacement card costing \$10.00, for lost or damaged cards, will be issued with a photocopy of the registration form or with a form stamped "I.D. Issued". No cards will be issued without a registration form.

Students who have not received their I.D. card by September 30 can obtain one at the Library during the posted hours.

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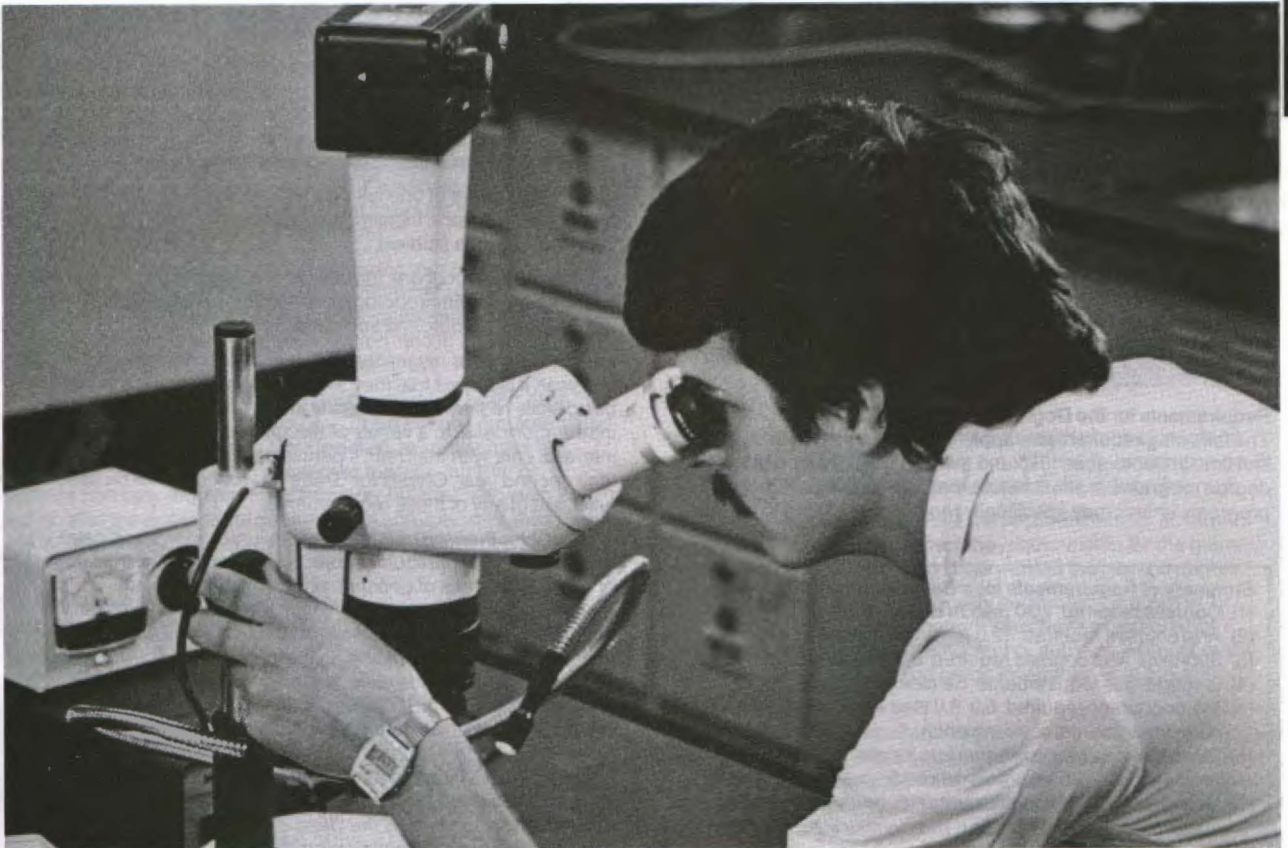
## Section 3

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# Faculties and Programs

Arts  
Commerce  
Science  
Engineering  
Education  
Masters  
Special Programs  
Pre-Professional

Faculties  
and  
Programs



# Faculty of Arts

## General Information

The Faculty of Arts offers programs of study leading to the degrees of Bachelor of Arts, Bachelor of Arts (Honors), and Master of Arts. The last of these is at present available in Atlantic Canada Studies, history, International Development Studies, and philosophy.

The primary purpose of the ordinary B.A. program is to provide a sound basic education in the liberal arts, combined with a study in some depth in at least one subject or other area of concentration. The honors program is designed for students of above-average ability, especially for those who intend to proceed to graduate work or who seek a professional career in the area of the honors subject or subjects. It requires greater specialization, and a higher level of performance, than the ordinary B.A. program, and includes courses specially designed for honors students.

## Proficiency in English

All candidates for the Bachelor's degree are expected to be able to express themselves clearly and cogently in the English language. To this end, instructors in all subjects attach great importance to clarity of expression and to the capacity to sustain a coherent argument (as well, of course, as to substance and relevance) in assessing written work. Students who are deficient in this area are therefore strongly advised to take immediate steps to remedy that deficiency, and in particular to use the compulsory courses in English to maximum advantage. Otherwise, however industrious they may be, and however extensive their knowledge, they may have difficulty in accumulating sufficiently high grades to qualify for graduation.

In a nation that is officially bilingual it should be unnecessary to point out the added advantage of acquiring a working knowledge of the French language.

Although the time required for study and review will vary from course to course, students should expect to devote a total of nine hours per course per week (including class periods and private study). Normally this will mean spending about two hours of private study time for each hour of class time. Term papers and lab exercises may require additional time. Students should note that some professors may include class attendance in their course grading scheme.

## Requirements for the Degree of Bachelor of Arts

The following requirements apply to all students registering for the first time in September 1975 and thereafter. Students registered in degree programs in effect before that date will remain in those programs unless they specifically request permission to transfer.

### Summary of Requirements for a Bachelor of Arts Degree

- (1) Courses required: 20.0 (see Arts regulation 1)
- (2) Arts courses required: 12.0 (see Arts regulation 1)
- (3) 300-level Arts courses required: 8.0 (see Arts regulation 1)
- (4) General Arts requirements: 5.0 (see Arts regulation 3)
- (5) Major courses required: 6.0-8.0 (see Arts regulations 4 and 5 plus departmental requirements)
- (6) Cumulative quality point average for major: 2.00 (see Arts regulation 7 plus departmental requirements)
- (7) Cumulative quality point average for graduation: 1.50 [see academic regulation 7-c(ii)]

1. Subject to the regulations set forth in this Calendar, candidates for the Bachelor of Arts degree must complete the equivalent of 20 full courses including any advanced standing credits for which they may qualify (see academic regulation 20). The specific length of a program is determined by the quality and extent of the student's academic preparation prior to admission to Saint Mary's. For example, students who have successfully completed English and at least four other academic subjects in Nova Scotia Grade XII with marks of 65 or better are admitted to a 15 credit program. Whatever the length of a program, a student must complete a minimum of 12 full courses in recognized Arts subjects, of which a minimum of eight must be at the 300-level or above.

2. During the regular academic year, a full-time student will normally take the equivalent of five full courses. In exceptional circumstances, students with a quality point average of at least 3.00 in the previous year of full-time study may, at the discretion of the Dean, be permitted to take a sixth course.

3. Each candidate must receive credit for:

- a. English 201.1(2) and 202.1(2) or, at the discretion of the Chairperson of the English Department, an alternative full course in English. In addition, each student is required to pass a Use of English Test which is administered on a regular basis, several times a year, by the Department of English.
- b. the equivalent of one full course in one of the following subjects:
  - Philosophy 200 (Basic Logic). (No other philosophy course satisfies this requirement)
  - or mathematics
  - or a language other than English
  - or a natural science (except psychology);
- c. the equivalent of one full course from among the remaining humanities (classics, history, philosophy other than Philosophy 200, and religious studies);
- d. the equivalent of one full course in at least two of the following social sciences: anthropology, economics, geography, political science, psychology, and sociology.

Full-time students must attempt to fulfil these requirements in their first year. It is hoped that they will thereby be introduced to the basic skills required for university study, and be exposed at the introductory level to a variety of disciplines. Students with special interests can, with the Dean's permission, fulfil some of these in their second year. Credits for Grade XII work may not be used in fulfilment of any of these requirements.

4. Not later than the beginning of the junior year, candidates must declare the particular subjects in which they wish to major, or alternative areas of concentration. The following are recognized as Arts subjects in which it is possible to major: anthropology, classics, economics, English, French, geography, German, history, Latin, mathematics, philosophy, political science, psychology, religious studies, sociology and Spanish. In addition, Asian Studies, Atlantic Canada Studies, International Development Studies (for details consult the Program Coordinator), and Women's Studies are four areas of concentration which are formally organized; and alternative areas, tailored to the needs and interests of particular students, may be devised and approved by the Dean of the Faculty. Once major subjects or areas of concentration have been declared,

candidates' programs must be approved annually and supervised by the departments in which they are majoring or by the persons responsible for their areas of concentration. While a subsequent change of major subject or area of concentration is possible, students are advised that such a change may necessitate additional courses in order to meet graduation requirements. The regulations governing the major program will be those in effect at the time of declaration of the major.

5. In addition to satisfying requirement 3, each candidate must receive credit for the equivalent of not fewer than six full University courses in the subject of the major or in the chosen area of concentration; but may count among these six any relevant course or courses taken in fulfillment of requirement 3. Not fewer than four of the six courses must be at the 300-level or above. No department may require more than the equivalent of eight full courses in the major subject.

6. Within the limits imposed by these regulations, any candidate may count towards his B.A. degree the equivalent of up to three full courses from outside the range of recognized Arts subjects as specified in requirement 4. The Dean of the Faculty may authorize an extension of this upper limit to meet special program requirements or where there are sound academic reasons for doing so.

Students registered in the Faculty of Arts should note that certain course offerings in the Faculty of Commerce are acceptable as Arts credits. These are Msc 205.1(2); Msc 206.1(2); Msc 207.1(2); and Msc 325.1(2). Other Commerce (also Science and Education) courses to a maximum of 3.0 may be taken in a Bachelor of Arts program but they cannot be counted as Arts courses.

7. In order to have major subjects or areas of concentration formally entered upon their records, candidates must have maintained a cumulative quality point average of 2.00 (or an average grade of C) in the courses specified in requirement 5, and must have fulfilled any additional requirements specified by their departments or areas of concentration. Candidates who fail to achieve this average may, provided that they fulfil all other requirements, graduate as non-majors.

8. Candidates have the option of declaring minor fields in addition to major ones. To satisfy the requirements for a minor they must receive credit for at least four full courses in that particular subject or area of concentration, and at least two of these courses must be at the 300-level or above.

9. It is also possible to declare a double major, in which case the candidate must fulfil both Faculty and departmental requirements in respect of each of the subjects declared. In some cases this may not be possible without exceeding the total number of courses normally required for graduation; but the Dean, with the approval of the appropriate departmental chairpersons, may reduce these requirements in the light of a student's overall record.

10. In conformity with academic regulation 7-c(ii) students must achieve a minimum cumulative quality point average of 1.50 in order to qualify for graduation.

#### **Requirements for the Degree of Bachelor of Arts — Honors**

11. The Faculty of Arts offers honors programs in anthropology, Atlantic Canada Studies, Asian Studies, economics, English, geography, history, International Development Studies, mathematics, modern languages, philosophy, political science, psychology, religious studies, and sociology. It is also possible to take combined honors in any two of these subjects

#### **12. Admission Requirements**

a. Not later normally than the beginning of their junior year, candidates should make application for admission to the honors program on the special form obtainable from the Registrar. They must obtain the approval of the chairperson of the appropriate department and of the Dean of the Faculty in which they are enrolled.

b. The normal prerequisite is a cumulative quality point average of 2.50. Candidates, however, will be assessed on the basis of their overall academic record.

#### **13. Requirements for Continuance in and for Graduation with Honors**

a. Students must accumulate 25 full course credits or equivalent, including any advanced standing credits.

b. To continue in the program, students must achieve a yearly quality point average of 3.00.

c. To graduate, students must achieve a cumulative quality point average of 3.00.

d. Students must receive credit for not fewer than ten full courses or equivalent in the honors subject, of which eight must be at the 300-level or above. Each year the students' programs must have the approval of the chairperson of the department who may permit the substitution of up to two courses from a related subject area as part of the ten courses required.

e. In the courses presented to satisfy 13-d, students must have a quality point average of 3.00 with at least eight grades of B or higher and no grade lower than C (2.00).

#### **14. Requirements for Graduation with Combined Honors**

a. Candidates for a combined honors degree must receive credit for not fewer than seven full courses (or equivalent) in each of two honors subjects. At least ten of these courses must be at the 300-level or above, including a minimum of four in each subject. Each year, the students' programs must have the approval of the chairpersons of both departments involved.

b. To continue in the program, students must achieve a yearly quality point average of 3.00.

c. To graduate, students must achieve a cumulative quality point average of 3.00.

d. In the courses presented to satisfy 14-a, students must have a quality point average of 3.00 with at least eleven grades of B, and no grade lower than C (2.00).

15. Candidates for honors must complete the requirements for the Bachelor of Arts degree as outlined in the Calendar (see no. 3), and any additional requirements of the relevant department(s).

16. Candidates who fail to meet the requirements for an honors degree but who otherwise meet the requirements for the general degree, on application, should be awarded the general degree.

17. In addition to the overall quality point average noted in 13 above, every candidate for honors must have a quality point average of 3.00 in the honors subject or subjects, with not more than two grades of C, and no grade lower than C, in the same subject or subjects.

#### **18. Co-operative Education Programs**

The Faculty of Arts offers an optional co-operative education program in geography. Co-operative education is an innovative approach to university education which integrates academic classroom studies with related practical work experiences outside the formal university environment. The principle upon which this

concept is based is that learning and individual development are greatly enhanced when the concepts studied in the classroom are periodically applied, tested and observed by the students in meaningful work situations. A "Co-operative Education" distinction is noted on the diplomas and academic records of students who successfully complete co-operative education requirements in addition to their regular degree requirements.

#### **19. Admission Requirements for Co-operative Education Programs**

- a. Students may be considered for admission to a co-operative education program after completion of their tenth university credit (including any advanced standing credit they may have received).
- b. Candidates should make application for admission to a co-operative education program on a special form obtainable from the Registrar. Students will be admitted to a co-operative education program on the basis of their formal academic achievement and interviews with the Co-operative Education Coordinator of the appropriate department.
- c. The normal prerequisite for admission to a co-operative education program in a regular Bachelor of Arts program is a cumulative quality point average of at least 2.50 and a grade point average of at least 3.00 in the course(s) of the student's major subject.
- d. Candidates will be admitted to a co-operative education program on the basis of their interest, aptitude and assessed ability to combine successfully the academic requirements of a regular Arts program together with the special work-term requirements of the co-operative education program they wish to enter.

#### **20. Requirements for Continuance in and Graduation from a Co-operative Education Program**

- a. Students must complete all of the regular requirements for a Bachelor of Arts degree (see regulations 1 through 10 above). Since individual programs may have specific additional requirements for co-operative education students, students should consult the appropriate departmental section of this Calendar for a description of these regulations.
- b. Students must complete five additional half course credits as specified by the department of their major. These courses comprise the academic core of the co-operative education program, and are normally taken during the period following the student's first, and prior to the student's last work term. There are a number of approved co-operative education core courses which relate academic studies to practical working experience which can be taken to fulfil this regulation.
- c. In addition to the above requirements, students must complete three work-term experiences as specified by the department of their major program (see regulation 21 below and departmental co-operative education regulations).
- d. To continue in and graduate from a co-operative education program, students must earn a yearly quality point average of at least 2.50 with a grade point average of at least 3.00 in courses of their major subjects.

#### **21. Policies and Regulations Governing Co-operative Education Work Terms**

- a. The University will make every effort to locate work-term positions for co-operative education students in academically related areas of employment, but cannot guarantee placements. Employment settings may also be identified by co-operative education students, but require the approval of the appropriate departmental Co-operative Education Coordinator.

- b. The satisfactory fulfilment of co-operative education work-terms requires:
  - (i) the completion of three terms of work experience in academically related, paid employment situations of 13 to 16 weeks duration. Under certain circumstances, and with the approval of the appropriate department, students may be permitted to satisfy their work term requirements in an unpaid position.
  - (ii) a satisfactory employer evaluation for each co-operative education work-term;
  - (iii) the satisfactory completion of a written report following each work-term detailing the student's work experience in accordance with departmental standard and expectations.

- c. A notation will be included on the student's academic transcript following satisfactory completion of each work-term.

- d. Graduating students who have successfully completed their co-operative work-term requirements will have this noted on their academic transcripts. If, in addition, all other normal academic requirements are fulfilled, a "Co-operative Education" notation will be printed on their diploma.

- e. Students may be required to withdraw from a co-operative education program if:
  - (i) they are dismissed from, quit, or fail to accept an appropriate and approved co-operative work-term position;
  - (ii) they fail to submit or successfully complete a work-term report;
  - (iii) they do not maintain the required quality point average necessary for continuance in a co-operative program;
  - (iv) in the judgement of their department, they are no longer suitable for the particular requirements of a co-operative education program.

- f. Students who voluntarily withdraw from or who are required to withdraw from a co-operative education program, may remain enrolled in and continue with the major degree program offered by their department.

22. Co-operative education students will be expected to attend any special seminars or colloquia developed by the Faculty of Arts, or the co-operative education departments, which deal with employment orientation and the application of formal academic study to work experiences.

23. **Fees for Co-operative Education**
  - a. Students pay for their academic courses as they take them.
  - b. Students pay a fee equivalent to a half credit for a work-term they undertake. This amount is paid to the Business Office within one month of the start of the work-term.

24. Students who voluntarily withdraw from or who are required to withdraw from a co-operative education program, may remain enrolled in and continue with the major degree program offered by their department.

25. Co-operative education students will be expected to attend any special seminars or colloquia developed by the Faculty of Arts, or the co-operative education departments, which deal with employment orientation and the application of formal academic study to work experiences.

#### **23. Fees for Co-operative Education**

- a. Students pay for their academic courses as they take them.
- b. Students pay a fee equivalent to a half credit for a work-term they undertake. This amount is paid to the Business Office within one month of the start of the work-term.

### **Criminology Certificate Program**

This program of six credit courses is designed to provide broad theoretical and practical foundations for persons who deal in their daily work with problems of delinquency, criminal behavior and the treatment of offenders.

While intended primarily for working officers in the police forces, in federal or provincial correctional services and custodial institutions, and for court workers, the program is open also to interested students.

#### **Admission**

Students must be enrolled in a degree program at Saint Mary's University or have completed an undergraduate degree. The Criminology Certificate Program requires a formal application for

admission. Demonstrated academic ability or relevant work experience, and official approval of the Criminology Certificate Program Coordinator are prerequisites for admission to the program. To be eligible for the Criminology Certificate Program, a student without relevant work experience must have completed at least four full courses (or half course equivalents), one of which must be Sociology 200.0, and have attained a minimum cumulative quality point average of 2.00. Once students are eligible they are urged to apply for the program. Required courses in the program should be taken after the student has officially been admitted. In cases where students already have completed one full course requirement (or half course equivalents) or less in the program, they may be admitted subject to their completing at least one additional full course (or half course equivalents) in the Criminology field. Alternative program courses will be selected and approved by the Coordinator after consultation with the student. Normally students who have completed more than 25% of the program courses will not be admitted. Transfer credits from other academic institutions are not accepted towards the Criminology Certificate Program. Students who have already completed an undergraduate degree may apply for the program. Applicants must submit a resume of relevant experience and official university transcripts.

### Program Courses

The six courses which comprise this program are: Sociology 201.1(2); 202.1(2); 203.1(2); 204.1(2); 303.0; and 315.0. Detailed descriptions of these courses are found in the Department of Sociology, Section 5 of this Calendar.

### Requirements for Graduation

Students are encouraged to complete the program within six years. A minimum cumulative quality point of 2.00 in the Criminology Certificate Program courses is required. Students who have completed courses without being officially admitted to the Criminology Certificate Program will not be accredited.

### Application

Students must apply for the program by completing the application form available from the Registrar. The completed form (along with supporting documents, where applicable) must be returned to the Registrar, who will submit the application for approval to the Coordinator of the Criminology Certificate Program. Because academic and relevant work experience are important criteria for admission to the program, students are advised that applications to the Criminology Certificate Program are processed on a competitive basis. The deadline for applications is June 1 for entry the following September.

## A Minor in Image Studies

Pictures have always played an important part in interpreting human experience. They take a variety of forms from film to photograph, from woodcut to painting, from sculpture to drawing. This minor will offer students the opportunity to examine, from the critical perspective of several disciplines, the attributes of images and the cultural functions of images.

Students may declare a minor in Image Studies after consultation with the Dean of Arts (or designate).

A minor in Image Studies requires successful completion of four full courses (or half course equivalents) accredited in the Image Studies curriculum. Courses must be selected from at least three

departments involved in the Image Studies Program. Prerequisites for courses in the Image Studies Program can be waived with the permission of the course instructor.

### Courses in the Image Studies Minor

Ant 332.0	Anthropological Approaches to Folklore
Ant 390.0	Myth and Symbol
Cla 203.1(2)	Art in Greece and the Ancient Near East
Cla 204.1(2)	Art in Rome and Christian Europe to the 14th Century
Egl 313.0	Narrative in Fiction and Film
Egl 314.0	Film Criticism
His 366.0	Images and European History
Mkt 472.1(2)	Advertising Management
Phi 320.0	Aesthetics: The Philosophy of Art
Phi 348.1	Aesthetics: The Work of Art, The Artist
Phi 349.2	Aesthetics: The Aesthetic Experience
Psy 436.1(2)	Psychology of Art I
Psy 437.1(2)	Psychology of Art II
Psy 445.0	The Psychology of the Unconscious
Rel 337.1(2)	
[437.1(2)]	Religion and Art in South Asia
Rel 338.1(2)	
[448.1(2)]	Religion and Art: The West

## Degree Program for Vocational School Teachers

- Vocational teachers may be admitted to the Bachelor of Arts program if they have completed:
  - eight years trade training and experience,
  - grade XII or its equivalent,
  - the three-summer program at the New Brunswick School or Institute of Technology, or Nova Scotia Teachers College,
  - and three years successful teaching at a vocational high school or technical institute.
- Teachers so admitted may qualify for the Bachelor of Arts degree by completing a minimum of 12 credits in recognized Arts subjects and by completing all other degree requirements as specified in the above regulations.
- Vocational teachers who have successfully completed a Bachelor of Arts degree at Saint Mary's University may receive the degree of Bachelor of Education (Vocational) by successfully completing at Saint Mary's University three credits in Education which have been approved by the Dean of Education.
- Vocational teachers may proceed to the degrees of Bachelor of Education (Vocational) and Bachelor of Arts concurrently.

## Degree of Master of Arts in Atlantic Canada Studies

The General Requirements for the Master's Degree (Section 3 of this Calendar) apply to the graduate program in Atlantic Canada Studies (hereafter ACS).

Specifically, the Master's degree in Atlantic Canada Studies involves the following considerations and includes the following requirements:

- The normal qualification for entry into the one-year Master's program is an honors degree in Atlantic Canada Studies, or a degree which the Atlantic Canada Studies Committee deems to be equivalent. At the discretion of the Committee, a candidate may be admitted to the program subject to the prior completion of such qualifying work as the Committee shall prescribe.

2. The ACS Coordinator will work with all Master's candidates from the earliest stages of their participation in the graduate program to determine the area of a thesis topic and to select a thesis supervisor. The thesis supervisor will be the Graduate Faculty Advisor for the duration of a given candidate's participation in the program.

3. All candidates for the M.A. in ACS must complete an acceptable thesis. It is not possible to satisfy the requirement for a thesis by means of extra course work.

4. Candidates are expected to produce a thesis which shows both originality and the analytical-critical skills of sound research and interpretation. The topic must deal directly with an Atlantic Canada subject matter.

5. All candidates must present and defend a thesis proposal and ultimately a thesis, before a Thesis Examining Committee. This Committee consists of a thesis supervisor, the ACS Graduate Studies Coordinator (or appointee), and a third reader acceptable to the thesis supervisor and the ACS Committee.

6. In addition to the thesis, candidates must complete four courses at the 600.0 level approved for the ACS graduate program. Two of these courses must be selected from the following ACS seminars:

ACS 620.0 The Atlantic Canada Culture Seminar

ACS 630.0 Seminar on Atlantic Canada Ecology and Resources

ACS 640.0 Atlantic Canada Political Economy Seminar

ACS 660.0 History and Society: The Atlantic Provinces Seminar.

7. All candidates, as part of their four-course program, must complete ACS 690.0. Credit for the course will be determined when the candidate satisfies the thesis supervisor that both thesis research and all other preparation for the successful handling of the thesis topic have been completed. Supervisors may require a demonstration of language competence or extra course work as preparation for the treatment of certain thesis topics.

## Degree of Master of Arts in History

The University's general requirements for admission to graduate studies and for the Master's degree apply to the Department of History. The particular requirements of the department, which include a thesis as well as course work, are as follows:

1. Candidates with a general B.A. must satisfy the course requirements of the honors program in history or its equivalent before entering a one-year Master's program. They must then complete three additional history courses at the 500 or 600 level, and History 690.0. The program of each candidate must be approved by the department.

2. After a review of a candidate's progress at the end of the first term, the department may recommend to the Dean that the student be required to withdraw from the program.

3. The candidate will be required to demonstrate a reading knowledge of at least one language other than English. French is required of candidates intending to write a thesis on any aspect of Canadian history.

4. The subject of the thesis must be decided in consultation with the thesis advisor.

5. Before presenting a thesis, the student must pass a written, comprehensive examination in both a major and a minor field. Upon completion of the thesis, an oral defence will be required. Two months prior to this defence, the candidate will be invited to select an examination board subject to the approval of the

Department of History. While the department will make every attempt to meet individual requests, it cannot guarantee full compliance. No student may enrol in a course at the 600-level without the consent of the department.

## Degree of Master of Arts in International Development Studies

The General Requirements for the Master's Degree (Section 3 of this Calendar) apply to the graduate program in International Development Studies (IDS). The specific requirements and conditions of the Master's degree in International Development Studies are as follows:

1. Students who have earned an honors baccalaureate undergraduate degree with a major concentration in a discipline or a field of study related to international development qualify for admission into the two-year graduate program.

2. Students who have earned an honors baccalaureate undergraduate degree (or its equivalent) with a minor concentration (four relevant courses) or practical experience in the field of international development may be exempted from one to a maximum of three courses listed for the first year of the two-year graduate program.

3. Students who have earned an honors baccalaureate undergraduate degree with a major concentration in International Development (or its equivalent) may be admitted directly into the second year of the two-year graduate program.

4. A minimum average of B (or equivalent) is required for graduation.

5. Applicants must submit academic transcripts; a statement that specifies areas of preparation and interest; and two letters of recommendation from individuals who can attest to their academic or professional competence and/or interest in pursuing graduate training in international development.

6. A minimum score of 550 on the TOEFL is required of all international applicants whose native language is not English and whose undergraduate education was conducted in a language other than English.

7. The graduate committee of the IDS program will review the files of all applicants and determine final admission into the program.

8. Candidates for the Master's degree must complete and receive credit for the following course programs:

### Year One

a. IDS 510.0 Seminar in International Development and IDS 530.1(2) Contemporary Development Planning

b. IDS 520.1(2) Methodology of Research and Analysis

c. Two of: IDS 540.1(2) to 545.1(2) Topics in International Development;

One of: IDS 560.1(2) Field Research Project; IDS 550.1(2) to 555.1(2) Directed Readings in International Development.

d. A minimum of two cognate courses (the equivalent of two full or half course equivalents) chosen from an approved list in consultation with the Program Coordinator (e.g., economics, history, etc.)

### Year Two

a. IDS 600.0 Development in a Global Context and IDS 610.1(2) Problems in International Development



- b. One of: IDS 620.1(2) Methodology of Research and Analysis;  
IDS 630.1(2) Contemporary Development Planning;  
ECO 5250 Program and Project Evaluation (Dalhousie University);  
ES 5020 Development and Environment Planning (Dalhousie University).
- c. One of: IDS 650.1(2) to 655.1(2) Directed Readings;  
IDS 640.1(2) to 645.1(2) Special Topics in International Development;  
IDS 660.1(2) Field Research Project.
- d. A minimum of one cognate course (the equivalent of one full credit) chosen in consultation with the Program Coordinator from among an approved list.
- e. A thesis or practicum that shows analytical/critical skills of research/interpretation and that makes an original contribution to the field of International Development.

## Degree of Master of Arts in Philosophy

The University's general requirements for admission for graduate studies and for the Master's degree apply to the Department of Philosophy. The particular requirements of the department are as follows:

1. Candidates are normally required to have an honors degree in philosophy with at least second class standing, (B average), or its equivalent. In some cases a candidate with a general B.A. or its equivalent may be admitted with the permission of the department. Such candidates will have to make up for background deficiencies. Some acquaintance with modern logic and the various sections of the history of philosophy is desirable for all candidates.
2. The degree can normally be taken in one year. Candidates with certain deficiencies in philosophical knowledge and education are asked to study for two years.
3. Candidates usually take four full courses in an academic year. Those enrolling in a two-year program may be asked to attend certain medium level courses in their first year. In addition to the regular courses listed in the Calendar, reading and tutorial classes can be arranged for those who require special or advanced instruction. (See Reading Courses in the Philosophy section of this Calendar.)
4. Every Master of Arts candidate is required to write a thesis which shows critical acumen as well as originality. Thesis research is closely supervised by one or two members of the department. Areas from which the topic of the thesis may be chosen include: ancient, medieval, and modern philosophy, metaphysics, philosophy of mind, epistemology, logic, philosophy of science, philosophy of man, philosophical analysis, philosophy of language, existentialism, phenomenology, ethics, and aesthetics.

## Degree of Master of Arts in Sociology and Criminology

The General Requirements for the Master's Degree (Section 3 of this Calendar) apply to the graduate program in Sociology and Criminology. The specific requirements and conditions of the Master's degree in Sociology and Criminology are as follows.

### 1. Admission Requirements

- a. Students who have earned an honors B.A. degree with a major concentration in Sociology or Criminology may be admitted into the one-year graduate program.

- b. Students who have earned a B.A. degree in Sociology, Criminology, or other related disciplines may be admitted to a two-year graduate program, the first year of which would be equivalent to the honors program.

- c. Applicants must submit academic transcripts; a statement that specifies areas of preparation and interest; and three letters of recommendation from individuals who can attest to their academic or professional competence and/or interest in pursuing graduate training.

- d. A minimum score of 650 on the TOEFL or of 110 on the University of Michigan English Proficiency Test is required of all international applicants whose native language is not English and whose undergraduate education was conducted in a language other than English.

- e. The graduate committee of the Sociology and Criminology Department will review the files of all applicants and make final decisions about admission into the program.

### 2. Degree Requirements

- a. In addition to the requirements of the honors program, all candidates must receive credit for the following:

- (i) Soc 601.0 — Social Justice and Social Change.
- (ii) Either Soc 613.1(2) — Advanced Criminological Theory or Soc 623.1(2) — Theories of Social Development.
- (iii) Soc 602.1(2) or Soc 603.1(2) or Soc 604.1(2) — Research Methods.
- (iv) The equivalent of one full course at the 600 level relevant to the student's area of concentration.
- (v) Thesis Research — Soc 630.0. Candidates are expected to produce a thesis which shows both originality and the analytical/critical skills of research and interpretation. The thesis must be accepted by the students' committee by May 1 if the degree is to be completed by the deadline stipulated for graduation that same year. The Thesis Committee will consist of a thesis supervisor and two members. All candidates must defend their thesis before an Examining Committee consisting of the Thesis Committee, the Graduate Studies Coordinator, and one outside reader chosen by the Thesis Committee in consultation with the Graduate Studies Coordinator and the student. The defense will be public.

- b. A minimum quality point average of B (or equivalent) is required for graduation.

- c. All degree requirements must be completed within five years of first registration in the program.

This program is subject to the approval of the Maritime Provinces Higher Education Commission.

(ii) These electives must be selected in consultation with and approved by the student's Management Science advisor.

**g. Business Administration Major (Marketing Program)**

**Junior Year**

Mkt 376 (1/2) Consumer Behavior  
Mkt 378 (1/2) Marketing Research  
Marketing elective (1/2)  
Non commerce elective (1)

**Senior Year**

Mkt 479 (1/2) Marketing Policy  
Marketing elective (1)  
Non commerce elective (1)  
Free electives, 200 level or above (2)

**h. Business Administration Major (Human Resource Management and Industrial Relations Program)**

**Junior Year**

Mgt 385 (1/2) Human Resource Management  
Mgt 386 (1/2) Industrial Relations  
Eco 339 (1/2) Labor Economics  
Eco 340 (1/2) Human Resources Economics  
Free elective, 200 level or above (1/2) — see note below

**Senior Year**

Mgt 481 (1/2) Organization Theory, Structure, Process, Analysis and Design  
Mgt 483 (1/2) Interpersonal Behavior I  
Non commerce electives (2)  
Free electives, 200 level or above (1 1/2)

Note: If Eco 339 (1/2) and/or Eco 340 (1/2) were used to satisfy the required Economics electives in the sophomore year, the number of free electives is increased to (1) or (1 1/2) as appropriate.

**i. Business Administration Major (General Business Studies Program)**

**Junior Year**

Commerce electives, 300 level or above (1 1/2)  
Non commerce elective (1)

**Senior Year**

Commerce electives, 300 level or above (1 1/2)  
Non commerce elective (1)  
Free electives, 200 level or above (2)

**j. Computing Science and Business Administration Major [see note (i)]**

**Freshman Year** (first year of a 20 credit program)

Eco 201 (1/2) Principles of Micro Economics  
Eco 202 (1/2) Principles of Macro Economics  
Egl 201 (1/2) English Composition  
Egl 202 (1/2) An Introduction to Literature  
Cml 301 (1/2) Legal Aspects of Business — Part I  
Mat 200 (1) Calculus I  
CSC 226 (1/2) Introduction to Computer Programming I  
CSC 227 (1/2) Introduction to Computer Programming II  
Mgt 281 (1/2) Principles of Management

**Sophomore Year**

Acc 241 (1/2) Introductory Accounting I  
Acc 242 (1/2) Introductory Accounting II  
Economics elective (1/2) (see note (ii) below)  
CSC 345 (1) Data Structures and Program Design  
Mgt 382 (1) Organizational Behavior  
Mkt 370 (1/2) Introduction to Marketing  
Msc 207 (1/2) Introductory Statistics for Commerce  
Msc 324 (1/2) The use of COBOL in Data Processing

**Junior Year**

Acc 348 (1/2) Planning and Control  
Fin 360 (1/2) Business Finance I  
Fin 361 (1/2) Business Finance II  
Mat 320 (1/2) Linear Algebra I  
Mat 321 (1/2) Linear Algebra II  
CSC 327 (1/2) Computer Organization and Assembly Language Programming  
CSC 328 (1/2) System Architecture  
Msc 301 (1/2) Operations Research  
Free elective (1/2)  
Com 293 (1/2) Managerial Communication  
or  
Egl 250 (1/2) Business English

**Senior Year**

Acc 323 (1/2) Management Information Systems I  
Acc 425 (1/2) Management Information Systems II  
Eco elective (1/2) (see note (ii) below)  
CSC 461 (1/2) Data Base Systems  
CSC 462 (1/2) File Structures  
Mgt 489 (1/2) Business Policy  
Commerce elective (1)  
Free elective (1)

**Notes:**

- (i) Students already enrolled in the Commerce program who wish to major in Computing Science and Business Administration must apply to the Dean of Commerce for admission into this program.  
(ii) Eco 317.1(2) or Eco 322.1(2) will not satisfy this requirement.

**General Requirements for the Degree of Bachelor of Commerce (Honors — Economics)**

**1. Admission Requirements**

- a. Minimum cumulative quality point average of 3.00 at the end of the sophomore year.  
b. Candidates must make application for admission to the honors program on the special form obtainable from the Registrar no later than the last day of registration at the beginning of their junior year. They must obtain the approval of the chairperson of the Economics Department and of the Dean of Commerce.

**2. Requirements for Continuance and Graduation**

- a. To continue in the program and to graduate, students must maintain a minimum cumulative quality point average of 3.00.  
b. The specific course requirements of the program are:

**Freshman Year**

Msc 205 (1/2)  
\*Msc 206 (1/2)  
Mgt 281 (1/2)  
Msc 325 (1/2)  
\*Eco 201 (1/2)  
\*Eco 202 (1/2)  
Egl 201/202  
Humanities elective (1)

**Sophomore Year**

\*Msc 207 (1/2)  
Acc 241 (1/2)  
Acc 242 (1/2)  
Mkt 370 (1/2)  
Mgt 382 (1)  
Cml 301 (1/2)  
Com 293 (1/2)  
\*Eco 300 (1/2)  
\*Eco 301 (1/2)

**Junior Year**

Acc 348 (1/2)  
 Fin 360 (1/2)  
 Fin 361 (1/2)  
 \*Eco 302 (1/2)  
 \*Eco 303 (1/2)  
 \*Eco 304 (1/2)  
 \*Eco 305 (1/2)  
 \*One of Eco 306 (1/2), 312 (1/2), or 406 (1/2)  
 Social science (excluding economics) elective (1)

**Senior Year**

Mgt 489 (1/2)  
 \*Eco 309 (1/2)  
 \*Eco 591 (1/2)  
 \*One of Eco 440 (1/2) or 441 (1/2)  
 \*Economics elective at 400 level or above (1/2)  
 \*Economics electives (2 1/2)

Note: With the permission of the chairperson of the Department of Economics, another economic theory course may be substituted for Eco 304 or 305, but not both.

c. For courses marked with an asterisk (\*), no grade below a C is acceptable and at least eight full credits, or equivalent, must have a grade of B or higher.

d. With the approval of the chairperson of the Department of Economics, a student may be permitted to substitute up to two full courses, or equivalent, from a related subject, for junior and senior year required economics courses.

**Dual Bachelor Degree Programs**

Since it is possible to pursue two bachelor degrees from Saint Mary's University, students may desire to arrange their courses so as to obtain a bachelor degree in any two of the following three faculties — Arts, Science, or Commerce.

While the total time required is somewhat longer, such dual degree programs are quite feasible. Students who contemplate pursuing any dual degree program should consult with the Deans of both Faculties before embarking on their program of study.

If a student opts to graduate after completing only one of the degree programs, and subsequently wishes to complete the second program, the requirements are those for a second undergraduate degree as stated in academic regulation 24.

**Certified Management Accountants (CMA) Program**

Director  
 Assistant Director

P. Secord  
 L. Wasteneys

Saint Mary's University has entered into an official agreement with the Society of Management Accountants of Nova Scotia to offer all academic courses for the Certified Management Accountant (CMA) program. The courses are offered through evening classes on campus and through distance education.

The CMA program includes the following academic courses:

Society Number	Saint Mary's Number	Saint Mary's Course Title
<b>Level 1</b>		
111	Acc 241.1(2)	Introductory Accounting I
111	Acc 242.1(2)	Introductory Accounting II

122	Cml 301.1(2)	Legal Aspects of Business
123	Mgt 382.0	Organizational Behavior
<b>Level 2</b>		
212	Eco 201.1(2)	Principles of Economics: Micro
212	Eco 202.1(2)	Principles of Economics: Macro
214	Msc 325.1(2)	Introduction to Computers
229	Acc 341.1(2)	Intermediate Financial Accounting I
241	Acc 348.1(2)	Planning and Control
<b>Level 3</b>		
324	Acc 453.1(2)	Taxation
332	Msc 207.1(2)	Introductory Statistics for Commerce
339	Acc 342.1(2)	Intermediate Financial Accounting II
341	Acc 346.1(2)	Introductory Cost Accounting
<b>Level 4</b>		
441	Msc 301.1(2)	Operations Research
442	Fin 360.1(2)	Business Finance I
442	Fin 361.1(2)	Business Finance II
451	Acc 323.1(2)	Management Information Systems
452	Acc 460.1(2)	Internal/Operational Auditing
<b>Level 5</b>		
541	Acc 449.1(2)	Management Control Systems
543	Acc 443.1(2)	Advanced Financial Accounting: Corporate Accounting
553	Acc 470.1(2)	Management Accounting Seminar

Upon successful completion of all five levels (to successfully complete the program, a cumulative quality point average of 1.50 must be attained), the candidate will qualify to sit for the Professional Program Entrance Examination, Part 1. This examination represents a comprehensive testing of topics and their inter-relationships as expressed in the pre-professional syllabus of the Society of Management Accountants of Canada. Upon successful completion of these examinations, the student will then proceed to the professional program offered directly by the Society.

For a complete education and accreditation syllabus, please contact the Nova Scotia Society of Management Accountants, Atlantic Region, Box 543, Halifax, Nova Scotia B3J 2R7. Telephone: (902) 422-5836.

For information concerning the CMA program at Saint Mary's University, please contact the CMA Office at (902) 420-5527.

**Executive Master of Business Administration (EMB)****The Program**

The Executive MBA will be a four-semester program designed to meet the unique needs of both mid-career managers who have

demonstrated the potential to reach senior management positions and senior managers who want to increase significantly their personal and organizational effectiveness. The Executive MBA will be structured as an integrative program that will enhance participants' ability to think across functional lines and understand better the "whole enterprise" in its global competitive situation.

#### **Governance of Program**

The program administration will be under the direction of the EMBA Director, reporting to the Dean of Commerce. A due process of nomination and selection for this position will be followed. Until this position is formalized, the Dean will assume the role of the Director of the Program.

All program policies will be formulated and guided by an EMBA Council. This Council will consist of one member representing each of the departments in Commerce; the EMBA Director; a representative from the MBA Graduate Council; and representatives from the Alumni, the EMBA students, and industry.

In matters of course scheduling and required withdrawal of students, the EMBA Council will make the decisions and communicate these to appropriate administrative bodies through the EMBA Director. In the matter of recruiting, faculty members will be recommended to the Dean by the EMBA Council.

Each year the EMBA Council will constitute a subcommittee called the "Admissions Committee". This Committee shall have two EMBA Council members both of whom are instructors in the program at Saint Mary's and the EMBA Director. The Dean of Commerce may also opt to sit on this Admission Committee.

An EMBA participant who fails in a course will be required to withdraw from the program. No course credit will be recognized for the other courses which the candidate has successfully completed.

An EMBA candidate who is required to withdraw may, after the lapse of one calendar year, seek re-admission. The application for re-admission shall be evaluated by the EMBA Council (and not the Admissions Committee alone). The Council may deny re-admission or re-admit subject to stipulated conditions. After a lapse of three years, credit for previous EMBA courses will not be recognized.

#### **Qualifications for Admission**

The EMBA Admissions Committee will consider an applicant's prior academic record, scores on the GMAT, military or work experience, extracurricular activities, letters of recommendation, and the written application. While each of these general criteria is important, the applicant's entire profile will be evaluated, where significant strengths in one area may help compensate for weaknesses in another.

Test scores and academic records will be evaluated as evidence of academic quality; however, the Admissions Committee will also look for personal qualities, such as leadership and motivation, which are important for success as a manager.

A written application, including a statement of the objectives of the candidate, and interview will be the basis of the Admissions Committee's decision. Applications will not be evaluated until the application is complete, including test scores. It will be the responsibility of the applicant to ensure that the application is complete.

In general, an applicant for admission to the Executive MBA Program will have:

1. substantial experience at the senior management level;
2. sponsorship by an employer who agrees to pay the fees and

guarantees the involvement of the employer to facilitate successful completion of the program;

3. a bachelor's degree with high standing or equivalent qualification (in certain cases, consideration will be given to candidates who do not hold a bachelor's degree);
4. taken the Graduate Management Admissions test (GMAT), or its equivalent, such as the GRE;
5. two letters of reference from work-related or academic sources.

Upon acceptance, each student will be provided, as appropriate, with orientation materials designed to upgrade skills in Quantitative Methods, Computer Literacy and/or Appreciation of Financial Statements. Where necessary, courses will be run on campus prior to the commencement of classes, so that students are fully conversant in a computerized-learning environment and possess the quantitative skills expected.

#### **Program Highlights**

- A four-semester course of study leading to the degree of Master of Business Administration.
- Classes will meet on alternating weeks on Fridays and Saturdays for two semesters.
- Managerial experiences and practical backgrounds of participants will be utilized.
- A broad management view of various business and organizational problems will be provided.
- An understanding of economic, social, political, and environmental forces that affect the organization and influence managerial decisions will be developed.
- An exchange of information and insights will be encouraged among participants from diverse industries, organizations, functions and responsibilities.
- The sponsoring organization and its participating manager will be able to meet common educational goals without major disruptions of job assignments and home life.

#### **Program Structure**

The EMBA Program will consist of 16 modules of 26 hours each, over a four-semester period, or four modules totalling 104 hours in each semester. The first class of approximately 30 students will enter the program in the fall semester of 1990; classes will be held Monday through Saturday, 9:00 a.m. to 6:00 p.m.; during study break; and will resume for two subsequent Friday-Saturday blocks in March. Eight subjects (see curriculum below) will be covered in the first year.

Year II of the program will follow the class schedule followed in Year I.

Thus, the first class of EMBA students will enter the program in the fall semester of 1990, and complete the program in April 1992. Total program time will be 20 months.

#### **Curriculum**

##### **First Year: Required Courses**

- EMB 511.1(2) Managerial and Financial Accounting
- EMB 512.1(2) Organizational Behavior and Theory
- EMB 513.1(2) Marketing Management
- EMB 514.1(2) Business Research Methods
- EMB 521.1(2) Corporate Finance
- EMB 522.1(2) Managerial Economics

EMB 523.1(2) Operations Management  
 EMB 524.1(2) Human Resource Management

### Second Year: Required Courses

EMB 631.1(2) Management Information Systems  
 EMB 632.1(2) International Capital Markets  
 EMB 633.1(2) Policy I — Business Strategy  
 EMB 634.1(2) Business Research Project I  
 EMB 641.1(2) International Business  
 EMB 642.1(2) Policy II — Public Policy in Business  
 EMB 646.1(2) Business Research Project II

### Elective Courses

EMB 643.1(2) Industrial Relations  
 EMB 644.1(2) Financial Innovations  
 EMB 645.1(2) International Marketing

**Summary:** 15 required courses; 1 elective.

Graduate students should also refer to the material entitled "Master's Degree" which is found in Section 3 of this Calendar.

Detailed EMBA course descriptions are found in Section 5 of this Calendar.

## Master of Business Administration (MBA)

### Program Objectives

The primary objective of the Master of Business Administration program is to provide an intellectual and social environment in which the students can discover how to develop potential for effective management. Both business and government are increasingly demanding that professional administrators possess specialist competence as a prerequisite for middle management employment, plus generalist competence from those who aspire to more senior management positions. The program at Saint Mary's University is designed to satisfy both these demands.

Since many MBA students can realistically expect to hold middle line or staff management positions before moving on to more senior levels later in their careers, the program is designed to satisfy short-term and long-term educational needs by providing:

- generalist concepts in anticipation of potential to succeed to more general and senior management positions later; and
- specialist concepts and techniques applicable to a particular line or staff area.

### Qualifications for Admission

Admission to the program is open to students with a bachelor's degree from a recognized university, whose scholarly records indicate that they are capable of studying management and administration at the graduate level, and who obtain a satisfactory score in the GMAT.

### Application Procedures

Applications for admission to the MBA program should be made as early as possible. The normal deadline for the receipt of all application material is May 31, for entry the following September, except for overseas students whose applications and supporting documents must be received by April 1.

Application material and program information may be obtained by contacting the:

Director of Admissions  
 Saint Mary's University  
 Halifax, Nova Scotia  
 B3H 3C3

To be considered for admission, students will be required, where applicable, to submit the following to the Director of Admissions:

- completed application forms;
- an official transcript for all work previously undertaken;
- two letters of recommendation;
- GMAT results (Note: 0958 is the appropriate code for the MBA program at Saint Mary's University);
- for overseas students whose native language is not English, a test in English (TOEFL);
- a non-returnable application fee of \$15.00.

Note: Enquiries regarding the status of an application for admission are to be addressed to the Director of Admissions.

### Financial Aid

In addition to Canada Student and other loans, financial aid is available through University scholarships and assistantships. (See Section 6 for additional information.)

### Registration Deposit

A non-refundable registration deposit of \$100.00 for full-time students and \$25.00 for part-time students is applicable to the MBA program.

### Part-Time Basis

The program is available on a part-time basis for students who wish to complete it in part, or whole, while remaining in full-time employment. At least two courses from each year of the program will be offered in evening classes each semester. Subject to satisfactory enrolment, courses will also be offered during the summer sessions. Consequently, students may complete the whole program on a part-time basis within four years.

### Teaching Methodology

The program is neither discipline nor case oriented, but courses embrace combinations of lectures, case discussions, seminars, and assignments according to the requirements of the individual subjects. Since the faculty has extensive business as well as academic experience, attention is focused on both the practical and the academic aspects of the materials covered during the program.

The faculty believes that management education is essentially a process of personal development which must be student-centred. Therefore, to facilitate individual academic and management development throughout the program, a personal advisor is assigned to assist students to discover and develop their management potential.

### Program Structure

#### Year I

Both generalist and specialist management education, as with medicine, ideally requires a blend of knowledge in the basic disciplines, (the social and behavioral sciences and mathematics), and their applications to the functional areas of management. Therefore the first year of the program necessarily consists of foundation courses in both the basic disciplines and each of the functional areas of management. It also shows the students how the concepts and techniques developed by the basic disciplines are used to enhance managerial effectiveness.

#### Basic Disciplines

- Economics of the Enterprise
- Economics of the Enterprise Environment
- Management Science

- Computers in Business
- Organizational Behavior

#### Functional Areas

- Accounting — a. Financial  
b. Managerial
- Managerial Finance
- Marketing Management

#### Year II

The second year of the program is designed such that the students maintain a broad managerial perspective, but can concentrate in a more specialized area. Students are required to take Mgt 689 (Management Policy and Strategy Formulation) and MBA 691 (Management Research Project) as part of their second year program. In addition, students must take at least one second year course in accounting, finance, management, management science, and marketing. Beyond this, students have four second year courses (two credits) which are designated as free electives. Students may desire to maintain a broad perspective by taking these courses in four different areas or they may take these courses in one area in order to gain a more specialized knowledge.

Thus, the overall intention of this program is to ensure that students receive a broad business overview which provides an essential element of successful management. The program, however, is flexible enough to allow for concentrated knowledge through the judicious selection of free electives.

#### Program Summary

The overall course requirements for the MBA program are summarized below:

#### First Year

Course	Credits
Eco 500	1/2
Eco 501	1/2
Msc 506	1/2
Msc 507	1/2
Msc 521	1/2
Acc 540	1/2
Acc 548	1/2
Fin 561	1/2
Mkt 571	1/2
Mgt 584	1

5 1/2

#### Second Year (See Note Below)

Course	Credits	Comments
Mgt 689	1/2	Required
MBA 691	1/2	Required
Acc 6xx	1/2	Acc elective
Fin 6xx	1/2	Fin elective
Mgt 6xx	1/2	Mgt elective
Mkt 6xx	1/2	Mkt elective
Msc 6xx	1/2	Msc elective
600 Level	2	Free electives

Note: The latter part of this Calendar section lists the departmental courses that can be used to satisfy this requirement.

#### Alternative Program

It is recognized that some students, particularly some of those enrolled in the program on a part-time basis, may already have substantial management experience and be aspiring towards general management positions soon after graduation. Such

students could be offered the opportunity of following a General Management Program specifically suited to their needs. In their second year of studies, they would be required to complete the Management Research Project and Policy and Strategy Formulation course plus the equivalent of four and a half credits from the remainder of the second year program.

#### Advanced Standing

If students believe that through previous course work or practical experience they possess the knowledge embodied in any of the first year courses, they should contact the Director of the MBA Program. The Director may grant advanced standing on the basis of previous course work or waiver examinations, which are written in September. Students will normally take these examinations prior to the commencement of their degree program. The successful completion of waiver examinations will result in the students receiving credits for those courses.

Listed below are the first year required courses, second year required courses, and second year elective courses. Students are referred to the appropriate departments for complete course descriptions and for individual course requirements.

#### First Year Required Courses

Eco 500.1(.2)	Economics of the Enterprise
Eco 501.1(.2)	Economics of the Enterprise Environment
Msc 506.1(.2)	Introductory Decision Analysis I
Msc 507.1(.2)	Introductory Decision Analysis II
Msc 521.1(.2)	Computers in Business
Acc 540.1(.2)	Financial Accounting
Acc 548.1(.2)	Managerial Accounting
Fin 561.1(.2)	Business Finance
Mkt 571.1(.2)	Marketing Management: An Overview
Mgt 584.0	Organizational Behavior

#### Second Year Required Courses

Mgt 689.1(.2)	Management Policy and Strategy Formulation
MBA 691.1(.2)	Management Research Project

Each student is required to complete a project, normally on an in-company basis, involving the practical application of the concepts and techniques learned in a specialist area, under the direct supervision of a faculty member in that area.

#### Second Year Elective Courses (Listed by Department)

##### Accounting

Acc 626.1(.2)	Management Information Systems
Acc 641.1(.2)	Financial Reporting: Problems and Issues
Acc 648.1(.2)	Management Control Systems
Acc 690.1(.2)	Seminar in Accounting
Acc 692.1(.2)	Directed Study

##### Economics

Eco 600.1(.2)	Issues in Industrial Economics
Eco 690.1(.2)	Seminar in Economics
Eco 692.1(.2)	Directed Study

##### Finance

Fin 663.1(.2)	Financial Management
Fin 664.1(.2)	Corporate Financing
Fin 666.1(.2)	Capital Markets
Fin 676.1(.2)	International Business Finance and Banking
Fin 690.1(.2)	Seminar in Finance
Fin 692.1(.2)	Directed Study

**Management**

Mgt 681.1(2)	International Business Management
Mgt 682.1(2)	Compensation Theory and Administration
Mgt 683.1(2)	Management of Interpersonal Relations
Mgt 684.1(2)	Management of Organizational Design and Development
Mgt 685.1(2)	Personnel Administration
Mgt 686.1(2)	Labor-Management Relations
Mgt 687.1(2)	Small Business Opportunities
Mgt 688.1(2)	Social Issues in Business
Mgt 690.1(2)	Seminar in Management
Mgt 692.1(2)	Directed Study
Mgt 695.1(2)	Small Business Performance Improvement

**Management Science**

Msc 603.1(2)	Statistical Applications in Management Science I
Msc 604.1(2)	Statistical Applications in Management Science II
Msc 615.1(2)	Operations Management
Msc 636.1(2)	Data Processing Management
Msc 690.1(2)	Seminar in Management Science
Msc 692.1(2)	Directed Study

**Marketing**

Mkt 672.1(2)	Marketing Communications: Planning and Strategy
Mkt 673.1(2)	Marketing Distribution: Planning and Strategy
Mkt 675.1(2)	Multinational Marketing
Mkt 676.1(2)	Consumer Behavior: Decision-Making Applications
Mkt 677.1(2)	Industrial Marketing Management
Mkt 678.1(2)	Marketing Research
Mkt 679.1(2)	Marketing Policy
Mkt 690.1(2)	Seminar in Marketing
Mkt 692.1(2)	Directed Study

Graduate students should also refer to the material entitled "Master's Degree" which is found in Section 3 of this Calendar.

# Faculty of Science

## General Information

Students electing to pursue a program leading to the Bachelor of Science degree should consider which of three programs best suits their aspirations.

## Honors

The honors program demands a minimum grade of C in all courses followed in the honors subject. This program involves an additional year of study and is designed primarily for students who wish to proceed to graduate work or who wish to obtain professional status in the area of the honors subject. Students of above-average ability are urged to make application to follow an honors program before the end of their sophomore program. Formal application for admission to an honors program must be made on a form available in the Registrar's Office. The form must be submitted by the student to the chairperson of the department concerned, and must receive the approval of the Dean of Science.

## Major

The regular major program demands a minimum grade of C in all courses in the major subject. The program is designed to meet the needs of those students who wish to be employed in work related to the area of their major; it will be useful to those wishing to practice as technicians or technical officers. Additionally, this program permits students to prepare adequately for continued study at the graduate level, if warranted by performance and motivation.

## General

The general program is designed to give a person a good educational background for life in today's technological world. It is of the same duration as the major program but broader in content. More emphasis is placed on the humanities and social sciences, recognizing that greater understanding of science in relation to society will be required of educated people in the days ahead. Students taking this program as preparation for entrance to professional schools are urged to place special emphasis on a high standard of performance from the beginning.

## Requirements for the Degrees of Bachelor of Science

1. Subject to the regulations set forth in this Calendar, the candidate must complete the equivalent of 20 full courses following junior matriculation, or 15 full courses following senior matriculation. Not more than seven credits of the required twenty may be at the 100 level without the approval of the Dean of Science. All numbering is based on a 20-course program.

2. The candidate will normally take five full courses during the regular academic year.

3. Each candidate for the degree of Bachelor of Science must receive credit for:

- a. one university course in English, normally Egl 201.1(2) and 202.1(2); in addition, each student is required to pass a Use of English Test which is administered on a regular basis, several times a year, by the Department of English;
- b. two courses in mathematics (Mat 100.0 and one of 200.0 or 226.1 / 227.2);
- c. two courses in the humanities in addition to a. (The humanities herein intended are classics, English, history, modern languages, philosophy and religious studies.)

d. in conformity with academic regulation 7-c(i) students must achieve a minimum cumulative quality point average of 1.50 in order to qualify for graduation.

## Degree of Bachelor of Science — General

4. Each candidate for the general degree of Bachelor of Science shall, in addition to satisfying the requirements in section 1 to 3, receive credit for:

- a. not less than five or more than seven courses beyond the 100 level in one subject from biology, chemistry, geology, mathematics, physics, psychology. This subject shall be known as the "subject of concentration";
- b. four science courses not in the subject of concentration and in addition to the required mathematics courses;
- c. sufficient elective courses to complete the degree program.

## Degree of Bachelor of Science — Major

Note: With the approval of the departments involved, a student may pursue a combined major program in any two science subjects.

5. Each candidate for the Bachelor of Science degree with a major shall, in addition to satisfying the requirements in sections 1 to 3, receive credit for:

- a. not less than seven or more than nine courses beyond the 100 level in the major subject;
- b. four science courses not in the major subject and in addition to the required mathematics courses;
- c. sufficient elective courses to complete the degree program.

6. Each candidate for the Bachelor of Science degree with a combined major shall, in addition to satisfying the requirements in sections 1 to 3, receive credit for:

- a. at least five full courses beyond the 100 level in each major subject;
- b. two science courses not in the major subjects and in addition to the required mathematics courses;
- c. sufficient electives to complete the degree program.

7. Each candidate for the Bachelor of Science degree with major in Astrophysics shall, in addition to satisfying the requirements in sections 1 to 3, receive credit for:

- a. at least six full courses in physics and three full courses in astronomy beyond the 100 level;
- b. two science courses not in the major subjects;
- c. sufficient electives to complete the degree program.

8. The candidate's program must be approved by the department(s) in which the major is taken and must satisfy any core programs specified by the departments and approved by the Faculty of Science. These requirements may be waived in special cases by the Dean of Science who may approve a special program for the candidate in consultation with the department(s) concerned.

9. Each candidate must obtain a grade of not less than C in every course in the major subject(s). A student obtaining a grade of less than C in any such course may be permitted to continue in the major program with the approval of the Dean of Science, acting in consultation with the department(s) concerned.



**Degree of Bachelor of Science — Honors**

10. An honors program can be taken with a major in: biology, chemistry, geology, mathematics, physics or psychology; or with a combined major in any two of these subjects. Students who plan to take an honors program must have the approval of the major department(s) and the Dean. Since the honors programs require the equivalent of five full courses more than the major programs, they normally require an additional year of study.

11. Each candidate for the Bachelor of Science degree with honors shall, in addition to satisfying the requirements in section 3, receive credit for:

a. The equivalent of 25 full courses following junior matriculation or 20 full courses following senior matriculation. Without the approval of the Dean, no more than seven credits of the required 25 may consist of Grade XII and 100-level courses. (See academic regulation 20-a);

b. ten to 12 full courses beyond 100 level in the major subject or, in a combined major, 14 to 16 courses in the two major subjects (at least six in each subject), or, in astrophysics, at least nine courses in physics and three in astronomy;

c. four science courses not in the major subject in an honors program (two in a combined honors, three in astrophysics) in addition to the required mathematics courses;

d. sufficient electives to complete the degree program.

12. The student's courses must be approved by the major department(s).

13. A candidate for the Bachelor of Science degree with honors must obtain a grade of not less than C (2.00 quality points) in every honors course described in Section 10-b and an average of not less than B in the same courses. A student receiving a mark of less than C in any honors course will be permitted to continue in the honors program only with the approval of the department.

The above Faculty requirements will apply to all students applying to enter an honors program from September 1979 and thereafter. Students registered in degree programs in effect prior to that date may elect to remain in their present degree programs or transfer to programs under the new requirements.

**Bachelor of Science (Major in Computing Science and Business Administration)**

1. To be admitted to this program, students must have five Grade XII subjects including Egl 441, Mat 441, two science, and one other academic subject with an average of at least 80%.

2. The degree program is as follows:

**Freshman Year****First Semester**

1. Mat 200.0\*
2. CSC 226.1\*
3. Mgt 281.1\*
4. Eco 201.1\*
5. A science elective

**Second Semester**

- Mat 200.0\* (continued)
- CSC 227.2\*
- Msc 324.2\*
- Eco 202.2\*
- A science elective (continued)

**Sophomore Year****First Semester**

1. CSC 345.0\*
2. Mat 320.1\*
3. Acc 241.1\*
4. Mgt 382.0\*
5. Egl 201.1 or 202.1

**Second Semester**

- CSC 345.0\* (continued)
- Mat 321.2\*
- Acc 242.2\*
- Mgt 382.0\* (continued)
- Egl 201.2 or 202.2 (continued)

**Junior Year****First Semester**

1. CSC 327.1
2. Fin 360.1\*
3. Msc 207.1\*
4. A science elective
5. A course in the humanities

**Second Semester**

- CSC 328.2
- Fin 361.2\*
- Acc 348.2\*
- A science elective (continued)
- A course in the humanities (continued)

**Senior Year****First Semester**

1. CSC 461.1\*
2. Msc 301.1\*
3. Acc 323.1\*
4. Mkt 370.1\*
5. A course in the humanities

**Second Semester**

- CSC 462.2\*
- Acc 425.2\*
- Mgt 489.1(2)\*
- Elective
- A course in the humanities (continued)

3. Courses marked with an asterisk are considered as major courses for the purposes of regulation 8 of the Faculty of Science.

4. Science and humanity elective courses are to be at the 200 level or above.

**Co-operative Education Programs (Major and Honors)**

The Faculty of Science offers co-operative education programs in Chemistry, Geology, and Computing Science. Co-operative education is a dynamic approach to university education which integrates academic classroom studies with related practical work experiences outside the formal university environment. The principle upon which this concept is based is that learning and individual development are greatly enhanced when the concepts studied in the classroom are periodically applied, tested and observed by the students in meaningful work situations. Through this program, participating industries have an excellent opportunity to observe and influence the education of bright enthusiastic students. They also benefit from the access gained to university faculty and expertise, while university faculty and students become aware of the concerns of industry and the technical problems which they face.

A "Co-operative Education" notation is entered on the parchments and academic transcripts of students who successfully complete co-operative education requirements in addition to their regular degree requirements.

**Admission Requirements for Co-operative Education Programs**

a. Entrance to the program is determined at the end of the first semester of the first year and will be based on the students' grades. Final decision on admission to the program will be at the end of the second semester.

b. Candidates should make application for admission to a co-operative education program on a special form obtainable from the Registrar. Students will be admitted to a co-operative education program on the basis of their formal academic achievement and interviews with the co-operative education coordinator of the appropriate department.

c. The normal prerequisite for admission to a co-operative education program in a regular Bachelor of Science program is a cumulative quality point average of at least 2.50 and a quality point average of at least 3.00 in the course(s) of the student's major subject(s).

d. Candidates will be admitted to a co-operative education program on the basis of their interest, aptitude and assessed ability to combine successfully the academic requirements of a major or honors Science program together with the special work term requirements of the co-operative education program they wish to enter.

#### **Requirements for Continuance in and Graduation from a Co-operative Education Program**

a. Students must complete all of the regular requirements for a Bachelor of Science degree (see regulations 1 through 13 above). Since individual programs may have specific additional requirements for co-operative education students, students should consult the appropriate departmental section of this Calendar for a description of these regulations.

b. In addition to the above requirements, students must complete five work term (six work terms for honors students) experiences as specified by the department of their major program (see regulations below and departmental co-operative education regulations).

c. To continue in and graduate from a co-operative education program students must earn a yearly quality point average of at least 2.50 with a cumulative quality point average of at least 3.00 in courses of their major subjects.

#### **Policies and Regulations Governing Co-operative Education Work Terms**

a. The University will make every effort to locate work term positions for co-operative education students in academically related areas of employment, but cannot guarantee placements. Employment settings may also be identified by co-operative education students, but require the approval of the appropriate departmental co-operative education coordinator.

b. The satisfactory fulfilment of co-operative education work terms require:

(i) the completion of five (six for honors) terms of work experience in academically related, paid employment situations of 13 to 16 weeks duration. Under certain circumstances, and with the approval of the appropriate department, students may be permitted to satisfy their work terms requirements in an unpaid position.

(ii) a satisfactory employer evaluation for each co-operative education work term;

(iii) the satisfactory completion of a written report following each work term detailing the student's work experience in accordance with departmental standards and expectations.

c. A notation will be included on the student's academic transcript following satisfactory completion of each work term.

d. Graduating students who have successfully completed their co-operative work term requirements will have this noted on their academic transcripts. If, in addition, all other normal academic requirements are fulfilled, a "Co-operative Education" notation will be printed on their parchments.

e. Students may be required to withdraw from a co-operative education program if:

(i) they are dismissed from, quit, or fail to accept an appropriate and approved co-operative work term position;

(ii) they fail to submit or successfully complete a work term report;

(iii) they do not maintain the required quality point average necessary for continuance in a co-operative program;

(iv) in the judgement of their department, they are no longer suited for the particular requirements of a co-operative education program.

f. Students who voluntarily withdraw from or who are required to withdraw from a co-operative education program may remain enrolled in and continue with the major or honors degree program offered by their department.

g. Co-operative education students will be expected to attend any special seminars or colloquia developed by the Faculty of Science, or the co-operative education departments, which deal with employment orientation and the application of formal academic study to work experiences.

#### **Fees for Co-operative Education**

a. Students pay for their academic courses as they take them.

b. Students pay a fee equivalent to a half credit for a work term they undertake. This amount is paid to the Business Office within one month of the start of the work term.

### **Degree of Master of Science in Astronomy**

Graduate students in astronomy come with a diversity of university backgrounds. Indeed, some have previously had no undergraduate courses in astronomy though obviously some exposure to such courses is desirable. (Saint Mary's students can consider Ast 202.0, 401.1 and 402.2.) Students who are interested in entering the program should write the Chairperson of the Department (enclosing an up-to-date transcript) and ask for an outline of the course program they would be expected to complete.

The University's general requirements for admission to graduate studies for the Master's degree apply to this program. (See material entitled "Master's Degree" found later in this section of the Calendar.) Particular requirements are as follows:

1. Admission to the program requires an honors degree in astronomy, mathematics, or physics, or the equivalent. (This represents four years after Nova Scotia Grade XII.) Students who have not completed such a program may be admitted to a make-up year to bring themselves up to an acceptable level.
2. Students accepted into the program will normally be required to take four courses in addition to preparing a satisfactory thesis on their research. Ast 605.0 and Ast 606.1 are required courses. The others will be chosen from astronomy, mathematics and physics. The individual student's program must be approved by the department.
3. An average grade of B (3.00) must be achieved, and an acceptable thesis must be submitted.
4. Candidates must pass an oral examination in which they will be expected to demonstrate comprehensive knowledge of basic areas in astronomy. For full-time students this examination will normally be given at the end of the first year of study.

### **Degree of Master of Science in Applied Psychology**

The Department of Psychology offers a Master of Science (M.Sc.) in Applied Psychology with concentrations in clinical and industrial/organization psychology. The program is designed for part-time as well as full-time students. Normally, part-time students will be concurrently employed in an occupation related to applied psychology. Full-time students will need at least two years to complete all degree requirements. (Part-time students, or students completing a make-up year, may require longer.) Further information can be obtained from the department chairperson.

The University's general requirements for admission to graduate studies for the Master's degree apply to this program.

Departmental requirements are as follows:

1. Admission to the program requires an honors degree in psychology, or its equivalent (i.e., four years after Nova Scotia Grade XII). Students who have not completed such a program may be admitted to a make-up year. A completed application form, official transcript, letters of reference, and Graduate Record Exam scores must be forwarded to the Director of Admissions no later than March 1. Appropriate consideration will also be given to relevant work experience.

2. Normally students accepted into the program will be required to take four full-year courses (or equivalent) in addition to preparing a thesis (Psy 695.0) and completing a supervised practicum (Psy 690.0). Normally, a full-time student will take the equivalent of three full-year courses during the first year of study and one full-year course, thesis and practicum course during the second. The following first year courses are required.

Psy 601.0 (Advanced Psychological Statistics and Research Design)

Psy 603.1 (Advanced Assessment)

and one of the following:

Psy 604.2 (Clinical Assessment)

Psy 605.2 (Assessment of Work Behavior)

Psy 606.2 (Neuropsychological Assessment)

The remaining course work will be chosen in accordance with the individual student's program as approved by the department.

3. Students must achieve an average of at least B (3.00). A review of a candidate's progress will be undertaken by the department at the end of the first year of study (three full-year courses). Notwithstanding the candidate's grade point average, the department reserves the right to recommend to the Dean that a student be required to withdraw from the program.

4. Each student must submit a thesis on a topic chosen in consultation with his or her thesis committee, which shall consist of the student's advisor, one other member of the department, and one person from outside the department, recommended by the department on the advice of the supervisor. The thesis committee is normally formed towards the end of the first year of study for a full-time student, or after completion of three courses by a part-time student. Each thesis must be approved by the student's thesis committee, after which it will be presented orally to the department and interested scholars from the community.

# Division of Engineering

## General Information

Engineering studies at Saint Mary's University provide the first two years of the Bachelor of Engineering degree in association with the Technical University of Nova Scotia. Students follow a core program leading to the Diploma in Engineering or a Bachelor of Science and a Diploma in Engineering upon completion of their courses at Saint Mary's.

## Entrance Requirements

a. Nova Scotia Grade XII, or equivalent, including five courses from those listed below with a grade standing of 50% in each course and a general average of at least 65%.

- (i) English
- (ii) Mathematics
- (iii) Physics
- (iv) Chemistry
- (v) One other academic course.

b. Nova Scotia Grade XI, or equivalent, with satisfactory grades in English and mathematics, and three other academically recognized subjects.

## Notes

- (i) Where it is deemed advisable, students with partial Grade XII certificates may be given credits in certain subjects depending on the mark in the course and the general average. Such a decision will be at the discretion of the Director of Engineering.
- (ii) The enrolment in the first year of the diploma program is limited to a maximum of 100 students.

## Requirements for the Diploma In Engineering

### 1. Two year Diploma after Nova Scotia Grade XII or equivalent

#### First Year Courses

Egn 106.1	Engineering Design Graphics
Egn 107.2	Design and Descriptive Geometry
Egn 204.1(2)	Computer Science
Egn 203.1(2)	Engineering Mechanics (statics)
Mat 200.0	Differential and Integral Calculus
Phy 221.0	University Physics
Che 203.0	General Chemistry for Engineers
Egl 201.1(2)	English Composition
Egl 202.1(2)	Introduction to Literature

In addition, each student is required to pass a Use of English Test which is administered on a regular basis, several times a year, by the Department of English.

#### Second Year Courses

Egn 300.1	Dynamics of Particles
Egn 302.2	Dynamics of Rigid Bodies
Egn 303.1(2)	Fluid Mechanics
Egn 306.1(2)	Engineering Thermodynamics
Egn 304.1(2)	Mechanics of Deformable Bodies
Egn 308.1(2)	Electric Circuits
Mat 300.0	Calculus II
Mat 301.1(2)	Introduction to Vectors, Matrices and Complex Numbers

Elective (humanities, social sciences), 1 credit

## Notes on Academic Requirements in Engineering:

### 1. Two Year Diploma After Nova Scotia Grade XII or Equivalent

Each student is required to achieve a grade of not less than C in each of the following courses for continuance in the Diploma program:

## First Year Courses

Egn 203.1(2)	Engineering Mechanics (Statics)
Egn 204.1(2)	Computer Science
Mat 200.0	Differential and Integral Calculus
Phy 221.0	University Physics

## Second Year Courses

Egn 300.1	Dynamics of Particles
Egn 306.1(2)	Engineering Thermodynamics
Mat 300.0	Calculus II
Egn 302.2	Dynamics of Rigid Bodies

A student who fails to meet the above requirements may continue only with the approval of the Director of Engineering and the Dean of Science; and under such conditions as they may lay down in writing.

In addition, to qualify for a Diploma in Engineering, each student is required to achieve a cumulative grade point average of at least 1.50.

The above requirements will apply to each student who registers in 1984-85 and thereafter; or who is readmitted on academic probation for the 1984-85 academic year or thereafter after having been required to withdraw for academic weakness.

## 2. Three Year Diploma After N.S. Grade XI or Equivalent

In addition to the two year program shown above, this program includes a foundation year consisting of the following courses:

Mat 100.0	Algebra and Trigonometry
Phy 111.0	General Physics
Che 101.0	Introduction to Chemistry
	Elective (humanities, social sciences), 1 credit
	Elective (humanities, social sciences), 1 credit

## 3. Three Year Bachelor of Science Plus Diploma After Nova Scotia Grade XII or Equivalent

This program entails an extra year of five (5) courses, as shown below, after the two year diploma program.

Mathematics elective (1 credit) at 400 level  
 Chemistry elective (1 credit) at 300 level or above  
 Physics elective (1 credit) at 300 level or above  
 Elective (humanities, social sciences), 2 credits at 200 level or above

With a Saint Mary's University Diploma in Engineering a student may enter without examination any of the departments of engineering at the Technical University of Nova Scotia and obtain the degree of Bachelor of Engineering (Civil, Mechanical, Electrical, Chemical, Mining, Industrial, Bio-Resources, or Metallurgical) on the successful completion of the Technical University of Nova Scotia portion of the Bachelor of Engineering program. The length of the Technical University of Nova Scotia program is three years.

The objectives of the engineering programs at Saint Mary's University are to offer programs, accredited by the Associations of Professional Engineers of the Provinces through the Canadian Accreditation Board, which will assist students in developing the following qualities:

- a basic scientific understanding
- a competence in engineering design
- creativity
- social understanding
- an appreciation for continued learning.

# Faculty of Education

## Bachelor of Education

### General Information

This program is designed to give university graduates a professional foundation for a career in teaching. It is normally a full-time program of one academic year which prepares students to teach at the junior and senior high school levels.

There are two specific goals: the first, to assist the Bachelor of Education student to develop a basic competence in the skills of teaching academic subjects; the second, to lead the Bachelor of Education student into a deeper study of the aims and the process of education.

### Requirements: Regular Program

1. Applicants must hold a Bachelor's degree from a recognized university with a minimum average of B (or equivalent) in order to be considered for admission. It should be noted that admission to the Bachelor of Education program is on a competitive basis.
2. Admission may be refused in cases where the applicant lacks the academic background necessary for course work related to, and practice teaching in, a secondary school subject for which the Faculty offers teacher preparation, or where the applicant is otherwise deemed unsuited for teaching.
3. Students must complete the following program:

Edu 501.0 Philosophy of Education  
 Edu 502.0 Psychology of Education  
 Edu 503.0 Classroom Processes  
 Edu 504.0 History of Education  
 Edu 550.1 Special Education  
 Edu 591.1(2)/592.1(2) Practice Teaching  
 Edu 595.1 Orientation to Teaching

The Bachelor of Education student chooses two from the following:

Edu 521.1(2) through 549.1(2) Content and Methods of Specific Fields.

4. In the first semester, the regular Bachelor of Education program begins with an "Orientation Week" prior to the commencement of classes. An "Early School Experience" is provided for all students during September and October. During Early School Experience students spend the equivalent of one full day per week in a classroom situation assisting the regular teacher. Details and dates of Orientation Week and Early School Experience are provided to students after they are accepted into the program.

The required courses are not intended to be independent one of the other. Rather they are to be considered integral parts of a whole with the overall organization of the courses modified and adjusted from time to time to conform to best practice.

The Faculty of Education produces each year a Bachelor of Education Handbook which outlines the program in greater detail.

### Requirements: Special Programs

1. Graduates of the Nova Scotia Teachers College who have since acquired the degree of Bachelor of Arts, Commerce or Science at Saint Mary's University may apply to enter the Bachelor of Education program. Candidates are required to complete successfully two credits in Education approved by the Dean of Education or designate.

2. Graduates of the Nova Scotia Teachers College who have acquired an undergraduate degree at a recognized university other than Saint Mary's University may apply to enter the Bachelor of Education program. These candidates are required to complete successfully a minimum of five credits at Saint Mary's University approved by the Dean of Education, two of which are in Education.

3. Graduates of Nova Scotia Teachers College who hold the Associate of Education or its equivalent may apply for admission to a program leading to a Bachelor of Education in Association with the Nova Scotia Teachers College degree. Candidates are required to complete successfully five credits approved by the Dean of Education or designate. Three credits must be in the Faculty of Arts, Commerce or Science and at the 300 or 400 level; and two credits in the Faculty of Education at the 500 level.

Normally, the Education courses provided for this degree program are: Edu 507.0 Sociology of Education and Edu 508.0 Introduction to Comparative Education.

4. Vocational teachers may apply for admission to a program leading to the degree of Bachelor of Education (Vocational). Such teachers must have met the requirements outlined under the admission requirements for the Faculty of Arts Degree Program for Vocational Teachers; and hold a Bachelor of Arts, Science, or Commerce degree from, or be enrolled in a Bachelor of Arts program at, Saint Mary's University. The candidate may receive the Bachelor of Education (Vocational) degree after completing three Education credits approved by the Dean of Education and after the awarding of the Bachelor of Arts, Science, or Commerce degree from Saint Mary's University.

5. Graduates of a teachers' college in another province of Canada or of a college of education in the United Kingdom or of a teacher training college in the United States; who have had professional teacher training of at least two years' duration; who are licensed as teachers by the Province of Nova Scotia; and who have acquired a bachelor's degree (a) from Saint Mary's University may apply for admission to the Bachelor of Education program. Candidates are required to complete successfully two credits in Education approved by the Dean. (b) Graduates from a recognized university other than Saint Mary's University may apply for admission to the Bachelor of Education program. Candidates are required to complete successfully five credits, two of which must be in Education, that have been approved by the Dean.

### Application Procedure: Regular Program

1. Complete application forms and make sure that all documents required are complete and returned with the application.
2. Ensure that supporting documents (transcripts, references, etc.) are sent to the University. The Director of Admissions does not undertake to send for transcripts or references.
3. Applications with all supporting documents should be received by the Director of Admissions, Saint Mary's University, by 1 March.
4. Candidates may be required to attend a personal interview with the Dean or designate as part of the admission procedure.

### Application Procedure: Special Programs

1. Complete application forms and make sure that all documents required are complete and returned with the application.

2. Ensure that supporting documents (transcripts, references, etc.) are sent to the University. The Director of Admissions does not undertake to send for transcripts or references.
3. Applications, with all supporting documents, should be received by the Director of Admissions, Saint Mary's University, by August 1.
4. Candidates may be required to attend a personal interview with the Dean or designate as part of the Admission procedure.

#### Registration Procedure: Regular Program

All students accepted into this program are required to register by mail. Failure to complete registration by the stated deadline may result in the withdrawal of admission status.

#### Registration Procedure: Special Programs

Students accepted into special programs will register during time outlined in the Calendar and "Registration brochure".

#### Certification

On successful completion of the Bachelor of Education program students may apply to the Department of Education of the Province of Nova Scotia for a teaching certificate. Students are entirely responsible for any negotiations with that department respecting their certification.

It is the students' responsibility to determine what category of licence they will receive from the issuing authorities. While the Faculty of Education Office will post whatever information is received from the provincial Ministries of Education, the University will not assume responsibility for guaranteeing the precise level of licence which graduates will receive from different provinces upon completion of the Bachelor of Education program.

#### Academic Regulations

Candidates should note that the pass mark for the entire program is a C average, while for individual courses the pass mark is D, with the exception of Edu 591.1(2), 592.1(2), and 593.1(2), Practice Teaching, for which the pass mark is C. No supplementary examinations are provided.

The standing of candidates is reviewed by the Faculty at the end of the first semester. On the basis of the likelihood of successful completion of the program, the Faculty decides either to confirm, terminate, or continue candidacy on a probationary basis.

## Master's Degrees in Education (M.Ed. or M.A.)

#### General Information and Requirements

The Faculty of Education offers Master's degrees in two areas of specialization, "Educational Administration" and "Curriculum and Instruction". Suggested programs for these areas of specialization are included in the Faculty of Education Graduate Handbook which is available from the Dean's Office on request.

General requirements, which have been set by the University for admission to the Master's degree, apply to those seeking admittance to the programs and to those enrolled. For those requirements see Master's Degree section of this Calendar. The particular requirements of the Faculty are as follows:

Candidates are encouraged to have completed at least one year of successful teaching before embarking on a Master's degree. Bachelor of Education or its equivalent with a minimum of B standing is essential.

Students who have not met requirements for admission to the Master's program may, on recommendation of the Dean and the Committee on Graduate Studies in Education, be permitted to enrol in one or two qualifying or make-up course(s). The qualifying or make-up course(s) will not be credited towards the Master's degree.

The Faculty of Education at Saint Mary's University offers two degree programs, the Master of Arts in Education (M.A.) and the Master of Education (M.Ed.)

#### The Master of Arts in Education (M.A.)

This degree places emphasis on the development of students' ability to conduct research in the field of Education. Students taking this degree may wish to continue their graduate studies later at the doctoral level.

This program of study must provide a specific focus for the study of educational theory and practice. A program will consist of two credit thesis (Edu 601.0/602.0) and a minimum of three credits obtained through graduate course offerings. It should be noted that because a thesis is required, Edu 611.0 (Research Skills for Practicing Educators) is generally required to be taken in each program of studies either prior to or concurrently with the work on the thesis.

#### The Master of Education (M.Ed.)

This degree is intended for those students who wish to improve their professional skills. A minimum of five credits obtained through graduate course offerings or four credits obtained through graduate course offerings and a thesis (Edu 610.0) is required. If a student decides to write a thesis, Edu 611.0 (Research Skills for Practicing Educators) is generally required to be taken either prior to or concurrently with the work on the thesis.

Students enrolled in the M.Ed. program will be required to develop a program which reflects a specialization. This will be achieved through one of the following ways.

1. **Specialization in Curriculum and Instruction.** This program is for teachers who intend to remain teaching in the classroom and who wish to improve their instructional practice. This program must contain:

- a. two of Edu 617.0, 619.0, 620.0, 685.0, or 686.0.
- b. one credit course with a direct "curriculum" focus.
- c. two credit courses chosen by the student (electives).

2. **Specialization in Administration.** This program is intended for teachers who are either practising school administrators or who wish to develop the necessary skills to become a school based administrator. This program must contain:

- a. Edu 660.0: Educational Administration.
- b. Edu 662.0: Educational Supervision
- c. one of Edu 617.0, 619.0, 620.0, 685.0, or 686.0.
- d. two credit courses chosen by the student (electives).

3. **Other Specializations.** Students may develop a unique program of study in order to meet their own personal or professional goals and interests. It should be noted that such programs must reflect a particular theme in educational practice or theory. In order to have such a program approved, each student must develop a written statement of the particular theme which he or she wishes to pursue. The selection of courses for this specialization will then be made in conjunction with the Dean of Education and will be related to the stated theme.

**Additional Information**

1. Students who follow one of the two "standard" programs of specialization (i.e., Curriculum and Instruction, or Administration) may receive approval for the program after filing a completed "Program Planning Form" (available from the Dean's office) with the office of the Dean.
2. Students may have one graduate course taken at another university credited towards their Master's degree program. If a student wishes this consideration, application must be made in writing to the Dean of Education prior to taking the course from the other university. The application must include a calendar description of the course to be taken. In order to be approved, the course must relate to the student's program at Saint Mary's University.
3. The Master's program is available on a full-time or part-time basis. A part-time student wishing to enrol in more than one full course (or equivalent) must have the prior written approval of the Dean of Education.
4. The Faculty of Education produces each year a Graduate Handbook which outlines the program in detail.

**Application Procedure:**

1. Complete application forms and make sure that all documents required are complete and return with the application.
2. Ensure that supporting documents (transcripts, references, etc.) are sent to the University. The Director of Admissions does not undertake to send for transcripts or references.
3. Applications with all supporting documents should be sent to the Director of Admissions, Saint Mary's University.
4. Applications will be considered by the Faculty of Education Admissions Committee only after all required materials and documents have been received.
5. Applications for admission as a full-time student will be considered by the Faculty of Education's Admissions Committee when all documents are completed and received.
6. Applications for admission as a part-time student will be considered by the Faculty of Education's Admissions Committee three times per year.

**Registration Procedure**

1. In order to ensure that all students are able to enrol in the courses they require, a priority enrolment system has been implemented.
2. Students who will be attending full-time and students who have only one course remaining to complete their degree will be given the highest priority for course selection. The remaining students will be assigned a priority for course selection based upon the number of courses they have completed towards their degree.
3. Students are advised to read the registration brochure carefully in order to determine the time for registration. Registration priority will be lost if the student is not in attendance at the assigned time.

# Master's Degree

## General Requirements

The University offers courses of study leading to graduate degrees in the following courses:

Master of Arts in Atlantic Canada Studies  
 Master of Arts in History  
 Master of Arts in International Development Studies  
 Master of Arts in Philosophy  
 Master of Arts in Sociology and Criminology  
 Master of Arts in Education  
 Master of Education  
 Master of Business Administration  
 Master of Science in Astronomy  
 Master of Science in Applied Psychology

The program of each candidate is administered by the department concerned.

### 1. Qualifications for Admission

a. Admission is limited and at the discretion of the department concerned. To be considered, an applicant shall hold a bachelor's degree or its equivalent from an institution recognized by the Senate and shall have a knowledge of the proposed field of specialization satisfactory to the department concerned (or departments, when interdisciplinary study is intended).

b. Preference will be given to applicants who hold an honors degree. In addition, admission will be granted only to those students who show a high promise of success in post graduate study as demonstrated by the results of appropriate tests and their records of previous academic accomplishment. See the regulations listed under each graduate program for specific additional minimum requirements for admission to that program.

c. Applicants whose mother tongue is not English may be required to demonstrate an appropriate level of proficiency in English.

### 2. Procedure for Admission

a. Application for admission shall be made to the Director of Admissions. Applicants shall arrange to have forwarded to the Director of Admissions an official transcript of their academic record and letters of recommendation from at least two persons in position to judge the applicant's capacity for graduate study. Application forms and all supporting documents must ordinarily be on hand by May 31 of the academic year prior to the one for which admission is sought.

b. Successful applicants will be notified by the Director of Admissions.

### 3. Registration

a. Registration of students in graduate studies shall take place at times indicated in this Calendar.

b. Students are not permitted to register until they have received notification of acceptance.

### 4. Program of Study and Research

a. Candidates entering with an honors degree (or equivalent) must complete four full courses and submit an acceptable thesis. On the recommendation of the department concerned, a three course program is permissible for a candidate undertaking a proportionately more demanding thesis. In departments authorized by the Committee on Graduate Studies, a five course

program, without thesis, is also acceptable for the degree. Courses in all programs must be at the 500 or 600 level, but where advisable, courses at the 400 level may be included in a program, provided that the requirements applying to graduate students in such courses be of a graduate standard.

b. On the recommendation of the appropriate department or graduate council, a maximum of twenty percent of the credits required for a graduate degree in Education, Astronomy, Philosophy, History, Psychology, and Atlantic Canada Studies at Saint Mary's can be recognized for graduate courses previously completed at another recognized academic institution and not previously used in the fulfillment of the requirements for another degree. In the case of the MBA program, the maximum number of such transfer credits is five full courses (or half course equivalents).

c. A candidate may be required to audit a course as part of the program of study.

d. Where required, a candidate shall submit a thesis on a subject approved by the department in which research has been conducted under the direction of a supervisor appointed by the appropriate department or departments. An oral defense in the presence of an examining committee appointed by the department is mandatory.

e. Changes in either the program of courses or the topic of the thesis require the approval of the department.

### 5. Period of Study

The maximum period of a Master's degree program in Astronomy, Philosophy, Education and History shall be five years, and six years in the MBA, Psychology and Atlantic Canada Studies. Extensions may be granted with the approval of the department and the Dean of the Faculty concerned, but these will be considered only in exceptional circumstances.

### 6. Evaluation

In order to qualify for a Master's degree a candidate shall obtain a quality point average of 3.00. Failure of any full course (or the equivalent) ordinarily will require withdrawal from the program. In exceptional circumstances, the department and the Dean of the Faculty concerned may allow the student to remain in the program. In such a case, failure of a second full course (or equivalent) will require withdrawal from the program.

a. Letter grades and quality points for graduate courses will be assigned as follows:

A	=	4.00	=	Excellent
B+	=	3.50	=	Good
B	=	3.00	=	Satisfactory
B-	=	2.50	=	Below graduate standard
C	=	2.00	=	Marginal pass
F	=	0.00	=	Failure

b. The following grades shall be given when appropriate but will not be calculated in the quality point or cumulative quality point average:

Aegrotat AE  
 Authorized withdrawal from a course W

Grades earned on advanced standing and transfer courses are also not included in the calculation of averages.



c. In the case of advanced standing and transfer courses, credit will not be awarded for less than a grade of B (or the equivalent).

#### 7. Thesis (If required)

a. To be eligible for graduation at spring convocation, the candidate's finished thesis must be submitted to the department no later than the last day of classes of the regular academic year and by 30 September for fall convocation.

b. The thesis must be ruled acceptable by the Examining Committee appointed by the department. Any suggestions by the Committee concerning corrections, additions and other necessary changes must be either carried out or formally refuted by the candidates before the thesis can be accepted.

#### c. The Student's Responsibilities

The thesis must be submitted in the following form:

- Paper — good quality bond paper, 21.5 cm (8 1/2") × 28 cm (11")
- Typing — double spaced
- Margins — left hand margin: 4 cm (1 1/2")  
all other margins: 2.5 cm (1")
- Abstract — length: approximately 300 words
  - must be typed
  - should bear the title "Abstract" and include the name of the author, the title of the thesis and the date of submission.
- Signature Page — a page designed to contain the signature of all members of the Examining Committee, including any external examiners, if applicable.
- The candidate must also meet any additional requirements of the department concerned.
- The student must submit one original and two (2) copies of the accepted thesis with the binding fee of \$27.00 to the Registrar. A duplicate receipt for this amount must accompany the unbound thesis when delivered to the library, as proof of payment.
- A completed "Permission to Microfilm" form must also accompany the above. This form, from the National Library of Canada, Canadian Theses Division, is available from Information Services in the Library. It grants permission for the microfilming of the thesis and the sale of the microfilm.

#### d. The Library's Responsibilities

- The Library arranges for the binding of all accepted theses.
- Original copies of the Master's Theses are sent to the National Library in Ottawa for microfilming before they are bound and placed in the archives.
- Copies of the theses are bound and distributed as follows:
  - One copy is sent to the student's department;
  - One copy is catalogued and made available through the General Collection of the library; and
  - One copy, (the original) is placed in archives and remains as non-circulating material.
- The Library will accept for binding additional copies of a thesis only if the student provides the extra copies and pays the additional binding fee of \$9.00 per copy. (Proof of payment in the form of a duplicate receipt must accompany additional copies).

#### 8. Departmental Regulations

In addition to the above requirements, candidates must comply with any additional requirements of the department concerned.

#### 9. Financial Regulations

Please consult Section 6 of this Calendar for details on special graduate fees.

## Special Programs

#### Year of Study Abroad: China

Up to five scholarships are awarded yearly to Saint Mary's University students for study at the Shandong Teachers' University, Jinan, People's Republic of China. The scholarship includes full tuition, room and board, but not travel expenses or a living allowance. A program of study including a course in the Chinese language is designed by the faculty of the Shandong Teachers' University for the students selected. The study period is for ten months and credits may be applied towards the Bachelor of Arts degree at Saint Mary's University.

For further details please contact the office of the Dean of Arts.

#### Year of Study Abroad: Angers, France

Saint Mary's University has entered into an arrangement whereby qualified students have the opportunity to study at the Centre International d'Etudes Françaises (C.I.D.E.F.) de l'Université Catholique de l'Ouest in Angers, France. Permission to participate in this program is granted by the Dean of Arts, the chairperson of the student's area of concentration, and the Chairperson of the Modern Languages and Classics Department. Usual registration procedures are to be followed, except that tuition fee payments must be made directly to the University of the West.

#### Study at the Université du Québec

Special arrangements exist for students competent in the French language to undertake regular studies at the Université du Québec à Chicoutimi, Rimouski ou Trois Rivières, and to receive credit for these studies towards their Saint Mary's degree. Further details and application forms are available at the Registrar's Office.

## Pre-Professional Programs

#### Professional Schools

Students who intend to continue studies at professional schools, such as theology, law, medicine, architecture, education, and dentistry, should ensure that their plan of studies includes courses needed for admission to the appropriate professional schools. Calendars of professional schools may be consulted in the Library.

Though not strictly required by some professional schools, it is recommended that the student complete an undergraduate degree before seeking admission to a professional school. Prerequisite course requirements apply to pre-professional students.

#### Pre-Medical

Students intending to study medicine should have an impressive academic record as a basic qualification for admission into medical school.

The following subjects are the normal minimum requirements of many Canadian medical schools: general biology, general chemistry, organic chemistry, physics and English, each of an academic year's duration. Students should extend their studies beyond the minimum requirements and are encouraged to include subjects in the humanities and social sciences in their

program. In addition to the academic factors, medical schools also take into consideration several other criteria such as the Medical College Admission Test, interviews, and non-academic factors like emotional stability, social values, leadership, personal maturity, motivation, etc.

Effective September 1991, Dalhousie University will require applicants to hold a university degree but will not require any specific prerequisite courses. For complete details, the student should consult the academic calendar of the university to which admission is sought.

#### **Pre-Dental**

The preceding information is equally applicable to the pre-dental program. The students interested in complete information should consult the academic calendar of the university to which admission is sought.

#### **Pre-Optometry**

The University of Waterloo's School of Optometry accepts a limited number of candidates from the Atlantic Provinces to its program of Optometry.

Applicants are considered from students who have entered a university with Nova Scotia Grade XII or its equivalent and completed at least one year of university study with courses in chemistry, physics, biology, mathematics and psychology. Applications obtainable from the University of Waterloo are submitted to the Ontario Universities' Application Centre.

#### **Pre-Veterinary**

Students with high academic standing in science, especially biology or chemistry, are considered by Atlantic Veterinary College, Charlottetown, P.E.I. and Ontario Veterinary College, University of Guelph. The University of Saskatchewan also accepts competitive students into their veterinary medicine program. The University of British Columbia offers a two-year pre-veterinary program leading to a four-year veterinary program at the University of Saskatchewan.

Prospective students should contact the veterinary college of their choice for specific information.

#### **Pre-Occupational Therapy**

The School of Occupational Therapy, Dalhousie University, considers, on an equal basis, students who have completed their prerequisite courses at any recognized university. It is recommended that interested students consult the School of Occupational Therapy, Dalhousie University, to determine acceptable prerequisite courses. Since enrolment in the program is limited, applicants should note that admission is on a competitive basis with preference given to residents of the Atlantic Provinces. Selection is based on completion of prerequisites, academic achievement, and personal suitability for occupational therapy. Application packages are available through the Registrar's Office, Dalhousie University. The application deadline is March 1.

#### **Pre-Law**

Students applying for admission to the Law School are required to submit results of the Law Schools Admission Test (LSAT) of the Educational Testing Service, Princeton, New Jersey. Information for taking this test at Canadian universities can be obtained from the Law School. Dalhousie University considers applications from students who have completed at least three full years' studies after junior matriculation (Nova Scotia Grade XI or equivalent) or two full years after senior matriculation (Nova Scotia Grade XII or equivalent) of a program leading to the degree of B.A., B.Sc., or

B.Comm. Applications are considered as they are received or in the month of June.

#### **Pre-Architecture**

Saint Mary's University, in association with the Technical University of Nova Scotia, offers the first two years of a six-year course in architecture leading to a Bachelor of Architecture degree.

Qualification for entrance to the architecture program at the Technical University of Nova Scotia is the satisfactory completion of at least two years in a degree program at any university or equivalent institution recognized by the Faculty of the School of Architecture. A university course in mathematics is prerequisite, except that the Admissions Committee may instead require a written examination in this subject.

Providing it has been undertaken in a 'recognized' degree program, virtually any course of studies — including arts, fine arts, engineering and other technologies, science, agriculture, social sciences, education, medicine — is acceptable.

Selection from qualified students for admission to the School of Architecture is carried out by a selection committee of the Faculty of the School of Architecture.

#### **Pre-Theological Courses**

Students who are candidates for the Christian Ministry are in most cases required to obtain a B.A. degree, or its equivalent, before proceeding to theology. Normally the B.A. course will be followed by three years in theology. Requirements may vary somewhat from one denomination to another, but generally speaking students are advised to select a broad range of subjects from such departments as English, history, philosophy, classics, psychology and sociology, along with some course in religious studies. A working knowledge of Greek is desirable for students entering theology.

#### **Pre-Education**

Students intending to pursue a career in teaching must apply to enter a Bachelor of Education program after completing a Bachelor's degree in Arts, Science, or Commerce. Those persons who wish to teach at the secondary school level should undertake a program in the first bachelor's degree that will develop sound academic preparation in a subject area normally taught at the secondary school level. Students wishing to teach at the elementary level should develop a program in the first bachelor's degree which has a breadth of academic courses. Students who plan on applying to enter a Bachelor of Education program should determine the course requirements for the particular university where they plan to attend.

#### **Pre-Professional Counselling Committee**

Because of the severe competition for admission to graduate and professional schools, the Science Faculty organized a Pre-Professional Counselling Committee in 1977. This Committee of faculty members compiles up-to-date information on graduate and professional schools and advises students of the closing dates for admission to these schools and the dates of various admissions tests. The Committee also gives guidance to students on how they can best prepare for the admission tests and some interviews.

Students (from any Faculty) who are interested in applying to graduate or professional schools are urged to contact the Office of the Dean of Science for further information on the Counselling Committee. These students should also regularly check the Counselling Committee Bulletin Board located on the third floor of the Science Building.

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## Section 4

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# Continuing Education



# Continuing Education

The Division of Continuing Education coordinates administration of university programs for part-time and mature learners. This includes summer session programs, admission for mature and non-degree students, courses in extension centres, coordinated programs with professional associations, and an extensive program of non-credit courses.

## Part-time Degree Programs

It is possible to complete the Bachelor of Arts and the Bachelor of Commerce programs entirely through part-time, evening study. As well, it is possible to begin the Bachelor of Science and Diploma in Engineering programs by part-time study. Each year the Division of Continuing Education publishes a schedule of late afternoon and evening courses to assist part-time students in planning their programs. Part-time students are encouraged to seek academic counselling from the dean of their faculty, the chairperson of the department in which they are majoring, or their designated faculty advisor.

## Summer Sessions

Saint Mary's University offers a wide selection of courses in two summer sessions offered each year. The tentative dates for the summer sessions are listed in the Calendar of Events in the centre of this academic calendar. A preliminary listing of summer school courses is available from the Division of Continuing Education by December. A brochure detailing all of the summer session course offerings is published each year in February.

## Mature and Non-Degree Admission

Regular admissions regulations need not apply to mature students. For details of the mature and non-degree admission procedures consult Section 2 of this academic calendar.

## Saint Mary's at the World Trade Centre

Saint Mary's at the World Trade Centre provides convenience and accessibility for the business community. Opened in September, 1989, Saint Mary's at the World Trade Centre draws upon the academic resources of the University to deliver programs and courses for the benefit of the workplace, the business sector and the local economy. Through its initiative at the World Trade Centre, Saint Mary's University recognizes its commitment to developing innovative managerial practices that promote business success.

## Extension Centre Courses

Each year Saint Mary's University offers degree credit courses in a number of off-campus extension centres. In the past courses have been offered in Bridgewater, Truro, Sackville, Dartmouth, Cole Harbour, Shearwater, and downtown Halifax. The courses are offered in a variety of settings: schools, libraries, office buildings, and cultural centres. These courses allow part-time and mature learners to begin or continue their university studies without having to leave their community or place of work. For information on the courses being offered during the academic year and the summer sessions contact the Division of Continuing Education.

## Joint Programs with Professional Associations

### Society of Management Accountants

Saint Mary's University has entered into an official agreement with the Society of Management Accountants of Nova Scotia to offer all

academic courses for the Certified Management Accountant (CMA) programs. The courses are offered through evening classes on campus and through distance education.

In order to be accepted into the CMA Program you must submit your application for membership to the Society and apply for admission to Saint Mary's University prior to the enrolment deadline for the semester in which you plan to take a course(s). Upon acceptance to the CMA Program students will adhere to the guidelines and regulations of Saint Mary's University.

For a complete education and accreditation syllabus, please contact the Nova Scotia Society of Management Accountants, Atlantic Region, Box 543, Halifax, Nova Scotia, B3J 2R7. Telephone: (902) 422-5836.

For a schedule of the CMA courses at Saint Mary's University, please contact the Division of Continuing Education at 420-5491.

## Certificate Program in Human Resource Management

The Halifax and District Personnel Association, in cooperation with the Division of Continuing Education, offers this certificate program in human resource management. It is designed for practitioners of personnel management who wish to upgrade their professional skills. It is also available to persons interested in pursuing a career in the field of human resource management. To earn the certificate, a student must complete the equivalent of eight full-course degree credits. Three and one-half of these are compulsory courses, and the remainder are to be chosen from a selection of elective courses. Successful completion of the program (or its equivalent) is a prerequisite for membership in the Halifax and District Personnel Association.

## Compulsory Courses

Mgt 281.1(.2)	Introduction to Business Management
Mgt 382.0	Organizational Behavior
Mgt 385.1(.2)	Human Resource Management
Mgt 386.1(.2)	Industrial Relations
Mgt 485.1(.2)	Wage and Salary Administration
Mgt 486.1(.2)	Personnel Staffing, Training and Development

## Elective Courses (nine of the following are required)

Acc 241.1(.2)	Introductory Accounting — Part I
Acc 242.1(.2)	Introductory Accounting — Part II
Cml 301.1(.2)	Legal Aspects of Business — Part I
CSC 101.1(.2)	Basic Programming and Computer Concepts
Eco 201.1(.2)	Principles of Economics: Micro
Eco 202.1(.2)	Principles of Economics: Macro
Eco 339.1(.2)	Introduction to Labor Economics
Eco 340.1(.2)	Human Resource Economics
Com 293.1(.2)	Managerial Communications
Mgt 388.1(.2)	Business and its Environment
Mgt 481.1(.2)	Organization Theory
Mgt 483.1(.2)	Interpersonal Behavior I
Mgt 484.1(.2)	Interpersonal Behavior II
Mgt 488.1(.2)	International Business Management
Mgt 493.1(.2)	Business-Government Relations in Canada
Msc 325.1(.2)	Introduction to Computers

Application for the certificate program is to be made to the Division of Continuing Education.

## Coordinated Programs with Professional Associations

### Certified in Management (CIM) Program

This certificate program is offered by the Canadian Institute of Management in cooperation with the Division of Continuing Education. This program can be completed by taking the series of core courses offered by the Canadian Institute of Management or by taking the equivalent Saint Mary's University degree credit courses. The required courses are as follows:

#### Canadian Institute of Management Core Courses

M1-A	Business Management, Operations and Philosophy
M1-B	Managerial Communications
M2-A	Canadian Business Law
M2-B	Managerial Process and Organizational Behavior
M3-A	Option Course
M3-B	Managerial Accounting
M4-A	Financial Management
M4-B	Policy and Administration

#### Saint Mary's University Equivalent Degree Courses

M1-A Mgt 281.1(2)	Introduction to Business Management
M1-B Com 293.1(2)	Managerial Communications
M2-A Cml 301.1(2)	Legal Aspects of Business — Part 1
M2-B Mgt 382.0	Organizational Behavior
M3-A	Optional Course*
M3-B Acc 241.1(2)	Introductory Accounting — Part 1
M4-A Fin 360.1(2)	Business Finance — Part 1
M4-B Mgt 489.1(2)	Business Policy

\*Any optional course (M3-A) must be approved in advance by the local CIM branch.

For further information and a descriptive brochure contact Division of Continuing Education (902) 420-5492 or Canadian Institute of Management, P.O. Box 162, Halifax, Nova Scotia, B3J 2M4, (902) 465-6245.

### Real Estate Certification Programs

Saint Mary's University courses may be used to satisfy the core course requirements for the professional designations offered by the Real Estate Institute of Canada. These designations include FRI (Fellow of the Real Estate Institute), CPM (Certified Property Manager), CMR (Certified in Marketing Real Estate), CFR (Certified in Real Estate Finance), and CLP (Certified in Land Planning and Development). The required university core courses are as follows:

#### Economics

Eco 201.1(2)	Principles of Economics: Micro
and Eco 202.1(2)	Principles of Economics: Macro

#### Business Law and Real Estate Law

Cml 301.1(2)	Legal Aspects of Business — Part I
and Cml 302.1(2)	Legal Aspects of Business — Part II

#### Land Resource Studies

Gpy 312.1(2)	Urban Land Use
or Eco 450.1(2)	Urban Economics

#### Appraisal

Fin 362.1(2)	Principles of Real Estate and Appraisal
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### Certificate Program in Arena Management

The Arena Managers Association of Nova Scotia, in cooperation with the Sport and Recreation Commission of Nova Scotia and the Division of Continuing Education, Saint Mary's University, offers a certificate program in arena management. The program consists of the following:

- Arena Management and Finance
- Human Resource Management
- Refrigeration
- Accounting
- Arena Construction and Maintenance
- Program Scheduling and Promotion

Each May, two of these courses are offered in a two-week, intensive format. For information on current program offerings contact the Arena Managers Association of Nova Scotia, P.O. Box 3010S, Halifax, N.S., B3J 1G6, or the Division of Continuing Education, Saint Mary's University.

### Other Coordinated Programs

Saint Mary's University courses can be used as credit towards professional designations offered by the following associations:

- Appraisal Institute of Canada
- Canadian Hospital Association
- Certified General Accountants Association
- Institute of Canadian Bankers
- Insurance Institute of Canada
- Purchasing Managers Association of Canada

For information on any of these programs contact the association directly.

## Non-Credit Courses

### Microcomputer Courses

The Division of Continuing Education offers an extensive selection of microcomputer courses for professionals, managers, office administrators, and other microcomputer users. All courses feature "hands-on" instruction using the IBM Personal Computer or the Apple Macintosh Microcomputer. For a brochure describing current courses, times and prices contact the Division of Continuing Education.

### Diploma in Marketing and International Business

This diploma program is designed for managers, professional, and individual business owners who have an in-depth practical knowledge of the principles and strategies of marketing and international business. Of the eight program modules, four focus on marketing and four on international business. For procedures, please contact Saint Mary's at the World Trade Centre, 420-5638.

### Professional Development Courses

Recognizing that learning is lifelong, Saint Mary's University offers a variety of courses for career and professional development. In the past these have included Global Economic Trends, Writing for the World of Work, Corporate Taxation and Turning Stress into Confidence. For further information on courses and programs for professional development, please contact Saint Mary's at the World Trade Centre, 420-5639.

### Academic Upgrading

The Division of Continuing Education offers short upgrading courses in mathematics and writing skills. For descriptive course brochures contact the Division of Continuing Education.

**General Interest Courses**

Each year a variety of general interest courses for personal development and enjoyment are offered. In past years, these courses have included Figure Drawing, General Drawing, Painting with Watercolors, Modern Greek, Conversational Spanish, Understanding the Stock Market, and Financial Planning for Retirement. For information on current course offerings contact the Division of Continuing Education.

**Information**

Descriptive pamphlets, summer session brochures, and evening program schedules are available from the Division of Continuing Education, Saint Mary's University, Halifax, Nova Scotia, B3H 3C3. Telephone (902) 420-5492.



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## Section 5

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# Description of Courses

Some of the courses described in this Calendar will not be offered in 1990-91. Students are therefore advised to consult the academic timetable for those courses which will be taught in the 1990-91 academic year and the time(s) when they will be offered.

# Accounting (Acc)

Chairperson, Professor  
Professors  
Associate Professors  
Assistant Professors

G. R. Chesley  
F. Dougherty, S. Jopling  
D. Bateman, B. Gorman  
B. Emerson, A. Ireland  
P. Secord

The Department of Accounting offers a program for majors which aids in preparation for careers in professional accounting, industry, government and institutions. The Department also offers courses in financial and managerial accounting and information systems for all Commerce students.

**Professional Designations in Accounting:** A commerce graduate with an accounting major who has obtained the required grades is normally in a position to sit for the uniform final examinations of the Institutes of Chartered Accountants of Canada two years after receiving the Commerce degree.

Exemptions from courses and examinations are also granted by the Society of Management Accountants to Commerce graduates who register in the management accounting program sponsored by the Society, and by the Certified General Accountants Association in meeting the requirements of its professional designation.

Commerce graduates may receive exemption from many of the courses and examinations conducted by the Atlantic School of Chartered Accountancy, the Society of Management Accountants, and the Certified General Accountants Associations. The exemptions are based upon specific courses taken and the grades obtained in the undergraduate program. Details of these exemptions may be obtained from the department chairperson.

## Society of Management Accountants

Saint Mary's University has entered into an official agreement with the Society of Management Accountants of Nova Scotia to offer all academic courses for the Certified Management Accountant (CMA) program. The courses are offered through evening classes for residents of the Halifax metropolitan area and by distance education for interested students outside of the Halifax metropolitan area. Further details are found in the Faculty of Commerce section of this Calendar.

**The Accounting Major:** In addition to meeting the general requirements for a Bachelor of Commerce degree, students must complete the following:

### Junior Year

Acc 323(1/2)	Information Systems 1
Acc 341(1/2)	Intermediate Financial Accounting I
Acc 342(1/2)	Intermediate Financial Accounting II
Acc 345(1/2)	Financial Accounting Theory
Acc 346(1/2)	Introductory Cost Accounting

### Senior Year

Acc 455(1/2) Accounting Seminar  
Accounting electives (1) (see note below)  
Non commerce electives (2)  
Free electives, 200 level or above (1)

Note: Msc 324(1/2) may be used to partially satisfy this requirement.

Students with a grade of D in Acc 242.1(2), Acc 341.1(2) or Acc 342.1(2) are advised against pursuing an Accounting major.

### 241.1(2) Introductory Accounting — Part I

Prerequisite: Eco 201.1(2); Eco 202.1(2); Mgt 281.1(2); Mat 113.0, or appropriate work experience, determined in advance of registration by the chairperson.

Part I of a two-course series. This course is concerned with a study of basic accounting concepts and principles, their application to business transactions and financial statements, and an introductory consideration of the balance sheet and income statement, and statement of changes in financial position. This course is to be followed by Introductory Accounting — Part II.

Classes 3 hrs. and lab 1 hr. a week. 1 semester.

### 242.1(2) Introductory Accounting — Part II

Prerequisite: Acc 241.1(2).

Part II of a two-course series. This course deals with accounting for intercorporate investments, analysis of financial statements, introduction to manufacturing accounting and managerial uses of accounting data.

Classes 3 hrs. and lab 1 hr. a week. 1 semester.

### 323.1(2) Management Information Systems I

Prerequisite: Msc 321.1(2), or 325.1(2); Acc 348.1(2) (which may be taken concurrently); and Mgt 382.0.

The study of computer-based data processing and information systems, management problems of computers in business such as organization, control and feasibility.

Classes 3 hrs. a week. 1 semester.

### 341.1(2) Intermediate Financial Accounting — Part I

Prerequisite: Acc 242.1(2).

Part I of a two-course series which provides a comprehensive study of financial accounting and financial reporting. This course is to be followed by Intermediate Financial Accounting — Part II.

Classes 3 hrs. a week. 1 semester.

### 342.1(2) Intermediate Financial Accounting — Part II

Prerequisite: Acc 341.1(2) and Acc 345.1(2) which may be taken concurrently.

Part II of a two-course series which provides a comprehensive study of financial accounting and financial reporting.

Classes 3 hrs. a week. 1 semester.

### 345.1(2) Financial Accounting Theory

Prerequisite: Acc 341.1(2).

Study of objectives of financial accounting, major accounting theories, evolution of financial accounting theory and practice, survey of contemporary accounting practice with emphasis on latest developments and issues. This course should be taken concurrently with Acc 342.1(2).

Classes 3 hrs. a week. 1 semester.

### 346.1(2) Introductory Cost Accounting

Prerequisite: Acc 348.1(2).

This is a basic course in cost accounting which covers both the accumulation of costs and the control features of information provided by the cost system. Topics introduced in Acc 348.1(2), such as job order costing, standard costs and variance analysis,



will be explored in depth. Other topics include process costing; the costing of non-manufacturing activities; cost allocation; control of project costs; and the planning, control and costing of inventories.

Classes 3 hrs. a week. 1 semester.

#### **348.1.(2) Planning and Control**

Prerequisite: Acc 242.1.(2) and Mgt 382.0 (or concurrently Mgt 382.0).

Covers concepts and techniques of planning and control such as profit planning, financial forecasting, budgets, performance measurements, management control systems, analysis of performance, and relevant costs for decision-making.

Classes 3 hrs. a week. 1 semester.

#### **425.1.(2) Management Information Systems II**

Prerequisite: Acc 323.1.(2).

This course is an introductory systems analysis and design course covering fundamental systems concepts; the systems development life cycle; and processes, tools and techniques for each stage in the life cycle, with emphasis on requirements analysis and design. Project management, proposal development and presentation and cost-benefit analysis techniques are also discussed. These concepts and skills are applied in a major practical case project.

Classes 3 hrs. a week. 1 semester.

#### **443.1.(2) Advanced Financial Accounting I — Corporate Accounting**

Prerequisite: Acc 342.1.(2).

This course considers in depth partnerships, long term investments in equity securities, international operations, non-business and not-for-profit organizations, fund accounting, and alternatives to historical cost accounting such as general price level and current value accounting.

Classes 3 hrs. a week. 1 semester.

#### **444.1.(2) Advanced Financial Accounting II — Special Topics**

Prerequisite: Acc 342.1.(2).

This course includes extended consideration of long term investments in equity securities, special topics in corporate accounting, branch accounting, fiduciary accounting, receivership, bankruptcy and liquidations, and extended consideration of alternatives to historical cost.

Classes 3 hrs. a week. 1 semester.

#### **449.1.(2) Management Control Systems**

Prerequisite: Acc 348.1.(2).

An advanced study of the management control system which examines problems of effective and efficient control from the perspective of the total system: expense centers, profit centers, investment centers, programming, planning, budgeting, performance appraisal.

Classes 3 hrs. a week. 1 semester.

#### **450.1.(2) Auditing**

Prerequisite: Acc 342.1.(2).

A study of the basic concepts and theory of auditing including the auditing environment; the auditor's role; the structure of the profession; responsibilities of auditors; nature and theory of evidence; the auditor's report and other related material.

Classes 3 hrs. a week. 1 semester.

#### **453.1.(2) Taxation**

Prerequisite: Acc 342.1.(2) or Fin 361.1.(2).

An introductory study of the theory and procedures of federal income taxation. Both personal and corporation income tax issues are examined.

Classes 3 hrs. a week. 1 semester.

#### **455.1.(2) Accounting Seminar**

Prerequisite: Acc 342.1.(2) and Acc 345.1.(2).

An intensive study of the problems of income determination, asset valuation and liability and equity measurements; a study of the conventional accounting model and the accounting theories that are proposed as a framework for the resolution of the problems in the conventional model.

Classes 3 hrs. a week. 1 semester.

#### **460.1.(2) Internal/Operational Auditing**

Prerequisite: Acc 348.1.(2) and 342.1.(2), or permission of department chairperson and instructor.

A study of the concepts and theory of internal/operational auditing including the internal/operational audit environment; the structure of the internal/operational auditing profession; the duties, responsibilities and procedures of internal/operational auditors; and the relationship between the internal/operational auditing function and the external audit.

Classes 3 hrs. a week. 1 semester.

#### **470.1.(2) Management Accounting Seminar**

Prerequisite: Acc 346.1.(2) and 449.2.

Advanced Management Accounting is the capstone course in the managerial accounting sequence. Its purpose is to provide an exposure to recent developments in the management accounting literature. The course introduces material relating to operations management, strategic planning, and management control systems. Integrating this material with knowledge gained in previous courses is a major purpose of the course. The course develops an understanding of the interactions between planning and control systems. These relationships deal with the three basic issues of Management Accounting: the choice of useful information, the problems in its measurement, and the behavioral consequences of using the data.

Classes 3 hrs. a week. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration Program and with permission of the MBA Director, to students registered in other Master's programs.**

#### **540.1.(2) Financial Accounting**

This course provides an introduction to financial accounting and presumes no prior knowledge of the subject. Using a conceptual approach, the student is given a thorough understanding of financial accounting concepts, principles and practices. Emphasis is placed on providing the student with a fundamental knowledge of how to interpret and analyze financial statements and also with an appreciation of the limitations inherent in published financial information.

#### **548.1.(2) Managerial Accounting**

Prerequisite: Acc 540.1.(2).

The primary objective of this course is to provide the student with a knowledge of the various types of accounting information which are available for use by managers in decision-making. The student examines selected cost concepts and the

appropriateness of their use in diverse areas of decision-making. Financial forecasting, budgeting, profit-planning and performance measurement make up the major portion of the course content.

**626.1(.2) Management Information Systems**

Prerequisite: completion of all required 500 level courses or consent of MBA Director.

This course presents a management-level overview of information systems and related planning, organizing and control issues. Fundamental concepts in systems, computing and communications technology, applications, information management, systems development, internal control and strategic uses of information technology are introduced, illustrated and applied in case studies.

**641.1(.2) Financial Reporting: Problems and Issues**

Prerequisite: completion of all required 500 level courses or consent of MBA Director.

This course focuses on the problems inherent in the process of communicating financial information to various interested groups outside the business organization. Commencing with an examination of the basic objectives of financial statements and the information requirements of various financial statement users, the course provides an opportunity to evaluate generally accepted accounting principles currently in use. Alternative asset valuation and income measurement models are considered as well as current financial reporting issues.

**648.1(.2) Management Control Systems**

Prerequisite: completion of all required 500 level courses or consent of MBA Director.

Designed to provide the student with an understanding of the nature of management control systems, this course places particular emphasis on organizational structure and the control process. Various applications of the 'responsibility center' concept are examined as well as planning, budgeting and performance appraisal. The emphasis is on the design of systems suitable to the organization and its objectives and includes consideration of both profit-oriented and non-profit organizations.

**690.1(.2) Seminar in Accounting**

Prerequisite: all 500 level courses or consent of MBA Director, department chairperson; and instructor.

The course deals with selected topics in the accounting area. The topics to be covered will vary depending on the interests of the students and instructors.

**692.1(.2) Directed Study**

Prerequisite: completion of all required 500 level courses and consent of MBA Director, department chairperson, and instructor.

Intended to supplement or provide an alternative to the regular accounting courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

# Anthropology (Ant)

Chairperson, Assistant Professor	S. Walter
Professors	P. Erickson, J. R. Jaquith H. McGee, Jr.
Associate Professor	S. Davis

## Departmental Policy:

- To obtain a major concentration, a student is required to have completed at least six courses in anthropology. These must include Ant 200.0, 450.0, and three additional courses at the 300 level or above.
- To obtain an honors concentration in anthropology, a student is required to (a) satisfy pertinent Faculty of Arts requirements; (b) meet departmental major requirements; (c) complete the equivalent of ten full courses in anthropology, including the following obligatory core: Ant 200.0, 300.0, 360.0, 380.0, 390.0, 450.0 and 499.0; (d) in addition, honors majors are urged to take at least one of the following methods courses: Ant 321.0, 410.0, 411.0.
- The program for majors must be approved by the student's departmental advisor who will be assigned at the time the major is declared.
- In the case of re-numbered courses, students are advised that only one credit can be obtained for one course, even if that course was offered on different levels in different years.
- Ant 200.0, 201.0, 220.0, 270.0, 319.0, and 372.0 do not have prerequisites.
- The department considers courses in the disciplines of anthropology, economics, geography, political science, psychology, and sociology as social sciences.
- Students are advised that not all courses listed are taught every year. Therefore, students are urged to check with the department prior to registration to confirm the department's offerings.
- The department offers a range of courses from general introductory to specialized area or topical courses. The following guide, noted below, is intended to outline the diversity of the department's program:

## General Introductory Course

200.0

## Introductory Specialized Courses

201.0  
220.0  
270.0

## Advanced General Courses

300.0  
360.0  
380.0  
390.0

## Advanced Specialized Courses

310.0      349.0  
315.0      350.0  
319.0      430.1(2)  
320.0      440.1(2)  
332.0      445.0  
335.0

## Advanced Specialized Courses with a Geographical Focus

322.0  
325.0  
370.0  
372.0

## Method Courses

321.0  
361.0  
410.0  
411.0  
461.0

## History and Theory Course

450.0

## Special Topics Courses

399.0  
480.0

## Honors Thesis Course

499.0

## 200.0 Introduction to Anthropology

An introduction to the scientific study of humanity. Origins, physical and cultural evolution and diversification, prehistory, ecological adaptation, social organization, economic systems, religion, language and value systems of the world's peoples.

## 201.0 Women: A Cultural Perspective [WMS 201.0]

The differential status of women and men in a variety of societies will be examined. Special attention will be given to the portrayal of "woman" in expressive media. Differential patterns of enculturation for women and men will be the focal, but not exclusive, explanatory thesis.

## 220.0 Native Peoples of North America

A survey of the Indian and Eskimo peoples of North America, their cultures and their life histories as groups.

## 270.0 Archaeology and World Prehistory

An introduction to archaeology and its contribution to an understanding of the development of culture. The course investigates the earliest known tools and their associated activities. The development of technology is traced from the early stone age through the iron age in a world-wide setting.

## 300.0 Culture and Society

Prerequisite: Ant 200.0 or permission of instructor.

An in-depth examination of some of the basic concepts used by anthropologists to analyze socio-cultural systems. Special attention will be given to the concepts of culture, structure, *communitas*, and the dialectic.

## 310.0 Applied Anthropology: Culture Change and Development

Prerequisite: a social science course or permission of instructor.

An introduction to the applications of sociocultural anthropology. Consideration is given to the nature of society and culture as well as to anthropological and other theories of culture change, including development.

**315.0 Peasant Society and Culture****(IDS 315.0)**

Prerequisite: an introductory socio-cultural anthropology course or permission of instructor.

A treatment of theories and substantive studies of peasant society and culture.

**319.0 Anthropological Approaches to Cultural Ecology**

Prerequisite: a social science course or permission of instructor.

An introduction to the study of the relationship between people and their environment, ranging from hunting and gathering societies to the dawn of civilization.

**320.0 World Ethnology**

Prerequisite: Ant 200.0, 220.0 or permission of instructor.

Vanished and vanishing cultures in Africa, Oceania, North America, South America and Asia, viewed in relation to historical and environmental influences. Theories of cultural evolution are considered.

**321.0 Ethnohistory**

Prerequisite: Ant 200.0 or permission of instructor.

Ethnohistory and the development of ethnohistorical research, with particular reference to North America. This course is concerned with the anthropologist's use of archival material, and the critical evaluation of different types of oral traditions as sources of historical information. Some ethnohistorical studies are examined.

**322.0 Native Peoples of Atlantic Canada**

An examination of the social and cultural history of the native peoples of the Atlantic area. The political, religious, technological, economic, kinship and aesthetic systems of the Abanaki, Beothuk, Malecite-Passamaquoddy, Micmac, and Penobscot ethnic groups will be discussed within a temporal framework.

**325.0 Ethnology: Oceania**

Prerequisite: a socio-cultural anthropology course or permission of instructor.

Ethnological survey of selected (representative) societies of Polynesia, Micronesia, Melanesia and Australia.

**330.0 Warfare and Aggression: Anthropological Approaches to Human Conflict**

Prerequisite: Ant 200.0.

The course will examine the nature and structure of human conflict by evaluating anthropological theories of warfare and aggression in light of the case materials available on small-scale societies. In addition, particular attention will be devoted to: (1) the role of racism in human conflict, and (2) a critique of sociobiological theories of human aggression.

**332.0 Anthropological Approaches to Folklore**

Prerequisite: an introductory course in anthropology or permission of instructor.

As a traditional system for the storage and transmission of information about how the world is perceived by a people, folklore is of interest to the anthropologist. In this course, the student will be made familiar with current anthropological approaches to the study of folklore and will have the opportunity to analyze a body of folklore.

**335.0 Psychological Anthropology**

Prerequisite: Ant 200.0, Psy 201.0 or permission of instructor.

Deals with the interaction between the individual and culture. Examines roots of both individual and group differences and explores human nature from an anthropological perspective. Looks at complex relations between heredity, culture and environment in a cross-cultural context.

**340.0 Socio-Cultural Aspects of Health and Illness**

Prerequisite: a full course credit (or half course equivalents) in social science.

This course examines the relationships among health, illness, society, and culture. Conceptions of health and illness differ around the world, particularly when they concern the definitions, causes, and cures of ill health. Light will be shed on these complexities by examining cross-cultural views of health and illness, theories of disease causation, deviance and stress, culture-bound and transcultural syndromes, non-Western medical systems, trance and possession and other aspects of health and illness.

**349.0 Myth and Symbol**

(Rel 320.0)

What is myth? What is religious symbol? Are they relevant and meaningful for modern man? This course offers a comparative analysis of the nature of religious experience, myth and symbol by looking into various religions — primitive, classical and modern. Attention will be given to modern theories of myth and symbol as developed, for example, by Freud, Jung, Eliade, and several notable anthropologists.

**350.0 Anthropology of Religion**

Prerequisite: Ant 200.0 or permission of instructor.

Examination of religious behavior from anthropological perspective. Cross-cultural consideration of such questions as origin and nature of religion, religion as adaptation to environment, religion and culture change.

**360.0 Method and Theory in Archaeology**

Prerequisite: Ant 200.0 or permission of instructor.

Concepts and methods of archaeology, lab analysis, survey methods, and collection of data. Suggested for students who intend to take field work courses in anthropology.

**361.0 Fieldwork in Archaeology**

Prerequisite: one of Ant 200.0 or 270.0 or 360.0 or 370.0 and permission of instructor.

Course involves detailed instruction in, and practical application of, archaeological field techniques in the excavation of archaeological sites. The course will offer training in the laboratory analysis of artifacts recovered in the excavation phase of the course. This course is offered during summer sessions.

3 weeks field work and 3 weeks lab.

**370.0 Archaeology of North America**

Prerequisite: Ant 200.0 or permission of instructor.

A survey of North American prehistoric culture, the course considers the first entry into North America of human societies and the subsequent cultures which developed here.

**372.0 European Prehistory**

A survey of the prehistorical cultures of Europe and the Northern Mediterranean area, from the Old Stone Age to the beginning of the Greco-Roman civilization.

**380.0 Physical Anthropology**

Prerequisite: Ant 200.0 or permission of instructor.

An advanced treatment of primate behavior, primate anatomy and human genetics involving laboratory and workbook exercises.

**390.0 Linguistic Anthropology**

Prerequisite: Ant 200.0 or permission of instructor.

Comprehensive cross-cultural introduction to language and speech behavior; to the relations between language and culture generally; to the analysis and description of languages in terms of their constituent units and dynamics; to the social functions of language; applied linguistics and literacy.

**399.0 Directed Independent Studies**

Directed independent study on a reading or research program agreed to by student and instructor. The student must obtain instructor's approval of proposed study plan before registering for the course.

**410.0 Methodology in Socio-cultural Anthropology**

Prerequisite: Ant 200.0 or permission of instructor.

This course introduces the student to a variety of data collection techniques and methods of analysis. The student may be permitted to collect and analyze ethnographic data within the local area.

**411.0 Anthropological Statistics**

Prerequisite: Ant 200.0 and Nova Scotia Grade XII mathematics or equivalent, or permission of instructor.

An introduction to basic noncalculus anthropological statistics by means of class lectures and tutorials. The following topics will be treated in order: data; grouping data; measures of central tendency and dispersion; probability theory; binomial distribution; normal distribution; estimates of means and variances; hypothesis testing; students' distribution; nonparametric nominal scales; nonparametric ordinal scales; linear regression; correlation coefficients; sampling.

**430.1(2) Political Anthropology**

Prerequisite: Ant 200.0 or permission of instructor.

A consideration of the structure and processes of decision-making concerning public goals. Emphasis will be placed on strategic deployment of personnel, material, and information in a variety of settings.

**440.1(2) Social Boundaries**

Prerequisite: Ant 200.0 or permission of instructor.

An examination of concepts used in the description of social differentiation and the theories suggested to explain those differences. Substantive ethnographic examples will be concerned with sex, age, residential, ethnic, class, national, and cultural differences.

**445.0 Evolution and Human Behavior**

Prerequisite: Ant 380.0 or permission of instructor.

An examination of physical anthropology's contribution to the nature/nurture debate focusing on human sociobiology, human ethnology and human behavioral genetics.

**450.0 History of Anthropological Theory**

Prerequisite: Ant 200.0, and two additional courses in anthropology or permission of instructor.

The development of anthropological theory from the Enlightenment to the present with reference to current theoretical issues.

**461.0 Advanced Fieldwork in Archaeology**

Prerequisite: Ant 361.0.

Students are expected to have knowledge of field and laboratory techniques used in archaeology. They will conduct their own excavations and analysis of an archaeological site and its material. This course is offered during summer sessions.

3 weeks field work and 3 weeks lab.

**480.0 Seminar**

To be offered in response to expressed student desire for advanced instruction in anthropological topics not covered intensively in substantive course offerings. Will be given as formal seminar by a full-time Anthropology staff member.

**499.0 Honors Thesis**

Supervised preparation of a significant research paper for honors students in anthropology.

# Asian Studies (ASN)

## Committee on Asian Studies

J. Lee, Coordinator  
 J. Ahiaqpor  
 P. Bowlby  
 P. Bowles  
 N. Jones  
 J. Morrison  
 D. Mukhopadhyay  
 H. Falston  
 H. Schwind  
 S. DeMille Walter

History  
 Economics  
 Religious Studies  
 Economics  
 Geography  
 History  
 Economics  
 Sociology  
 Management  
 Anthropology

There is little question of the place or significance of Asian Studies in university education. Since World War II, we have witnessed the increasing importance of Asia in world politics and economics and have recognized the need for educated citizens to develop a better understanding of the forces involved. An informed acquaintance with the Asian experience in the field of politics, history, culture, philosophy, and religion has become an essential corollary to a full understanding of our own Western experience.

An academic background in Asian Studies will help to prepare students for careers in the diplomatic service, in international trade and industry and in the secondary and university teaching fields.

Saint Mary's University is the only institution in the Atlantic Provinces offering a comprehensive program in Asian Studies.

## Regulations for Majors

Majors should choose a supervisor from among the faculty in the Committee on Asian Studies who will oversee their program of study. Aside from the normal university requirements for the Bachelor of Arts degree, students intending to complete a major concentration in Asian Studies are required to obtain at least six full course credits. The credits must be obtained from at least three departments and may be chosen from the following courses.

## Regulations for Honors

1. Admission to and continuance in the honors program in Asian Studies follows the general regulations of the Faculty of Arts, namely regulations 11, 12, and 13.

2. Students seeking an honors degree in Asian Studies are encouraged to pursue a combined honors program in one of the departments offering Asian Studies courses. See Faculty of Arts, regulation 14.

3. Students in either an honors or combined honors program in Asian Studies must satisfy the following requirements:

- a. at least an introductory level course in an Asian language;
- b. courses which will acquaint them with the major cultural areas of Asia;
- c. at least one Asian Studies course within each of the following departmental groupings:
  - (i) History and Religious Studies;
  - (ii) Anthropology, Geography, Political Science, or Sociology;
  - (iii) Economics or Management.
- d. An honors thesis to be prepared during the final year of study

in the program. The topic must be approved by the Asian Studies Committee and the thesis will be supervised and graded by three Faculty members chosen by the Asian Studies Committee. Students writing an honors thesis must enrol in Asian Studies 492.0: Honors Thesis.

e. Annual approval of their program of study by the Chairperson of the Asian Studies Committee.

## Dual Degree Program

Since it is possible to obtain two undergraduate degrees from Saint Mary's University, for Commerce students it may be very attractive to combine a degree in their field with a major in Asian Studies, especially in light of the interest which the Canadian federal and provincial governments and private industries have in developing trade with the Pacific Rim countries. It is relatively easy to combine Commerce and Asian Studies if Commerce students select their non-Commerce and free electives carefully. The second degree can be obtained in a year or less in addition to the normal time requirement for a Commerce degree. For more information please contact either the Dean of Arts, Dean of Commerce, or the Coordinator of Asian Studies, and also consult the last entry in the Faculty of Commerce descriptions in this Calendar.

## Anthropology

315.0 Peasant Society and Culture  
 325.0 Ethnology: Oceania

## Asian Studies

400.0 China's Developmental Experience  
 410.2 Special Topics on Japan  
 492.1(2) Directed Study

## Economics

310.1(2) Development Economics  
 313.1 International Finance  
 315.1(2) Comparative Economic Systems  
 323.1(2) Soviet-Type Economy

## Geography

330.1(2) Geography of China

## History

209.0 East Asia  
 323.0 China Before 1800  
 324.0 History of Japan  
 341.0 China and Japan in the 20th Century  
 342.0 China in Revolution 1840 to Present  
 391.0 East Asia and the West  
 511.0 Seminar on Modernization in East Asia

## Management

488.1(2) International Business Management

## Modern Languages and Classics

### Chinese

100.0 Elementary Chinese  
 200.0 Intermediate Chinese

## Political Science

340.0 Politics of the Developing Areas  
 341.0 Government and Politics in East Asia  
 553.0 International Studies Seminar

**Religious Studies**

240.0	When Great Religions Meet
324.0	Religions of China
325.1	Myth and Story
326.1(2)	The Hindu Religious Tradition
327.1(2)	The Buddhist Religious Tradition
337.1(2)	Religion and Art in South Asia
340.0	Ethnic and Minority Groups
341.1(2)	Political Theology: East and West
342.1(2)	Religion and War
417.0	Religious Movements

**410.2 Special Topics on Japan**

Prerequisite: one Asian Studies course or permission of instructor.

Special Topics on Japan is a seminar to be taught by a Japanese specialist invited to Saint Mary's University.

**490.1(2)-499.1(2) Directed Study**

Prerequisite: permission of coordinator and instructor.

Intended to supplement or provide an alternative to the regular courses in Asian Studies in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Classes: Tutorial and independent study. 1 semester.



# Astronomy (Ast)

Chairperson, Associate Professor D.G. Turner  
 Professor G. F. Mitchell  
 Observatory Director, Associate Professor G. A. Welch

The Burke-Gaffney Observatory opened early in 1972 and began a program to make its facilities available to the general public and to students and faculty at Saint Mary's University. The telescope is a reflector with a 0.4-metre diameter mirror and is equipped with research instrumentation. Telescope observations are a standard component of the 200-level courses in astronomy, and a few upper-year courses.

## Undergraduate Courses and Astrophysics Option

Ast 201.0 is a non-mathematical course intended for the non-science student. In addition, the Department offers a series of courses for undergraduate science majors. Ast 202.0 is an introductory course for science students which provides a broad background in all areas of astronomy. The 300 and 400-level courses are one-semester courses in astronomical techniques, astrophysics, the solar system, and stellar systems, and these courses are suitable as science electives (requirement 5-b) for science majors, including students in Co-operative Education Programs.

## Astrophysics Program

An astrophysics program is offered jointly with the Department of Physics. The program demands a minimum grade of C in all physics and astronomy courses taken. The program of study must be approved by the Department of Astronomy and the Department of Physics. Further details are found below in the Department of Physics. Note: Availability of this program is subject to the approval of the Maritime Provinces Higher Education Commission.

## The Master's Program

Saint Mary's University is the only institution in Atlantic Canada offering a Master's degree in Astronomy. Both full-time and part-time students can be accommodated. The 600-level courses listed are graduate courses and are not usually open to undergraduate students. The Master's program attempts to provide the student with a broad background in physical science, to foster research ability, and to develop in the student an understanding of modern astronomy at the professional level. The graduate will be sufficiently versatile to enter a doctoral program elsewhere, pursue a technological career, or choose a career in teaching.

The program is two years in length (or up to six years for part-time students) and includes course work and a thesis. The number of courses required will depend on the qualifications of the student, but will normally be four plus thesis. The major effort of the first year will be in acquiring a basic knowledge of astronomy through courses, seminars, and general reading. Three courses will normally be taken. During this first year a thesis topic will be chosen in consultation with the department. In the second year the student will normally take one course and complete a thesis. The thesis work will be carried out under the supervision of a faculty member and will involve original research. Graduate students will normally spend the summer in the department working on their research.

Admission and degree requirements are given in the Graduate Studies section of this Calendar.

## 201.0 Introduction to Astronomy

A survey course intended for students who are not science majors and who have little background in science and mathematics. The course will emphasize the scientific methods currently used to determine physical properties (such as distance, size, composition, age and origin) of astronomical objects. A survey of known constituents of our universe will include objects as near as the earth itself and as remote as the mysterious quasars, and objects as commonplace as the moon and as bizarre as neutron stars and black holes. Among the great themes of 20th century astronomy to be described will be the life cycles of stars, the nature of the Milky Way galaxy, and the origin and fate of the universe. During the course students will also be able to gain practical observing experience and to make use of the Burke-Gaffney Observatory.

Classes 3 hrs. a week. 2 semesters.

## 202.0 Introductory Astronomy for Science Students

Prerequisite: Phy 111.0 and Mat 100.0.

After a study of the celestial sphere, the motions of the earth and time measurement, the solar system will be investigated in some detail. Topics will include the moon, planets, asteroids, comets and the sun. Consideration of the properties of stars and stellar evolution will lead to a brief discussion of neutron stars, black holes and pulsars. Our Galaxy will be examined with respect to its size, rotation, and spiral structure. The nature and space distribution of external galaxies will be studied.

Classes 3 hrs. a week. 2 semesters.

## 301.1(2) Observational Astronomy

Prerequisite: Ast 202.0 or permission of instructor.

This course is concerned with astronomical instruments and techniques. Beginning with optical properties of telescopes, this course examines the design and use of modern astronomical instruments such as the photoelectric photometer, the spectrograph, and the image tube. Students will have the opportunity to use this equipment in observing sessions, and gain practical experience in the acquisition and reduction techniques of astronomical data.

Classes 3 hrs. a week. 1 semester.

## 302.1(2) Introductory Astrophysics

Prerequisite: Phy 221.0.

Astrophysics is concerned with application of principles from physics and other sciences to astronomical systems. This course is an introduction to this endeavour. Topics discussed will include the transfer of radiation through the outer layers of stars, the sources of stellar energy, the evolution of stars and the nature of interstellar gas clouds in the galaxy.

Classes 3 hrs. a week. 1 semester.

## 401.1(2) The Solar System

Prerequisite: Phy 221.0 and Ast 202.0, or permission of instructor.

This course provides an introduction to orbital mechanics and to the study of rocks and minerals. Topics covered in the course include: fundamental data for planets and satellites, age dating of rocks by radioactive decay, meteorites and tektites, comets, asteroids and remote sensing techniques, cosmogony and the early history of the solar system, planetary and satellite interiors,



surfaces, and atmospheres, and comparative planetology. Special emphasis is given to the recent results obtained from interplanetary probes.

Classes 3 hrs. a week. 1 semester.

#### **402.1(2) Stars and Stellar Systems**

Prerequisite: Phy 221.0 and Ast 202.0, or permission of instructor.

This course begins with a discussion of the various methods of determining motions and distances of the stars. An introduction to observational and dynamical properties of open clusters, associations and globular clusters includes the luminosity function and galactic distributions. Topics also include interstellar reddening, zero-age main-sequence determination, metal abundances, and stellar populations in the Galaxy and the local group of galaxies.

Classes 3 hrs. a week. 1 semester.

**The 600-level courses are intended for graduate students in Astronomy and are not normally taken by undergraduates. Interested undergraduates should discuss their background with the department chairperson before enrolling in these courses.**

#### **601.1(2) Radio Astronomy**

This course deals primarily with the concepts and techniques used in radio astronomy, and with the physical mechanisms which produce radio radiation. A discussion of simple antenna theory introduces the concepts of brightness temperature, antenna temperature and antenna power pattern. A brief review of Fourier Transform theory leads to the topics of interferometry and aperture synthesis. An investigation of radio emission mechanisms includes line radiation as well as continuum emission from thermal and non-thermal sources. These mechanisms will be used to study the physical conditions in galactic HII regions and supernova remnants, and will be employed in discussing interstellar molecules and neutral hydrogen in normal galaxies, and radio emission from quasars and radio galaxies.

Classes 3 hrs. a week. 1 semester.

#### **602.1(2) Galactic Structure**

Basic structure of the Milky Way will be presented, including solar motion and the Local Standard of Rest, stellar populations, and the role of variable stars and associations in spiral structure. Galactic rotation will be examined in detail, including observational determinations of the Oort constants, mass distribution models, and comparisons of 21 cm maps with spiral structure derived from optical spiral arm tracers.

Classes 3 hrs. and lab a week. 1 semester.

#### **605.0 Fundamental Astrophysics**

The physical conditions in the outer layers of stars will be deduced from their continuous radiation and their spectral lines. The treatment of stellar atmospheres will involve a discussion of ionization and excitation, atomic and molecular spectra, and the thermodynamics of a gas. The topic of stellar structure will include an application of nuclear physics to stellar energy production and a treatment of nucleosynthesis in stars (explosive and non-explosive). A discussion of the interstellar medium will include interstellar clouds, the intercloud medium, ionized hydrogen regions, interstellar molecules, dust grains, and the galactic magnetic field.

Classes 3 hrs. a week. 2 semesters.

#### **606.1 Techniques in Observational Astronomy**

This course will provide background and practical experience in the acquisition and reduction of astronomical data. Basic areas covered will include photoelectric photometry, photographic photometry, and spectral classification. Project assignments will involve the student with the full range of instrumentation available at the Burke-Gaffney Observatory, including multi-colour photoelectric photometer, spectrograph, direct camera, Cuffey iris photometer and measuring engine.

Classes 3 hrs. a week. 1 semester. Required observing sessions at the 40 cm telescope extend through second semester.

#### **607.1(2) Binary and Variable Stars**

Topics covered in this course include: fundamentals of orbital motion and the properties of binary star systems; analytical techniques for studying visual binaries, astrometric binaries, spectroscopic binaries, and eclipsing binaries; orbital evolution and the problem of binary star formation; the mass-luminosity relation; the Roche model and the classification of close binary systems; classes of variable stars; pulsating variables and their place in stellar evolution; the relationship of binaries and variables to star clusters.

Classes 3 hrs. and lab 2 hrs. a week. 1 semester.

#### **609.1(2) Extragalactic Astronomy**

Starting with a survey of the different galaxy classes, recent observations of galaxies will be reviewed with emphasis on how these observations are interpreted using concepts arising from studies of the Milky Way. The present stellar content and possible evolutionary histories of the galaxy classes will be compared. The nature of galaxy clusters will be examined, and this will lead to a discussion of how observations of galaxies are employed to infer the large-scale properties of our universe.

Classes 3 hrs. a week. 1 semester.

#### **610.0 Thesis**

Normally taken during the second year of enrolment in the M.Sc. program. The research will be conducted under the supervision of a faculty member.

#### **611.1(2) Directed Readings in Current Literature**

A topic of current interest in astronomy will be chosen in consultation with a faculty member. After a thorough study of recent work on the topic, a detailed written report with references will be submitted. Extensive use will be made of available research journals.

# Atlantic Canada Studies (ACS)

## Committee on Atlantic Canada Studies

J. G. Reid, Coordinator	History
L. G. Barrett	Sociology
C. J. Byrne	English
J. Chamard	Management
T. Charles	Finance and Management Science
L. Christiansen-Ruffman	Sociology
D. Cone	Biology
P. Connelly	Sociology
S. Davis	Anthropology
D. Day	Geography
K. Flikeid	Modern Languages and Classics
M. Harry	English
C. Howell	History
J. G. Jabbra	Political Science
B. Kiesekamp	History
M. MacDonald	Economics
K. MacKinnon	English
R. McCalla	Geography
H. F. McGee	Anthropology
H. Millward	Geography
J. H. Morrison	History
T. O'Neill	Economics
D. Perrier	Sociology
H. Ralston	Sociology
B. Robinson	Geography
A. T. Seaman	English
R. Twomey	History
H. Veltmeyer	Sociology
T. A. Whalen	English
M. Wiles	Biology

Atlantic Canada Studies is an interdisciplinary major, minor, and honors option in the Arts Faculty which has developed out of an increasing demand by students, faculty and the community generally, for a more organized study of this region.

Students who complete a major, minor, or honors in Atlantic Canada Studies will have helped to prepare themselves for a fuller and more meaningful participation in the life of Atlantic Canada, and will have acquired a useful background for careers in teaching, trade and industry, and the various bureaus of the Provincial and Federal Civil Services. Their attention is particularly drawn to the advantages, from a career point of view, of taking Atlantic Canada Studies as part of a double major or combined honors.

Students are required to choose their courses in consultation with a member of the Atlantic Canada Studies Committee, and are strongly urged to select one of its members to advise them for the duration of the program, and to provide the necessary liaison with the committee. The following are the regulations for major, minor, and honors programs. Details concerning the Master of Arts in Atlantic Canada Studies degree are found in Section 3 of this Calendar.

### Majors

To complete a major concentration in Atlantic Canada Studies, a student must meet the usual University requirements for the Bachelor of Arts degree, and in particular, obtain eight full course credits (or the equivalent) from the courses listed below. At least four of the eight credits must be at the 300 level or above. Students are required to select courses in accordance with the following criteria:

1. The courses must include at least one full credit from each of three of Groups A, B, C, D and E.
2. The courses must include at least one full credit from each of three different academic disciplines. Interdisciplinary ACS courses do not count as a discipline for this purpose.
3. ACS 400.0 must be one of the courses selected.
4. No more than three full credits may be selected from Group E.
5. No student may include both ACS 310.0 and Bio 207.0 among the courses selected.
6. It is the responsibility of the student to ensure that all prerequisites have been fulfilled for the courses chosen.

### Minors

A minor in Atlantic Canada Studies consists of four full courses, or the equivalent, chosen from the courses listed below and completed with a quality point average of at least 2.00. At least two full course equivalents must be at the 300.0 level or above, and the courses selected must include ACS 400.0. The courses must also include one full course equivalent from each of three different academic disciplines, and no more than two full course equivalents may be selected from Group E.

### Honors

To complete an honors program in Atlantic Canada Studies, a student must meet the usual University requirements for the Bachelor of Arts degree with Honors, and in particular, obtain ten full course credits (or the equivalent) from the courses listed below. At least eight of the ten credits must be at the 300 level or above. Students are required to select courses in accordance with the following criteria:

1. The courses must include at least one full credit from each of four of Groups A, B, C, D, and E.
2. The courses must include at least one full credit from each of three different academic disciplines. Interdisciplinary ACS courses do not count as a discipline for this purpose.
3. ACS 500.0 must be one of the courses selected.
4. No more than three full credits may be selected from Group E.
5. No student may include both ACS 310.0 and Bio 207.0 among the courses selected.
6. It is the responsibility of the student to ensure that all prerequisites have been fulfilled for the courses chosen.

### Group A Interdisciplinary Courses in Atlantic Canada Studies

ACS 300.0; ACS 301.1; ACS 302.2; ACS 303.1(.2); ACS 310.0; ACS 400.0; ACS 401.1(.2) to ACS 405.1(.2); ACS 500.0.

### Group B Culture and History

Ant 322.0; Egl 312.1(.2); Egl 380.0; IRS 307.0; Fre 303.0; Fre 305.1(.2); Fre 405.1(.2); His 320.0; His 340.0; His 344.0; His 345.0; His 372.1(.2); His 373.1(.2); His 560.0.

### Group C Social and Political Economy

Eco 324.1(.2); Eco 325.1(.2); Pol 307.0; Soc 320.0; Soc 327.0; Soc 332.0; Soc 420.0; Soc 453.0.

### Group D Ecology and Environment

Bio 207.0; Eco 361.1(.2); Gpy 304.1(.2); Gpy 340.1(.2); Gpy 434.1(.2); Geo 204.0; Soc 310.1(.2).

**Group E Cognate Courses**

Ant 220.0; Ant 321.0; Ant 370.0; Bio 103.0; Bio 310.0; Bio 405.0; Che 372.0; Eco 306.1.(2); Eco 310.1.(2); Eco 315.1.(2); Eco 360.1.(2); Eco 406.1.(2); Eco 430.1.(2); Egl 335.0; Egl 370.0; Egl 375.1.(2); Egl 377.1.(2); Egl 432.0; Egl 475.0; IRS 308.0; Gpy 200.0; Gpy 303.1.(2); Gpy 311.1.(2); Gpy 319.0; Gpy 331.1.(2); Gpy 344.1.(2); Gpy 354.1.(2); Gpy 364.1.(2); Gpy 423.1.(2); Gpy 424.1.(2); His 231.0; His 232.0; His 240.0; His 311.0; His 319.0; His 329.0; His 332.0; His 333.0; His 347.0; His 348.0; His 349.0; His 361.1.(2); His 362.1.(2); His 363.1.(2); His 365.0; His 390.0; Fre 412.1.(2); Fre 419.0; Fre 440.1.(2); Phi 425.0; Pol 304.0; Pol 309.0; Pol 310.0; Pol 315.0; Pol 317.0; Pol 320.0; Pol 330.0; Pol 551.0; Psy 418.1; Psy 419.2; Rel 315.0; Rel 346.1; Rel 347.2; Soc 306.0; Soc 321.0; Soc 333.0; Soc 340.0; Soc 405.0; Soc 425.0; Soc 429.0; Soc 448.0.

**300.0 The Culture of Atlantic Canada**

This course provides an introduction to the cultural traditions and institutions of the various regions and ethnic groups of the three Maritime Provinces and Newfoundland. Lectures will cover a wide variety of architectural, artistic, ecclesiastical, educational, ethnic, and linguistic topics. Students will engage in both individual and group projects and be required to write a final examination.

Note: While the same course description is applied to half courses designated I and II, each course is in fact self-contained in content and entirely different each time it is offered. A student does not need to have passed I as a prerequisite to enrol in II.

**301.1 Selected Topics in Atlantic Canada Studies I**

This semester course will provide the student with an opportunity to take courses on specific Atlantic Canada topics which do not fit in with the standard offerings of other departments of the University.

**302.2 Selected Topics in Atlantic Canada Studies II**

This semester course will provide the student with an opportunity to take courses on specific Atlantic Canada topics which do not fit in with the standard offerings of other departments in the University.

**303.1.(2) Higher Education in Atlantic Canada**

This course will examine the role of higher education institutions in Atlantic Canada, from historical and contemporary perspectives, and will thus encourage informed assessment of the needs and responsibilities of higher education in the region.

**310.0 The Atlantic Fisheries**

A study of the relationship between the material basis and political economy of the Atlantic fisheries since 1945. Stress will be placed on the scientific facts underlying the fisheries, and in particular, the qualities and quantities in the marine ecosystem that support them. A detailed study will also be made on the methods of fisheries science which are the basis of fish stock assessments by government scientists. Roughly the last third of the course will examine the effects on the livelihood of fishermen, of government policies respecting the fisheries, and the regional, national and international political forces which are behind federal government fisheries regulations.

**400.0 Atlantic Canada Seminar**

Prerequisite: student must be a fourth year (senior) ACS major.

This course, intended for majors in Atlantic Canada Studies, will provide an opportunity for students in the program to integrate their knowledge of the region in an interdisciplinary fashion. Drawing upon the expertise of a number of guest speakers familiar with various aspects of Atlantic Provinces life, the course will deal with such topics as the Atlantic fishery, agriculture,

industry and labour, business enterprise, regional protest, and cultural ethnicity. Students will be afforded an opportunity to use the vast quantity of primary source material at the Public Archives of Nova Scotia and other local repositories.

**401.1.(2) to 405.1.(2) Directed Reading**

Prerequisite: permission of ACS Coordinator.

These courses provide opportunities to study a particular subject in detail. They will normally require a considerable amount of independent, though supervised, study.

**500.0 Honors Seminar**

Prerequisite: enrolment in ACS honors program.

This course will provide an opportunity for honors students to integrate their knowledge in an interdisciplinary fashion.

**Master of Arts in Atlantic Canada Studies****620.0 Culture of Atlantic Canada**

Prerequisite: enrolment in the Master of Arts in ACS or permission of ACS Coordinator.

The course will deal with the historical, geographical and linguistic aspects of the culture of the Atlantic Region. This will include the tracing of the development of distinctive cultures within the region. The development of various literary forms within the region from folk-tale and folk-song to more sophisticated written literary materials will be emphasized. The course will also explore regional and federal policies.

**630.0 Seminar on Atlantic Canada Ecology and Resources**

Prerequisite: enrolment in the Master of Arts in ACS or permission of ACS Coordinator.

This seminar looks at the changing ways nature has been viewed and transformed in the Atlantic Region before and after European settlement. Topics covered include Indians and the land, patterns of animal extinction, Natural Theology and Darwinism, the conservation movement, "technological flaw", and the ways in which business, politicians and ordinary people have dealt with environmental concerns. A central question asked will be the relevance of ecological insights in an industrialized, yet underdeveloped, region.

**640.0 Atlantic Canada Political Economy Seminar**

Prerequisite: enrolment in the Master of Arts in ACS or permission of ACS Coordinator.

This course will involve an interdisciplinary perspective on the region's economic, political and social institutions and the problems associated with them. On the basis of both a historical and a structural analysis of the region's political economy, the seminars will focus on a broad range of problems including uneven industrial and urban development, rural decline, regional disparity, economic concentration and corporate power, the role of government in economic and social development, industrial relations and social conflict, resource extraction and the single-industry community.

**650.0 Directed Reading**

Prerequisite: enrolment in the Master of Arts in ACS or permission of ACS Coordinator.

Reading courses will be organized by the instructor(s) involved. In general, each course will center on a specific theme, and the students will be expected, through their reading, to be familiar with all aspects of the chosen area. Examinations and/or papers will be required at the end of each course.

**660.0 History and Society: The Atlantic Provinces Seminar**

Prerequisite: graduate standing or permission of instructor.

This course, intended for Master's students in Atlantic Canada Studies and honors students and M.A. candidates in history, addresses the nature of historical inquiry into issues relating to the social and economic history of the Atlantic region. Topics to be covered will include regional culture, gender and race, the family, processes of development and underdevelopment, scientism and professionalization, health, recreation and sport. Students who have completed ACS 660.0 are not eligible to enrol in His 560.0.

Seminar 3 hrs. a week. 2 semesters.

**690.0 Thesis Research**

Prerequisite: enrolment in the Master of Arts in ACS or permission of ACS Coordinator.

Students will engage in the research for and writing of a thesis under supervision of a graduate committee. Credit for the course will be determined when the candidate satisfies the thesis advisor that thesis research and all other methodological and disciplinary preparation for the successful handling of the thesis topic have been completed. Supervisors may require a demonstration of language competence or extra course work as preparation for the treatment of certain thesis topics.

# Biology (Bio)

Chairperson, Professor  
Professor  
Associate Professors  
Assistant Professor  
Lecturer

B. Kapoor  
M. Wiles  
D. Cone, E. U. Rojo  
D. Strongman  
T. Rand

The Biology Department offers programs to fulfil the requirements of the following degrees:

1. general degree of Bachelor of Science with a concentration in biology,
2. degree of Bachelor of Science with a major in biology and,
3. degree of Bachelor of Science with honors in biology.

In addition, the department also prepares students for the professional studies of medicine and dentistry.

The core program for biology majors consists of Bio 111.0 or Nova Scotia Grade XII Biology (or equivalent); Bio 200.0; and 307.1/308.2.

Students intending to take an honors degree in biology should consult the chairperson or a member of the department before completing registration.

Students completing a concentration in biology should be able to understand most of the disciplines of the subject and be capable of teaching or doing technical work in biological, paramedical, or health science fields after appropriate on-job training. Students finishing a major in biology should be capable of undertaking graduate level work in biology either after a further year of honors work or after a qualifying year in a graduate program. In the major program more emphasis is placed on the scientific aspects of education and training, while a concentration in biology is aimed at providing a broad general education in arts and sciences.

Note: Students who fail the laboratory component of a course will fail the course.

The following schemes are recommended by the department for biology students doing the general science degree, the degree with a major, or an honors degree.

## Scheme A: General Science Degree with Biology Concentration

### Freshman Year

1. Egl 201.1(2) and 202.1(2)
2. Mat 100.0
3. a course in the humanities
4. Bio 111.0
5. a related science course

### Sophomore Year

1. a course in the humanities
2. Mat 200.0 or 226.1(2)/227.1(2)
3. a related science course
4. Bio 200.0
5. Che 202.0

### Junior Year

1. Two courses from the following
 

Bio 302.0	Bio 310.0
Bio 305.0	Bio 317.0
Bio 307.1 & 308.2	Bio 319.0
Bio 309.0	

2. a related science course
3. a related science course
4. non-biology elective

### Senior Year

1. One course from the following
 

Bio 302.0	Bio 310.0
Bio 305.0	Bio 317.0
Bio 307.1 & 308.2	Bio 319.0
Bio 309.0	
2. One course from the following:
 

Bio 401.1(2) and 403.1(2) or 407.1 or 411.1 plus Bio 408.2 or 412.2, 415.0
Bio 405.0
Bio 406.0
3. non-biology elective
4. non-biology elective
5. non-biology elective

## Scheme B: Science Degree with a Major in Biology

### Freshman Year

1. Egl 201.1(2) and 202.1(2)
2. Mat 100.0
3. a course in the humanities
4. Bio 111.0
5. a related science course

### Sophomore Year

1. a course in the humanities
2. Mat 200.0 or 226.1(2)/227.1(2)
3. a related science course
4. Bio 200.0
5. Che 202.0

### Junior Year

1. Bio 307.1 & 308.2
2. Two courses from the following:
 

Bio 302.0	Bio 310.0
Bio 305.0	Bio 317.0
Bio 309.0	Bio 319.0
3. a related science course
4. non-biology elective

### Senior Year

1. Two or three courses from the following:
 

Bio 302.0	Bio 401.1, 403.2
Bio 305.0	Bio 407.1 or 411.1 plus
Bio 309.0	Bio 408.2 or 412.2
Bio 310.0	Bio 405.0
Bio 317.0	Bio 406.0
Bio 319.0	Bio 415.0
Bio 320.0	
2. a related science course
3. a biology or non-biology elective
4. non-biology elective

## Scheme C: Science Degree with Honors in Biology

Students must satisfy the requirement for the major degree program as outlined in Scheme B, and in the honors year, take the following five courses:

**Honors Year**

Students will consult with their honors supervisor for the selection of courses.

- One course from the following:  
 Bio 407.1 & 408.2            Bio 405.0  
 Bio 401.1 & 412.2            Bio 406.0  
 Bio 403.1 & 412.2            Bio 415.0  
 Bio 411.1 & 412.2
- Bio 549.0
- Two courses from the following:  
 Bio 501.0                        Bio 553.0  
 Bio 550.0                        Bio 554.0  
 Bio 552.0                        Bio 555.0
- Bio 590.0

Note: In any biology course, the instructor may decide to substitute a one-hour seminar discussion period for one of the lectures.

**Honors Program with a Combined Major in Biology and Chemistry**

A total of 14.0 courses are required with a minimum of 6.0 in each major subject.

**First Year**

- Bio 111.0
- Che 101.0
- Mat 100.0
- Egl
- Elective (Science or Arts)

**Second Year**

- Che 201.0 or 202.0
- Bio 200.0
- Science elective (Phy 221.0)
- Mat 200.0
- Egl 201.1(2) and 202.1(2)

**Third Year**

- Bio 307.1/308.2
- Bio 300.0 level, other than above
- Che 341.0 or 343.0
- Che 311.0, 321.0, or 331.0
- A humanities course

**Fourth Year**

- Bio 400.0 level
- Bio 400.0 level
- Che 311.0, 321.0, or 331.0
- A full course (or half course equivalents) in Che
- Science elective

**Fifth Year**

- Che 500.0 or Bio 590.0
- Bio 549.0

Plus sufficient Che and Bio courses to meet the 14.0 course requirement.

**103.0 Biology, Environment and Man (for non-science students)**

An introduction to the scope and principles of modern biological science. Wherever possible examples explaining these principles will be drawn from familiar, everyday events. The importance of biology in today's world will be discussed with particular

emphasis on the problems associated with degradation of the environment and with human ecology. This course will not include laboratory work, but rather two lecture hours per week, and discussion sessions averaging one hour per week where demonstrations will sometimes be presented.

Note: Normally this course is restricted to non-science students for whom it constitutes a science elective. However, should a student wish to change to a science degree after taking the course, credit would be granted for the course, either as an arts elective, or in the case of a mark of A as a regular science course equivalent to the introductory biology course, Bio 111.0. Students who already have a credit for Grade XII Biology will not receive another credit for this course.

Classes 3 hrs. a week. 2 semesters.

**111.0 Introduction to Biological Science**

This course examines the physical, chemical and biological bases of the activities of living organisms and emphasizes the modern approaches to biological sciences through consideration of the following: ecology, life history, behavior, physiology, cytology, heredity and molecular biology.

**200.0 Principles of Biology**

Prerequisite: Bio 111.0 (or equivalent).

An in-depth study of the principles and organization of life with respect to various levels of integration. Emphasis in the laboratory work will be on experimental and precise observational techniques.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**207.0 The Atlantic Fisheries**

Prerequisite: permission of instructor.

A study of the relationship between the biology and political economy of the Atlantic fisheries since 1945. Stress will be placed on the scientific facts underlying the fisheries, and in particular, the qualities and quantities in the marine ecosystem that support them. A detailed study will also be made on the methods of fisheries science which are the basis of fish stock assessments by government scientists. Roughly the last third of the course will examine the effects on the livelihood of fishermen, of government policies respecting the fisheries, and the regional, national and international political forces which are behind federal government fisheries regulations.

Classes 3 hrs. a week. 2 semesters.

Note: This course cannot be used to satisfy the Bachelor of Science requirements 4-a, 4-b, 5-a, or 5-b. It also cannot be used to satisfy requirement 3-b of the Faculty of Arts.

**249.1 Introduction to the Marine Sciences**

Prerequisite: Bio 111.0 or equivalent.

A three-week summer course organized by, and offered at, the Huntsman Marine Laboratory, St. Andrews, New Brunswick, during July. The course is an introduction to the principles and methods of marine science with an emphasis on field studies. Admission is by application. Students are expected to defray their own travel costs to and from the Laboratory.

36 hrs. including lab and field work during 1 summer session.

**302.0 Cytology**

Prerequisite: Che 101.0 or Che 202.0, Bio 200.0.

Structure and function of the cell organelles, cell reproduction, meiosis, reproductive cytology, architecture of the chromosome,

function of the chromosomes, chromosomal rearrangements, polyploidy, sex-chromosomes, karyotype evolution, cytology in relation to taxonomy.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 305.0 General Physiology

Prerequisite: Bio 200.0 and Che 202.0, Che 341.0 or Che 343.0 are suggested; or permission of chairperson.

An introduction to the essential aspects of cellular physiology and a discussion of the physiology of the major organ systems of the vertebrate body. The topics discussed include: circulation, respiration, digestion, nutrition, metabolism, muscles, nervous system and endocrine system.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 307.1(2) Genetics

Prerequisite: Bio 200.0 and Che 101.0 or Che 202.0.

A study of the principles of inheritance in plants and animals by consideration of the genetic code, protein synthesis, mutations, polyploidy and Mendel's Laws.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 308.1(2) Biostatistics

Prerequisite: Bio 111.0, Bio 200.0 concurrently; Mat 100.0.

Introduction to the principles and methods of analyzing and using quantitative data in the biological sciences. The emphasis will be on practical applications of statistics in biology rather than on statistical theory. Material covered includes graphical presentation of data, transformation of data, handling of data. Descriptive statistics, distributions, regressions, correlation, analysis of variance, probability theory, comparisons of sets of data and sampling methods will be studied.

Classes 3 hrs. and calculator 3 hrs. a week. 1 semester.

### 309.0 Botany of Domesticated Plants

Prerequisite: Bio 200.0.

An introduction to the study of economically important plants, their origin, domestication, botany, cultivation, harvesting, uses, diseases, breeding and their role in modern world economy. Plants and plant products of industrial importance, medicinal plants, food plants and food adjuncts will be treated in detail.

### 310.0 Ecology

Prerequisite: Bio 200.0.

A study of the fundamental concepts and principles of modern ecology, consideration of physiological ecology, population ecology, and community ecology. A brief treatment of energy flow, biogeochemical cycles, applied ecology, conservation and management. Renewable and nonrenewable natural resources; the earth's biosphere as a dynamic, balanced system.

Classes 3 hrs. and lab or field 3 hrs. a week. 2 semesters.

### 317.0 Evolutionary Biology

Prerequisite: Bio 200.0; Bio 307.1; and Bio 308.2 (or concurrently).

A study of the history of the concept of evolution, the process whereby present species came into being, the mechanisms operating in nature, the factors affecting evolution and the final result as we witness it. Main areas of study are population genetics, history of the earth, fossil records and the evolution of man.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 319.0 Diversity of Non-Vertebrate Animals

Prerequisite: Bio 200.0.

A systematic study of non-vertebrate animals, their taxonomy, functional morphology, and behavior. Laboratory exercises provide the student with the opportunity to experiment with certain living animals and to dissect and examine a variety of preserved specimens.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 320.0 Functional Morphology of Vertebrate Animals

Prerequisite: Bio 200.0.

A comprehensive study of functional morphology of the vertebrates, with consideration of structural adaptations for particular life styles. Laboratory instruction involves dissection of representative animals and the construction of physical models.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 401.1 Morphology of Vascular Plants

Prerequisite: Bio 200.0.

Structure, development and evolution of major taxa of vascular plants: pteridophytes, gymnosperms and flowering plants, both extinct and extant.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 403.2 Plant Taxonomy

Prerequisite: Bio 200.0.

An introduction to the principles of plant variation, origin, distribution, evolution and classification; major emphasis will be to identify and classify vascular plants of Nova Scotia.

### 405.0 Biology of Fishes

Prerequisite: Bio 200.0 and Bio 308.2.

A study of fishes, their classification, growth and development, ways of life and management. The laboratory portion of the course familiarizes students with representatives of world taxa and the study of fishes in Nova Scotia.

Classes 3 hrs. and lab or fieldwork 3 hrs. a week. 2 semesters.

### 406.0 Microbiology

Prerequisite: Bio 307.1; either Bio 302.0 or 305.0; and either Che 202.0 or 343.0.

Biological concepts pertaining to microorganisms will be investigated under the headings: classification, morphology, physiology, ecology, genetics and biotechnology. Emphasis will be placed on bacteria and viruses. Class participation is emphasized.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 407.1 Histological Techniques

Prerequisite: Bio 111.0, Bio 204.0, Bio 205.0, Che 101.0.

A study of the microscopic structure of tissues and organs with special emphasis on the vertebrate body. Principles and practice of microtechnique including basic histochemistry and autoradiography will be discussed. Laboratory work will consist of performing a wide range of histological and histochemical techniques using mainly animal cells, tissues and organs.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 408.2 Vertebrate Embryology

Prerequisite: Bio 200.0 or permission of department.

Early developmental processes involved in the transformation of the fertilized egg into a new individual.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**411.1 Principles of Animal Parasitology**

Prerequisite: Bio 200.0.

Relation between parasites and their hosts (symbiosis), emphasizing protozoa and helminths of aquatic vertebrates and of man. Aspects studied are biology and ecology of parasites, and physiology and immunology of parasitism. Laboratory work is on living and prepared materials, maintenance of life cycles and infectivity of aquatic vertebrates.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**412.2 Human Genetics**

Prerequisite: Bio 307.1 and Bio 308.2.

The chemical and physical nature of genes. The study of population genetics using a statistical approach. Chromosomal and metabolic variations. Human hemoglobins — Immunogenetics. Emphasis will be on genetic screening and genetic counselling through study of karyotypes and analysis of pedigrees.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**415.0 Mycology**

Prerequisite: Bio 200.0; 302.0 or 305.0; 307.1; and Che 343.0.

The study of fungi. Concepts under the headings morphology, classifications, heredity, physiology, ecology and biotechnology will be discussed.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**446.1(.2) [546.1(.2)] Biology Field Course and Aquatic Biology in Bermuda**

Prerequisite: Bio 310.0 and fifth year honors standing.

A three-week summer course offered by Biology faculty. The first two weeks will involve the ecology of various terrestrial, aquatic and estuarine habitats in Nova Scotia as an introduction to the design and practice of research under field conditions. The third week will either be spent in Nova Scotia or in Bermuda. In Bermuda, the work will be an introduction to Bermuda's aquatic environment with classroom and field emphasis on inland pond, shoreline, mangrove, seagrass, and reef habitats, and ecology and conservation.

Classes 36 hrs., including lab and field work during a summer session.

**501.0 Advanced Microbiology**

Prerequisite: Bio 406.0 and/or 415.0.

Recent advances in microbiology will be explored through extensive reading in the current literature, discussion and laboratory projects.

Classes 2 hrs. plus tutorials and lab 3 hrs. a week. 2 semesters.

**549.0 Honors Seminar**

Prerequisite: fifth year honors standing.

Seminars followed by discussions based on recent advances in biology. In consultation with the honors advisors, the honors students will select and prepare the topics for presentation to biology faculty and students.

Classes 3 hrs. a week. 2 semesters.

**550.0 Advanced Mycology**

Prerequisite: Bio 406.0 or 415.0.

The study of morphology, classification, genetics and ecology of main groups of land and water fungi, fungal relationship to man, animals and plants will be discussed.

Classes 2 hrs. plus tutorials and lab 3 hrs. a week. 2 semesters.

**552.0 Cytogenetics**

Prerequisite: Bio 302.0.

Study of chromosome biology, experimental studies on the mitotic apparatus, karyotype and its evolution, sex chromosomes, control of meiotic system, regulation of chromosome pairing, cytology in relation to taxonomy and cancer cytology.

Classes 2 hrs. plus tutorial and lab 3 hrs. a week. 2 semesters.

**553.0 Marine Invertebrates**

Prerequisite: Bio 200.0.

Study of marine invertebrates with emphasis on commercial species. Taxonomy, morphology and physiology of the different groups will be the main topics covered. The life histories of representative species will be studied in the laboratory periods.

Classes 2 hrs. plus tutorials and lab 3 hrs. a week. 2 semesters.

**554.0 Experimental Fish Embryology**

Prerequisite: Bio 405.0, 407.1, and 408.2.

Detailed study of embryological development of fish with emphasis on the formation of organ systems. Laboratory work involves microscopical study of selected fish species raised by the student.

Classes 2 hrs. plus tutorials and lab 4 hrs. a week. 2 semesters.

**555.0 Advanced Physiology**

Prerequisite: Bio 302.0, Bio 305.0 and Che 343.0.

A course dealing in some detail with advances in particular areas of animal physiology. Areas covered include metabolism of proteins, carbohydrates, lipids, and nucleic acids, intermediary metabolism, regulation and control of metabolic processes, bioenergetics, molecular physiology of muscles and neurophysiology.

Classes 2 hrs. plus tutorials and lab projects. 2 semesters.

**590.0 Research Thesis**

Prerequisite: fifth year honors standing.

Research project carried out by the student under the supervision of a member of the department. The student will submit a thesis and present it orally.

Lab 6 hrs. a week. 2 semesters.



# Chemistry (Che)

Chairperson, Professor  
Professors

C. M. Elson  
W. A. Bridge, D. H. Davies  
J. Ginsburg, K. Vaughan  
J. C. O'C. Young  
K. Mailer, M. Zaworotko

Associate Professors

The program of the Department of Chemistry is designed to satisfy two functions:

a. Fulfill requirements for the general degree of Bachelor of Science, the degree of Bachelor of Science with major, and the degree of Bachelor of Science with honors.

These degrees will permit graduates to enter the work force or graduate school with a background at least equal to that provided by other universities in Canada and the United States.

b. Introduce students in other disciplines to the ideas of chemistry and provide them with the chemical skills necessary for their professional development.

All members of staff are engaged in active research projects, and senior undergraduates are expected and encouraged to contribute to these projects. Some jobs, both during the term and in the summer, are available for senior undergraduates.

The core program for a major in chemistry consists of Che 201.0, 311.0, 321.0, 331.0, 341.0 and any four 400-level half credits in chemistry. Students may take two additional chemistry courses of their choice. Major students are also required to complete Phy 221.0 and this course should normally be taken in the sophomore year.

The core program for an honors degree in chemistry consists of one of Che 201.0, 202.0, 203.0; 311.0, 321.0, 331.0, 341.0/343.0, 412.1(2), 413.1(2), 443.1(2), 444.1(2), 500.0; and one of 511.0, 513.0, 521.0, 531.0, 541.0, or 542.0. Students are required to take one to three additional chemistry courses of their choice. Honors students are also required to complete Phy 221.0 and this course should normally be taken in the sophomore year. Honors students and students taking a major in Physical Chemistry must take Mat 300.0 in their junior year.

The core program for both combined majors and combined honors consists of: one of Che 201.0, 202.0, 203.0; three of Che 311.0, 321.0, 331.0, 341.0/343.0; and two of the 400 level one semester courses. In addition, it is strongly recommended that students complete Mat 200.0, to fulfil the mathematics requirement, and Phy 221.0, as one of their science electives.

Note: Students who fail the laboratory component of a course will fail the course.

In addition to the traditional program of study, the Department of Chemistry offers a Co-operative Education program in Chemistry (COEC). A description of this program can be found below in this section of the Calendar.

## 101.0 Introduction to Chemistry

The fundamental laws and principles of chemistry are explored and applied in the study of selected nonmetals, metals and their compounds.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 201.0 General Chemistry for Physical Sciences

Prerequisite: Che 101.0, Mat 200.0 to be taken concurrently.

An introduction to the chemistry of gases, liquids, solids and solutions.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 202.0 General Chemistry for Life Sciences

Prerequisite: Che 101.0 and Mat 200.0 or Mat 226.1(2) and 227.1(2) to be taken concurrently.

A practical introduction for students in life sciences to the chemical behavior of gases, liquids, solids and solutions.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 203.0 General Chemistry for Engineers

Prerequisite: Che 101.0, Mat 200.0 to be taken concurrently.

A practical introduction for engineering students to the chemical behavior of gases, liquids, solids and solutions.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 311.0 Introductory Physical Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0 and Mat 200.0.

Equilibrium of ideal and non-ideal systems with applications, chemical kinetics and reaction mechanisms, surface chemistry and catalysis.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 321.0 Inorganic Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0.

Fundamental inorganic chemistry including: atomic and molecular structure, aqueous and non-aqueous chemistry, chemistry of main group and transition elements, organometallic compounds, inorganic chemistry in biological systems.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 331.0 Analytical Chemistry for Chemists and Geologists (Geo 355.0)

Prerequisite: Che 201.0 or 202.0 or 203.0.

An integrated lecture-laboratory course with emphasis on basic analytical methods, e.g., titrimetry, gravimetric analysis, spectrophotometry, chromatography, and electrochemical methods. The practical application of analytical methods will be stressed by analyzing geological samples, metals and alloys, and samples from the environment.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 341.0 Introduction to Organic Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0.

An introduction to the major classes of organic compounds, their simple reactions and methods of preparation, physical properties and the nomenclature of organic chemistry.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

Note: Students who have received credit for Che 241.0 may not register for this course.

## 343.0 Elementary Organic Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0.

A comprehensive treatment of organic chemistry for non-chemistry majors. The principal function classes, reaction

mechanisms, stereochemistry and physical methods are discussed in the lectures and illustrated in the laboratory.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 371.0 Introduction to Environmental Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0.

Chemical and energy cycles in nature, the energetics of environmental change, the significance and measurement of environmental quality parameters, selected pollution topics and research studies.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 372.0 Marine Chemistry

Prerequisite: Che 201.0 or 202.0 or 203.0.

An introduction to chemical oceanography wherein the ocean is viewed as a chemical system. The objective of the course is to demonstrate how the distribution of tracers in the sea and its sediments can be used as an aid to deciphering the operations plan and history of operation for the ocean as the chemical plant. Topics discussed include the chemical composition of sea water and analytical techniques for its examination. Chemical information is integrated with information on ocean sediments, ocean currents, and organisms living in the sea. Emphasis is placed on the earth's carbon cycle and how it may differ during the coming fossil fuel CO<sub>2</sub>-induced superinter-glacial period.

Classes 3 hrs. and lab (chemical/computer) 3 hrs. a week. 2 semesters.

### 412.1(.2) Quantum Chemistry

Prerequisite: Che 311.0 and Mat 300.0.

The basic principles of quantum physics are used to develop an understanding of atomic and molecular structure.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 413.1(.2) Physical Chemistry

Prerequisite: Che 311.0 and Mat 300.0.

An introduction to statistical thermodynamics and the study of chemical reaction rates and mechanisms.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 421.1(.2) Organometallic Chemistry

Prerequisite: Che 321.0 and Che 341.0 or Che 343.0, or permission of the instructor.

A survey of the history and recent development in the area of organometallic chemistry. Emphasis will be placed upon organotransition metal chemistry and its impact upon organic synthesis and catalysis. In the laboratory students will be introduced to air sensitive compounds and modern characterization techniques.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 432.1(.2) Instrumental Analysis I

Prerequisite: Che 331.0.

Emphasis will be placed on i) separation techniques including high performance and gas chromatography; ii) modern electrochemical techniques including differential pulse voltammetry and stripping analysis; iii) analogue circuits and devices and digital electronics.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 433.1(.2) Instrumental Analysis II

Prerequisite: Che 331.0.

Emphasis will be placed on i) atomic spectroscopy including atomic absorption and emission; ii) x-ray fluorescence; iii) neutron activation analysis; iv) mass spectrometry.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 443.1(.2) Organic Reaction Mechanisms

Prerequisite: Che 341.0 or Che 343.0.

A study of the more important mechanisms of reactions of organic molecules and the methods by which they are elucidated: applications of kinetic data, isotope effects, linear free energy relationships, orbital symmetry control and acid and base catalysis.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 444.1(.2) Synthesis in Organic Chemistry

Prerequisite: Che 341.0 or Che 343.0.

A study of the principles involved in the planning and execution of the synthesis of organic molecules. Laboratory experiments are designed so that students learn to identify their products by the use of spectroscopic and other techniques.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 445.1(.2) Organic Spectroscopy

Prerequisite: Che 341.0 or 343.0.

An introduction to the interpretation of <sup>1</sup>H and <sup>13</sup>C nuclear magnetic resonance spectra. Infrared spectroscopy, mass spectrometry, and ultra-violet spectrophotometry will also be applied to the problems of organic and organometallic structural determination.

Classes 3 hrs. a week. 1 semester.

### 451.1(.2) Introductory Biochemistry

Prerequisite: Che 341.0 or Che 343.0.

An introduction to the chemistry of proteins, enzymes, sugars, lipids and nucleic acids. The laboratory will emphasize micro chemical measurements.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 452.1(.2) Biochemistry: Metabolism and Molecular Biology

Prerequisite: Che 341.0 or Che 343.0. Che 451.1 is recommended but not required.

Intermediary metabolism, biosynthesis, bioenergetics, the genetic code, protein synthesis, and control of gene expression.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 500.0 Research Thesis

Prerequisite: restricted to final year students in the honors program.

Students will carry out a research project under the direction of one of the members of the department and will prepare a thesis on their work. The thesis is presented orally.

Lab 6 hrs. a week (minimum). 2 semesters.

### 511.0 Advanced Topics in Physical Chemistry

Prerequisite: Che 412.1(.2) and 413.1(.2).

A course on special topics selected from advanced areas of physical chemistry.

Classes 3 hrs. a week. 2 semesters.

**513.0 Quantum Chemistry**

Prerequisite: Che 412.1(2) and 413.1(2), Phy 221.0 and Mat 300.0.

Techniques for generating approximate solutions of atomic and molecular wave equations (Hartree-Fock method, perturbation theory, configuration interaction). Interpretation and properties of probability distributions. The use of symmetry in quantum chemistry. Theoretical basis of spectroscopy.

Classes 3 hrs. a week. 2 semesters.

**521.0 Advanced Topics in Inorganic Chemistry**

Prerequisite: Che 321.0.

A lecture-seminar-laboratory course on selected topics in advanced areas of inorganic chemistry.

Classes and lab 5 hrs. a week. 2 semesters.

**531.0 Selected Topics in Instrumental Analysis**

Prerequisite: Che 433.1(2) and 432.1(2).

A lecture-seminar-laboratory course designed to present topics in electronic circuits, chromatography, spectroscopy and electrochemistry.

Classes and lab 5 hrs. a week. 2 semesters.

**541.0 Advanced Organic Chemistry**

Prerequisite: Che 443.1(2) and 444.1(2); and Che 411.0 (may be taken concurrently).

Selected topics in stereochemistry, heterocyclic compounds, natural products and polymers. In the laboratory the student will perform selected synthesis and characterize structure by spectroscopic methods.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**542.0 Advanced Topics in Biochemistry**

Prerequisite: Che 451.1(2) and 452.1(2).

A lecture-seminar-laboratory course on selected topics in advanced areas of biochemistry.

Classes and lab 5 hrs. a week. 2 semesters.

**544.1(2) Theoretical Organic Chemistry**

Prerequisite: Che 412.1(2) and 413.1(2) (may be taken concurrently); 443.1(2) and 444.1(2).

An introduction to Huckel theory as applied to conjugated, aromatic and alternate hydrocarbons, with a brief introduction to more sophisticated M.O. methods. A survey of reactions which are subject to orbital symmetry control. Application of correlation diagrams, frontier molecular orbitals and the Huckel-Mobius concept in simple organic reactions.

**Recommended Program**

The following programs are recommended by the Department of Chemistry for chemistry students taking the general science degree, the degree with a major, or an honors degree.

**Scheme A: General Science Degree with Chemistry Concentration****Freshman Year**

1. Egl 201.1(2)/202.1(2)
2. Mat 100
3. Che 101.0
4. A science elective
5. A course in the humanities

**Sophomore Year**

1. Che 201.0
2. Mat 200.0
3. A science elective (non-chemistry)
4. A course in the humanities
5. An elective

**Junior Year**

1. Two courses from:  
Che 311.0, Che 331.0  
Che 321.0, Che 341.0
2. A science elective
3. An elective
4. A non-chemistry elective

**Senior Year**

1. A chemistry elective
2. A chemistry elective
3. A science elective
4. An elective (non-chemistry)
5. A non-chemistry elective

**Scheme B: Science Degree with a Major in Chemistry****Freshman Year**

1. Egl 201.1(2)/202.1(2)
2. Mat 100.0
3. Che 101.0
4. Phy 111.0
5. A course in the humanities

**Sophomore Year**

1. Che 201.0
2. Phy 221.0
3. Mat 200.0
4. A science elective (non-chemistry)
5. A course in the humanities.

**Junior Year**

1. Che 311.0
2. Che 321.0 or 331.0
3. Che 341.0
4. Mat 300.0
5. A science elective (non-chemistry)

**Senior Year**

1. Four courses from:  
Che 412.1(2) Che 443.1(2)  
Che 413.1(2) Che 444.1(2)  
Che 421.1(2) Che 445.1(2)  
Che 432.1(2) Che 451.1(2)  
Che 433.1(2) Che 452.1(2)
2. Che 321.0 or 331.0
3. A non-chemistry elective
4. Elective

**Scheme C: Science Degree with Honors in Chemistry**

(Note: The freshman, sophomore, and junior years are as in Scheme B.)

**Senior Year**

1. Che 412.1(2)  
Che 413.1(2)
2. Che 443.1(2)  
Che 444.1(2)
3. Che 321.0 or 331.0
4. A science elective
5. A non-chemistry elective

**Honors Year**

1. Che 500.0
2. One course from:  
Che 511.0 Che 531.0  
Che 513.0 Che 541.0  
Che 521.0 Che 542.0
3. One elective
4. A non-chemistry elective
5. Chemistry elective

**Scheme D: Co-operative Education in Chemistry (COEC)**

This program, which is available at both the major and honors level, integrates on-the-job work experience and academic studies. Upon completion of one of the COEC programs, the student receives the Bachelor of Science degree in Chemistry, at the major or honors level, with the added qualification of "Co-operative Education".

Students apply for admission to the co-op program during the fall of their sophomore year. Generally, admission to and continuance in the program requires a cumulative quality point average of at least 2.50 with a grade point average of at least 3.00 in Chemistry courses. The academic year is divided into 3 four-month terms (September-December, January-April, and May-August) and the student is required to complete a series of academic terms (AT) and work terms (WT) as outlined in the following schemes:

**B.Sc. with Chemistry Major (COEC)**

Year	Term		
	Sept.-Dec	Jan.-Apr.	May-Aug.
1 (N.S. Grade 12 or equivalent)	AT	AT	—
2 (sophomore)	AT	AT	WT
3	AT	AT	WT
4	AT	WT	WT
5	WT	AT	

— Year 1 is equivalent to N.S. Grade XII; student receiving advanced standing in 5.0 Grade XII subjects enter the program at Year 2.

— The program consists of 8 academic terms (AT) and 5 work terms (WT) spread over almost 5 years (4 years from N.S. Grade XII).

— Students must satisfy the same requirements as non co-operative students for a major degree.

**Honors B.Sc. in Chemistry (COEC)**

Year	Term		
	Sept.-Dec	Jan.-Apr.	May-Aug.
1 (N.S. Grade 12 or equivalent)	AT	AT	—
2 (sophomore)	AT	AT	WT
3	AT	AT	WT
4	WT	AT	WT
5	AT	WT	WT
6	AT	AT	

— Year 1 is equivalent to N.S. Grade XII; students receiving advanced standing in 5.0 Grade XII subjects enter the program at Year 2.

— The program consists of 10 academic terms and 6 work terms spread over almost 6 years (5 years from N.S. Grade XII).

— Students must satisfy the same requirements as non co-operative students for an honors degree.

In general, the COEC program takes one year longer to complete than the corresponding traditional program but the academic content of both is the same. Students may, with the permission of the Department, transfer from the COEC program to the non co-operative programs at any time. Transfers from the traditional programs to COEC are not permitted after the spring term of Year 2. Fees for the COEC program are as follows:

- a. students pay for their academic courses as they take them; and
- b. students pay a fee equivalent to a half credit for a work term they undertake. This amount is paid to the Business Office within one month of the start of the work term.

Placement for work terms is arranged by the Department in consultation with the student and the employer. The student's salary and benefits will be determined by the policies of the employer. A faculty member is available throughout the year to advise students concerning their studies and work terms. Work term reports are required and graded and, along with the employer's assessment, form the basis of a grade for the work term. Failure of a work term will result in the student's release from the COEC program.

Further details of the Faculty of Science Co-operative Education regulations can be found in Section 3 of this Calendar.

# Commercial Law (CML)

These courses are administered by the Department of Accounting.

## 301.1(.2) Legal Aspects of Business — Part I

Prerequisite: Eco 201.1(.2) and 202.1(.2) or appropriate work experience, determined in advance of registration by the Chairperson of the Department of Accounting.

An introduction to the essential legal aspects of commerce: contracts, some special contracts, corporations, and special areas, such as anti-combines, tax and tariff legislation.

Classes 3 hrs. a week. 1 semester.

## 302.1(.2) Legal Aspects of Business — Part II

Prerequisite: Cml 301.1(.2).

A further examination of some of the legal aspects of commerce; areas included are impeachment of contract, the requirement of writing, discharge of contracts, assignment of contracts, bailment, insurance, guarantee, and landlord and tenancy.

Classes 3 hrs. a week. 1 semester.

## 601.1(.2) Commercial Law

Prerequisite: completion of all required 500 level courses or consent of MBA Director.

A survey of the legal aspects of business such as contracts, corporate law, competition, sale of goods and consumer protection, negotiable instruments, employment, real estate, insurance and creditor rights. The workings of the legal system will also be explored.

student learns to develop and present a formal marketing plan to a client; increase the impact of written documents through format, design, and graphic illustration; increase the impact of oral presentations through effective use of voice, body, setting, and audio-visual support; prepare for, participate in, record minutes for, and chair strategic planning meetings; sell his or her professional assets to a potential employer; and use current electronic tools to achieve these objectives. The course is taken concurrently with Marketing Policy in the student's final year.

Classes and lab 2 hrs. each a week. 1 semester.

## 675.1(.2) Advanced Managerial Communications

Prerequisite: completion of all 500 level required courses and consent of MBA Director.

The course is designed to help the student develop personal communications skills in a variety of marketing situations. Students learn to develop and present a formal marketing plan to a client; increase the impact of written documents through format, design, and graphic illustration; increase the impact of oral presentations through effective use of voice, body, setting, and audio-visual support; prepare for, participate in, record minutes for, and chair strategic planning meetings; sell their professional assets to a potential employer; and use current electronic tools to achieve these objectives.

Classes and lab 2 hrs. each a week. 1 semester.

# Communications (Com)

These courses are administered by the Department of Marketing.

## 293.1(.2) Managerial Communication

Prerequisite: Mgt 281.1(.2) and Egl 200.0.

The course emphasizes business writing skills and prepares the student to communicate effectively, using the tools of the modern electronic office. Students learn basic computer concepts and use word processors to write weekly memoranda, letters, reports, resumes, and other business documents. The course deals with oral communications to a limited extent. Students plan each assignment by developing audience profiles and defining the use for their document. Lab activities provide a structured context for using software to practice points of editing, graphic illustration, formatting, design, grammar, mechanics, and prose style.

Classes 3 hrs. a week. 1 semester.

Note: Students who have previously earned a credit for Egl 250.1(.2) or Mgt 293.1(.2) may not also earn a credit for Com 293.1(.2) or vice versa.

## 475.1(.2) Advanced Managerial Communications

Prerequisite: Com 293.1(.2) and 2 half credit Mkt courses beyond Mkt 370.1(.2). It is recommended that students enrol in Mkt 479.1(.2) simultaneously.

The course is designed to help the student develop personal communications skills in a variety of marketing situations. The

# Computing Science (CSC)

Saint Mary's University has two degree programs in computer-related areas. Specifics on these programs may be found in the Bachelor of Commerce and Bachelor of Science sections of this Calendar.

Students who complete a specific sequence of courses in computing science at Saint Mary's University may be eligible to transfer into the Bachelor of Computing Science with Engineering options program at the Technical University of Nova Scotia. Further information may be obtained from the Department of Mathematics and Computing Science.

# Economics (Eco)

## Chairperson, Associate

Professor

A. K. Mukhopadhyay

Professor

A. S. Harvey

Associate Professors

J. C. Ahiakpor, S. Amir-Khalkhali

P. L. Arya, P. Bowles

A. Dar, E. J. Doak

M. MacDonald, T. O'Neill

Assistant Professors

A. T. Akbari, R. A. Azhar

## Department Statement

Economics has been defined as "the study of how men and society end up choosing, with or without the use of money, the employment of scarce productive resources, which could have alternative uses, to produce various commodities over time and distribute them for consumption, now and in the future, among various people and groups in society." (Paul A. Samuelson)

Economics borders on other academic disciplines, such as political science, sociology, psychology, anthropology and business administration. It also draws heavily on the study of history, statistics and mathematics.

Students who desire some minimum understanding of economics are encouraged to consider taking one or more courses at the 200 level. Entrance into higher level courses ordinarily requires a full-year of principles of economics, but this may be waived with the approval of the Department.

The Economics Department is able to offer students with a special interest in economics the opportunity to undertake some concentration beyond the core of required courses in the following areas and associated courses:

Money and Banking, Eco 307.1, 407.1(2)

Public Finance, Eco 318.1(2), 319.1(2)

International, Eco 313.1(2), 414.1(2)

Quantitative, Eco 302.1(2), 303.1(2), 309.1(2), 409.1(2)

Urban-Regional, Eco 324.1(2), 325.1(2), 430.1(2), 450.1(2)

Natural Resources and Environment, Eco 360.1(2), 361.1(2)

Comparative Systems, Eco 315.1(2), 323.1(2)

History and Development, Eco 306.1(2), 317.1(2), 310.1(2),

360.1(2), 406.1(2), 410.1(2)

Labour, Eco 339.1(2), 340.1(2)

Industrial Organization, Eco 316.1(2)

Other theory courses, Eco 304.1(2), 305.1(2), 312.1(2), 412.1(2),

440.1(2), 441.1(2)

Students who desire a major in economics are encouraged to enrol in an appropriate program under the guidance of a faculty advisor. There are two general programs (1) B.A. with a major in economics, and (2) B.Comm. with a major in economics.

The former requires a total of twenty full courses, or equivalent, following Nova Scotia Grade XI or, providing advanced standing is granted, a minimum of fifteen full courses, or equivalent, following Nova Scotia Grade XII. The latter requires a minimum of twenty full courses, or equivalent, following Nova Scotia Grade XII or twenty-five full courses, or equivalent, following Nova Scotia Grade XI. (See Faculty of Arts and Faculty of Commerce, Section 3 of this Calendar, for the basic requirements for these degrees.)

Regardless of the degree sought, the Department of Economics requires that the program of study leading to a major in economics include the following:

- a. Mat 113.0 (Nova Scotia Grade XII Mathematics) or equivalent
- b. Egl 200.0 (Introductory English)
- c. One full course in university mathematics beyond the level of difficulty of Mat 113.0. [Msc 205.1(2) and 325.1(2), which are required of all Bachelor of Commerce students, and recommended for all Bachelor of Arts majors in economics, satisfy this requirement.] Bachelor of Arts students, majoring in economics who entered Saint Mary's without Grade XII mathematics may substitute Eco 304.1(2) and 305.1(2) for the above requirement, i.e., that of taking one full course in mathematics beyond Mat 113.0.
- d. One course in the humanities [Classics, history, philosophy and religious studies, or languages (English or modern languages)]. In special circumstances, with the consent of the department chairperson, all or part of this requirement may be fulfilled from among the following: Eco 306.1(2); 312.1(2); 315.1(2); 323.1(2); 406.1(2); and 412.1(2). Philosophy 200.0 does not satisfy this requirement.
- e. One course from the social sciences other than economics.
- f. The following economics courses:
 

Eco 201.1(2)	Principles of Economics: Micro
Eco 202.1(2)	Principles of Economics: Macro
Eco 206.1(2)	Introduction to Quantitative Methods for Economists II or
Msc 206.1(2)	Introduction to Quantitative Methods for Commerce II
Eco 207.1(2)	Introductory Statistics for Economics or
Msc 207.1(2)	Introductory Statistics for Commerce
Eco 300.1(2)	Intermediate Microeconomic Theory I
Eco 301.1(2)	Intermediate Macroeconomic Theory I
Eco 304.1(2)	Intermediate Microeconomic Theory II or
Eco 305.1(2)	Intermediate Macroeconomic Theory II
One of: Eco 306.1(2), Eco 310.1(2), Eco 312.1(2), Eco 315.1(2), Eco 323.1(2), Eco 406.1(2), or Eco 412.1(2)	
4 additional half course economic electives at the 300 level or above	

In addition, students must satisfy conditions set down by the Faculty in which they enrol. Bachelor of Arts students majoring in Economics are especially advised to consult Faculty of Arts requirement 3-c when fulfilling the above regulation.

## Suggested courses leading to a Bachelor of Arts degree with a major in Economics (assuming advanced standing)

### First Year

Eco 201.1(2) and 202.1(2)

Mathematics and/or computers (see note 2 below) (1 credit)

Egl 200.0

Social science other than economics (e.g., political science, anthropology, sociology, geography, or psychology) (1 credit)  
Humanities or language [e.g., classics, history, languages, philosophy (not Phi 200.0), religious studies] (1 credit)

### Second Year

Eco 300.1(2) and 301.1(2)

Eco 206.1(2) and Eco 207.1(2)

Eco 304.1(2) or Eco 305.1(2)

One of: Eco 306.1(2), Eco 310.1(2), Eco 312.1(2), Eco 315.1(2),

Eco 323.1(2), Eco 406.1(2), Eco 412.1(2)

Electives (2 credits)

**Third Year**

Eco electives (2 credits)

Electives (3 credits)

**Notes:**

1. Students are reminded that the electives should be chosen in such a way as to fulfil the Faculty of Arts requirements. (See Section 3 of this Calendar.)
2. Students taking Eco 205.1(2) and Msc 325.1(2) to satisfy requirement d. above, should take Eco 205.1(2) and 206.1(2) in the first year and Eco 207.1(2) and Msc 325.1(2) in the second year.

**For suggested courses for a Bachelor of Commerce degree with a major in Economics, see the Faculty of Commerce Section of this Calendar.**

**Honors Program in Economics**

The Department of Economics offers honors programs to students enrolled in either the Faculty of Arts or the Faculty of Commerce. Descriptions of the general requirements for the degrees of Bachelor of Arts with Honors and of Bachelor of Commerce with Honors are contained in Section 3. In addition to these general requirements, all candidates for graduation with honors in economics must comply with the following:

- a. Students must satisfy the applicable requirements for a major in economics as outlined on the preceding pages.
- b. The ten full credits or equivalent in economics presented for honors must include:
  - (i) Eco 201.1(2), Eco 202.1(2), Eco 206.1(2), and Eco 207.1(2), or equivalent
  - (ii) one full credit or equivalent in microeconomic theory beyond the 200 level
  - (iii) one full credit or equivalent in macroeconomic theory beyond the 200 level
  - (iv) Eco 302.1(2), Eco 303.1(2), and Eco 309.1(2), or equivalent credit (1 1/2) from the Mathematics and Computing Science Department with the approval of the Chairperson of the Economics Department
  - (v) an honors project, which is the equivalent of 1/2 credit, done under the supervision of a faculty member
  - (vi) either Eco 306.1(2), Eco 312.1(2), Eco 406.1(2), Eco 412.1(2), or another economics half credit approved by the department chairperson
  - (vii) one full economics credit at the 400 level to include either Eco 440.1(2) or Eco 441.1(2).
- c. With the approval of the Chairperson of the Department of Economics, a student may be permitted to substitute up to two full credits or equivalent from a related subject area as part of the ten credits in economics presented for honors.
- d. Commerce students doing honors in economics are permitted to count one economics credit at the 300 level or above as a non-commerce elective.

**201.1(2) Principles of Economics: Micro**

General price theory, theory of the firm, market structure, production, cost, revenue and profit maximization, theory of distribution.

Classes 3 hrs. a week. 1 semester.

**202.1(2) Principles of Economics: Macro**

National income determination, national accounting, business fluctuations, money and banking, international economics, economic growth.

Classes 3 hrs. a week. 1 semester.

**205.1(2) Introduction to Quantitative Methods for Economists I**

Prerequisite: Mat 113.0 or Grade XII Mathematics or equivalent.

This course is designed to provide an overview of linear systems with emphasis on applications. It includes the topics of linear programming as well as transportation and assignment problems.

Classes 3 hrs. a week. 1 semester.

Note: This is the same course as Msc 205.1(2).

**206.1(2) Introduction to Quantitative Methods for Economists II**

Prerequisite: Mat 113.0 or Grade XII Mathematics or equivalent.

The purpose of this course is to provide an overview of non-linear optimization, differential and integral calculus with emphasis on applications, as well as an introduction to decision models under uncertainty.

Classes 3 hrs. a week. 1 semester.

Note: This is the same course as Msc 206.1(2).

**207.1(2) Introductory Statistics for Economists**

Prerequisite: Eco 206.1(2).

Functions of statistical methods, collection, analysis and interpretation of data, frequency distribution, measures of central tendency and dispersion, probability, binomial, normal, and sampling distributions, hypothesis testing, estimation of parameters, regression and correlation.

Classes 3 hrs. a week. 1 semester.

Note: This is the same course as Msc 207.1(2).

**300.1(2) Intermediate Microeconomic Theory I**

Prerequisite: Eco 201.1(2) and 206.1(2), or permission of instructor.

Theory of consumer behavior and demand; theory of production and cost, behavior of the firm; theory of price and output under different market structures.

Classes 3 hrs. a week. 1 semester.

**301.1(2) Intermediate Macroeconomic Theory I**

Prerequisite: Eco 202.1(2) and 206.1(2) or permission of instructor.

National income accounting, models of aggregate income output and price level determination, analysis of and public policies for unemployment and inflation.

Classes 3 hrs. a week. 1 semester.

**302.1(2) Mathematical Economics**

Prerequisite: Eco 206.1(2) or equivalent.

An introduction of the role of mathematics in economic analysis. Mathematical topics include linear algebra; partial differentiation; implicit function theorems and comparative statics analysis; unconstrained and constrained optimization theory.

Classes 3 hrs. a week. 1 semester.

**303.1(2) Intermediate Economic Statistics**

Prerequisite: Eco 207.1(2) or equivalent.

A further study of the basic concepts of statistics and its application to the solution of business and economic problems; review of probability; random variables and their distribution, sampling and sampling distributions, normal and associated distribution, statistical inference, simple and multiple regression and related topics.

Classes 3 hrs. a week. 1 semester.

Note: This is the same course as Msc 303.1(2).

**304.1(2) Intermediate Microeconomic Theory II**

Prerequisite: Eco 300.1(2).

This course is a sequel to Eco 300.1(2). Topics covered will include: theory of distribution and input markets; intertemporal choice; general equilibrium analysis, topics in welfare economics.

Classes 3 hrs. a week. 1 semester.

**305.1(2) Intermediate Macroeconomic Theory II**

Prerequisite: Eco 301.1(2).

Extension of topics covered in Eco 301.1(2) to include theories of aggregate consumption and investment expenditures, inflation, growth, international aspects of macroeconomics and macroeconomic policy.

Classes 3 hrs. a week. 1 semester.

**306.1(2) North American Economic History**

Prerequisite: Eco 202.1(2) and 300.1(2); or Eco 201.1(2) and 202.1(2) and permission of the instructor; or 1.5 credits in history and permission of instructor.

This course surveys growth, fluctuation and structural change in the North American economy, from the Revolution Era to the Great Depression. Topics such as slavery, the Civil War, industrialization, railroads and the capital market will be included.

Classes 3 hrs. a week. 1 semester.

**307.1 Money and Banking**

Prerequisite: Eco 201.1(2) and 202.1(2).

Money and the payments system; development of banking in Canada; financial instruments; theory of banks' intermediation, chartered banks structure, operation and competition, governments and Canadian financial markets.

Classes 3 hrs. a week. 1 semester.

**309.1(2) Introduction to Econometrics**

Prerequisite: Eco 303.1(2) or consent of instructor.

Theory and applications of econometric models and their estimation. Linear algebra will be used to study classical linear regression. Some extensions of the basic single equation model will be discussed.

Classes 3 hrs. a week. 1 semester.

**310.1(2) Development Economics**

[IDS 310.1(2)]

Prerequisite: Eco 201.1(2) and 202.1(2).

Alternative theories of growth and development, including economic and non-economic determinants of growth in developing countries, the role of government in development policies and lessons from experience in growth and change.

Classes 3 hrs. a week. 1 semester.

**312.1(2) History of Economic Thought**

Prerequisite: Eco 201.1(2) and 202.1(2).

The course traces the development of economic ideas from the middle ages to the middle of the 19th century (Karl Marx). Students will be introduced to the contributions of economics ideas of these times to contemporary thinking.

Classes 3 hrs. a week. 1 semester.

**313.1 International Finance**

Prerequisite: Eco 201.1(2) and 202.1(2).

An introduction to the theory, institutions, and history of international finance: balance of payments, foreign exchange rates, instruments, and markets, adjustment mechanisms, stabilization policy.

Classes 3 hrs. a week. 1 semester.

**315.1(2) Comparative Economic Systems**

Prerequisite: Eco 201.1(2) and 202.1(2).

An examination of how different economic systems choose to solve the basic economic problems of resource allocation and distribution of income and wealth. Theoretical models of (idealized) economic systems as developed by the Classical economists, (e.g., Smith, Ricardo, Mill), Marx, Schumpeter, Lange, Keynes, etc., will be studied. The structure and performance of existing systems — e.g., Western managed capitalism, Yugoslavian market socialism and Eastern European command socialism — will also be analyzed.

Classes 3 hrs. a week. 1 semester.

**316.1(2) Industrial Organization**

Prerequisite: Eco 201.1(2) and 202.1(2).

The course begins by laying out the arguments for competitive market processes and then proceeds to investigate the determinants of real-world industrial market structures, the behavior of firms, and efficiency in resource allocation.

Classes 3 hrs. a week. 1 semester.

**317.1(2) The Economic History of Europe**

An examination of the economic evolution of Modern Europe, with major concentration on the period from 1750 to the present. The course does not deal with the chronological development but rather emphasizes those aspects of history which are reflected in contemporary institutions, practices and policies.

Classes 3 hrs. a week. 1 semester.

Note: This course is not open to commerce students nor does it count as an elective for a major in economics.

**318.1(2) Public Finance I**

Prerequisite: Eco 201.1(2) and 202.1(2).

This course primarily is an introduction to the micro aspects of public finance. Topics include public expenditure theory, evaluation and growth; personal and corporate income taxation; taxes and subsidies on goods and services; and real property tax.

**319.1(2) Public Finance II**

Prerequisite: Eco 318.1(2).

This course is primarily an introduction to the macro aspects of public finance. Topics include fiscal federalism in theory and in Canada, fiscal stabilization policy in theory and in practice; and budget balance and public debt.

Classes 3 hrs. a week. 1 semester.

**322.1(2) Current Economics Problems**

The lectures introduce the student to the discipline of economics through a survey of the major economic issues of the current decade. It is designed for students who wish to familiarize themselves with economic principles and their applications, but do not feel a need for a more theoretical and technical introduction to economics' principles.

Classes 3 hrs. a week. 1 semester.



**Note:** This course is not open to commerce students nor does it count as an elective for a major in economics.

### **323.1(.2) Soviet-Type Economies**

Prerequisite: Eco 201.1(.2) and 202.1(.2).

This course traces the economic history of the Soviet Union from the 1917 revolution through the Stalinist period to the present. This provides a background for examining the functioning of the contemporary Soviet economy and economies which have been structured on the Soviet model in Eastern Europe and Asia. The trend in economic reforms in Eastern Europe will also be studied.

### **324.1(.2) The Atlantic Economy**

Prerequisite: Eco 201.1(.2) and 202.1(.2).

Analysis of the structure, development and performance of the economy of the Atlantic region. Topics covered include: economic history of the region, current structure of the regional economy and state of economic development, sub-regional differences in economic structure and performance, external trade linkages, demographic and labour market characteristics, the role of government in the development process.

Classes 3 hrs. a week. 1 semester.

### **325.1(.2) Atlantic Economy Seminar**

Prerequisite: Eco 201.1(.2) and 202.1(.2).

This course will examine in detail, a small number of current economic issues in the Atlantic region. General topic areas, from which specific issues may be chosen, include: the impact on the region of policies and programs of the federal government including monetary, fiscal, manpower, and development policies; the role of provincial and municipal planning and development agencies; the role of key sectors of the economy in future development, including energy, natural resources, steel, and transportation.

Classes 3 hrs. a week. 1 semester.

### **339.1 Introduction to Labour Economics**

Prerequisite: Eco 201.1(.2) and 202.1(.2).

This course introduces the student to the study of labour markets — supply and demand for labour, and wage and employment determination in different types of markets. Emphasis is on the economic analysis of wage differentials, including the importance of human capital, unionization, internal labour markets, discrimination and segmented labour market.

Classes 3 hrs. a week. 1 semester.

### **340.2 Human Resource Economics**

Prerequisite: Eco 304.1(.2) or Eco 339.1(.2).

This course examines a variety of topics in the study of labour markets and human resource use. Topics in any year may include: the changing composition of the labour force and structure of employment; unemployment and manpower policy; history, structure and impact of the labour movement; inequalities in the labour market, income distribution and problems of poverty; technological change; macro-economic policy and the labour market.

Classes 3 hrs. a week. 1 semester.

### **360.1(.2) Economics of Natural Resources and Environmental Management**

Prerequisite: Eco 201.1(.2) and 202.1(.2).

This course deals with the economic analysis of two related topics: (i) resource development, utilization and management

(including fisheries, forestry, mining and energy resources), and (ii) environmental management (including problems of pollution, land use and irreversible development). An emphasis is placed on addressing policy problems, methods of regulation and investment issues in the natural resources sector of the Canadian economy.

Classes 3 hrs. a week. 1 semester.

### **361.1(.2) Fisheries Economics**

Prerequisite: Eco 201.1(.2) or consent of instructor.

This course emphasizes the application of economic concepts to problems of fishery management and development. Topics to be discussed include: common property resources, the economics of fishery regulation, socioeconomics, fish markets, and the fishery as part of the national and regional economy. Particular attention will be paid to current issues in the Atlantic Canada fishery.

Classes 1 1/2 hrs. a week. Seminars 1 1/2 hrs. a week. 1 semester.

### **406.1(.2) Canadian Economic History in an International Context**

Prerequisite: Eco 306.1(.2) or permission of instructor.

This course provides an intensive examination of selected issues in the economic history of North America with an emphasis on the Canadian economy in an international context. Topics such as the wheat boom; National Policy; manufacturing finance and Staple Theories will be included.

Classes 1 1/2 hrs. a week. Seminars 1 1/2 hrs. a week. 1 semester.

### **407.1(.2) Monetary Economics**

Prerequisite: Eco 201.1(.2) and Eco 301.1(.2).

The nature and characteristics of central banks in general and the Bank of Canada in particular; monetary policy and its objectives. The control of the money supply; governments' operations and monetary policies; determinants and theory of the money supply; the development of monetary theory.

Classes 3 hrs. a week. 1 semester.

**Note:** Students who received a credit for this course when it was offered on the 300 level will not be permitted to retake the course and receive an additional credit.

### **409.1(.2) Econometric Modelling and Forecasting**

Prerequisite: Eco 309.1(.2).

Theory and application for econometric models and their estimation. Emphasis will be placed on the techniques of econometric model-building and forecasting. Topics such as simultaneous equation models, time series models and forecasting will be included.

Classes 3 hrs. a week. 1 semester.

### **410.1(.2) Issues in Economic Development [IDS 410.1(.2)]**

Prerequisite: Eco 300.1(.2) and Eco 310.1(.2).

Specific problems in economic development; emphasis on government policies, foreign aid, foreign trade and their impact on underdeveloped countries.

Classes 3 hrs. a week. 1 semester.

# Education (Edu)

## Education

Dean, Professor  
Professors  
Associate Professors

R. H. Barnsley  
J. Haysom, D. Weeren  
B. E. Davis, F. Dockrill  
M. Herrick, M. MacMillan  
F. Phillips  
B. Hanrahan, U. Kelly  
G. Beuree, B. Davison  
A. Dean, L. Drover  
N. Ferguson, R. French  
W. Gorman, G. Gorveatt  
L. Naud, G. Redden  
J. Stone, T. Sullivan

Assistant Professors  
Part-Time Professors

## Bachelor of Education

For general information on the Bachelor of Education program see Section 3. For specific information and instructions obtain a copy of the Handbook from the secretary, in the Faculty of Education.

Although courses are listed independently, the Faculty of Education strives to offer an integrated program.

### 501.0 Philosophy of Education

Via an existential perspective or a focus on educational relevance, exploration of the educational situation leads to applications to the curriculum, the school and student-teacher relationships.

### 502.0 Psychology of Education

A study of the nature, equipment, growth, development, evaluation, and adjustment of the learner.

### 503.0 Classroom Processes

A course in professional studies designed to provide opportunities to examine critically various aspects of classroom practice: planning, establishing and maintaining control, features of different methodologies, student participation, student-teacher interaction, individualization, grouping procedures, etc.

### 504.0 History of Education

A study of facets of our educational heritage aimed at assisting in the formation of sound educational principles and practices.

Note: Each of the four courses above meets 3 hours a week, 2 semesters.

### 507.0 Sociology of Education (Soc 306.0)

Prerequisite: Soc 200 or enrolment in Education.

A study of major sociological approaches (both conceptual and methodological) to education in different societies, with special emphasis on Canadian society. The course will focus on topics such as relationship between family, education and society; education and inequality; the social organization of knowledge; education and social change; the politics of education.

### 508.0 Introduction to Comparative Education

This course is designed to acquaint students with a number of educational systems around the globe, the principal aim being to see Canadian education in a comparative perspective.

### 509.0 Analysis and Application of Educational Concepts

Concepts which identify selected aspects of good teaching will be clarified and their application to classroom practice explored. Identification and analysis of these concepts will provide a theoretical base for in-depth study of their application in

strengthening teaching skills in the areas of lesson planning, the facilitation of meaningful learning and human interaction in the teaching situation.

### 510.1(.2) [Crossed-listed as Fre 510.1(.2)] Computer Assisted Language Learning

### Content and Methods of Specific Subjects 521.1(.2) through 549.1(.2)

In these courses instructors develop concepts and skills needed to teach specific subjects at the junior and senior high school levels. B.Ed. students select two which must be approved by the Dean of Education or designate, with each course carrying a half credit. Not every course is offered each year. All are normally 1 1/2 hours a week, two semesters.

### 521.1(.2) Secondary Reading

An introductory course in reading principles and methodology that can be utilized by a secondary school teacher in a content area (e.g., English, social studies, mathematics, science).

### 522.1(.2) Science

Objectives, programs, methods in junior and senior high school science.

### 523.1(.2) Mathematics

Objectives, programs, methods in junior and senior high school mathematics.

### 524.1(.2) Second Language I

Principles and techniques of current methodology for teaching of French and other modern languages.

### 530.1(.2) Geography

Objectives, programs, methods in junior and senior high school geography.

### 531.1(.2) Junior High School Social Studies

This section focuses on history and civics at the junior high level.

### 534.1(.2) Social Studies: An Interdisciplinary Approach

Objectives, programs, methods for senior high school social studies courses that integrate a variety of fields — geography, history economics, sociology, political science, etc. The 'local studies' approach is a principal focus.

### 540.1(.2) English: Secondary High School Level

This methods course will consider objectives and approaches to teaching the English curriculum components of literature, language/grammar, composition, speech/drama/media at the junior and senior high school levels.

### 541.1(.2) to 549.1(.2) Selected Special Methods

From time to time, the Faculty of Education will offer a selected special methods course which will reflect particular student needs or faculty expertise.

### 550.1(.2) Introduction to Special Education

Students will examine the nature of and need for special education. Current research findings are analyzed, and teaching approaches typically employed in secondary schools are critically evaluated.

### 590.0 Directed Study in Education (WMS 590.0)

This course provides an opportunity for students to undertake directed study in an educational area or topic relevant to their program if further study in a particular area is desirable or if it is needed to correct deficiencies which exist in their prior coursework program.

**591.1(.2) Practice Teaching I**

Four weeks practice teaching in Nova Scotia schools. This will normally be done during the first academic term. The details of school experience vary from year to year and are prepared by the Director of Practice Teaching.

**592.1(.2) Practice Teaching II**

Four weeks practice teaching in Nova Scotia schools. This will normally be done during the second academic term. The details of school experience vary from year to year and are prepared by the Director of Practice Teaching.

**593.1(.2) Practice Teaching III**

Four weeks practice teaching in Nova Scotia schools. This will normally be done during the April-May-June period. The details of school experience vary from year to year and are prepared by the Director of Practice Teaching.

**595.1 Orientation to Teaching**

Prerequisite: acceptance in Bachelor of Education program.

The following topics will be dealt with: Introduction to Practice Teaching, Ethics and Professional Practice, Legal Issues, School Operation, School Systems, Nova Scotia Department of Education, Nova Scotia Teachers Union, Community Programs and Resources, School Board's Expectations of Teachers, Securing a Teaching Position.

Note: This course will be offered over both semesters, i.e., from September to April.

## Master of Arts in Education and Master of Education

The Faculty of Education offers the Master of Education and the Master of Arts in Education degrees. Please see Section 3 of this Calendar for the requirements for these two degree programs.

Students who enrol in "Thesis" courses (Edu 601.0/602.0 or 610.0), should be aware that theses are evaluated and assigned letter grades at Saint Mary's University.

All full courses are three hours a week, two semesters, except where noted.

**601.0/602.0 Master of Arts in Education Thesis**

All students enrolled in the Master of Arts in Education must complete these two credits "thesis" courses. Each thesis and thesis supervisor must be approved by the Dean. Available only for students enrolled in the Master of Arts in Education degree program.

**610.0 Master of Education Thesis**

The Master of Education thesis, which is optional for students enrolled in the Master of Education degree program, provides students with a unique opportunity to choose, design and complete a significant project in the field of education. Each thesis and thesis supervisor must be approved by the Dean. Available only for students enrolled in the Master of Education degree program.

**611.0 Research Skills for Practicing Educators**

This course is aimed at increasing the practicing educators' ability to understand and utilize published educational research and to enable them to design and conduct ad hoc educational research when needed. Topics covered will include the interpretation and use of educational research, construction of tests and questionnaires, making and testing hypotheses, the design of experiments, surveys, case studies, historical and theoretical research and basic statistical operations.

**617.0 Curriculum Theory and Critical Pedagogy**

This course provides a critical perspective on liberal and neo-conservative educational philosophies and traditional schooling practices in the production of unequal social relations. It is also a forum for the examination of possible alternative, pedagogical practices which might address such inequalities.

**618.0 Semantics of Education: Analysis and Classroom Applications**

This course examines the technical language employed in the description of classroom practice. The objective is to develop and clarify our terminology and apply it to a description of events in the classroom.

**619.0 Curriculum in Practice**

The focus of this course is on what teachers do in classrooms. Emphasis is given to considering ways in which teachers, supervisors and researchers might inquire into classroom life. This process of inquiry is seen as a cornerstone of professional development. (This course was previously entitled: The Examination of Classroom Practice).

**620.0 Curriculum Theory**

This course is designed to develop an appreciation of the central and emergent ideas in curriculum theory. Participants will be encouraged to use these ideas in analyzing existing curriculum materials and in designing materials of their own choice. Course material will be related to the Nova Scotia List of Authorized Instructional Materials.

**621.0 Curriculum Development: Bilingual Education — Current Research and Language Assessment**

Prerequisite: B.Ed. (or equivalent) or permission of instructor.

This course addresses native and second (bilingual) language development and introduces research contributions made in the field during the last 20 years. Key concepts will include context and culture, cognitive development, phases of language development, the special child, the foundations of professional opinions, assessment and evaluation. This course might be offered in French if the numbers warrant it.

**622.1 Curriculum in Historical Perspective (General) and****623.2 Curriculum in Historical Perspective (Nova Scotia)**

These two half-courses address historical questions that need to be raised about today's curricula and current attempts at curriculum reform, e.g., origins of today's curricula, justification for departures from earlier practices, changes in the teacher's role in curriculum development. 622.1 draws on the history of western education generally, while 623.2 draws on the history of education in Nova Scotia, to shed light on current curricular issues.

**624.0 Curriculum Development: Science**

The course blends practical and theoretical aspects of curriculum design with particular reference to the teaching of science.

**625.0 Curriculum Development: Instructional Media**

This course will analyze the effectiveness of audio-visual media on instructional programs. Teachers will learn to understand, select, produce, and use appropriate media and materials to stimulate learning in their specific curricula.

**626.0 Curriculum Development: French Immersion — Research Findings and Their Applications in the Classroom: Immersion en Français — Recherches et Applications en Salle de Classe**

Prerequisite: B.Ed. (or equivalent) or permission of instructor.

Ce cours a pour but le perfectionnement de professeurs charges de l'enseignement du français comme langue seconde, et en

particulier l'enseignement immersif. Le cours mettra en évidence certaines études spécifiques (recherches en psychopédagogie et langues secondes) et leurs applications pratiques en salle de classe.

This course is offered for teachers of French as a second language, particularly teachers of French immersion. The principal aims of the course are research and application. It is intended to familiarize teachers with current research findings in the field and to provide the class participants with the research data as they exist and opportunities to share practical suggestions intended for classroom application.

#### **629.0 Curriculum Implementation: Science**

Teachers will be given the opportunity of examining, rehearsing, implementing and reviewing new science curriculum materials. Concurrently, related pedagogical matters will be explored, e.g., relating science to other subjects, responding to students' interest, grouping students.

#### **630.0 Psychological Principles of Learning and Their Educational Application**

The course will begin with discussion of the basic tenets of modern learning theory as developed through the findings of experimental psychology. Such topics as conditioning, reinforcement, stimulus control of behavior, punishment and memory will be dealt with in relation to classroom application. As the course develops, more complex educational topics such as concept learning, creativity, intelligence, perceptual learning and transfer of training will be introduced.

#### **631.1(.2) Curriculum Development: Communication**

This course in oral communication proposes to improve teaching and learning effectiveness in all subject classrooms by dealing with the basic interactions of teachers and students in a verbal and nonverbal academic environment, by analyzing the process and patterns of human communication and by planning for the improvement of personal speaking and listening skills in the whole language classroom.

#### **632.1(.2) Curriculum Development: Writing**

This course will consider problems of teaching writing and maintaining acceptable standards of literacy in English and all secondary school subjects. It will concentrate on rhetorical theory, curriculum development, all subject applications, actual writing practice and marking. It will provide a thorough exploration of the writing component of whole language learning.

#### **633.0 Critical Pedagogy and the English Curriculum**

This course utilizes critical educational theories and post-structuralist theories of language, texts and meanings to evaluate both traditional and popular forms of culture and to explore alternatives for the teaching of English.

#### **635.1(.2) Principles of Social Psychology and Education**

A seminar course concerned with those aspects of social psychology which are of particular interest to teachers and school administrators. Discussion will focus on such topics as group behavior, leadership, conformity, attitudes and communication. Research findings as they apply to schools will be examined.

#### **636.1(.2) The Application of Social Psychology to Education**

Students will present seminars on topics in social psychology of interest to them that apply to educational settings.

#### **637.0 Effective Teaching and Personality Development**

Prerequisite: permission of instructor.

A seminar course which will utilize biographical techniques to assist students in understanding how the development of

personality affects the quality of teaching, along with other school responsibilities. Students will examine the contribution that past and present experience has on classroom and administrative practice.

**640.0 to 646.0; 647.1(2) to 649.1(.2) Selected Topics Courses**  
From time to time the Faculty of Education will offer graduate level courses on selected topics which will reflect professional needs and/or faculty interests and expertise.

#### **651.1(.2) Comparative Education: Britain and the Commonwealth, I**

An examination of education in England and selected countries with an introduction to approaches used in the study of Comparative Education.

#### **652.1(.2) Comparative Education: Britain and the Commonwealth, II**

An examination of specific aspects of educational administration, curriculum and the classroom practice in selected countries of the British Commonwealth with the aim of suggesting improvements in our own system. Research will be conducted into the methodology of Comparative Education.

#### **653.0 Comparative Education: U.S.A., Middle and Far East**

A comparative study aimed at identifying educational problems and responses in selected countries. Canadian education will be a recurring reference point. Relevant comparative educators and their methodology will be examined.

#### **654.0 Comparative Education: Europe, U.S.S.R. and Latin America**

A comparative study aimed at identifying educational problems and responses in selected countries. Canadian education will be a recurring reference point. Relevant comparative educators and their methodology will be examined.

#### **660.0 Educational Administration**

The central purpose of this course is to develop understandings, knowledge, and competencies which are useful for educational administrators and other system personnel. The attempt is to meld the emerging concepts and principles of modern educational administration with the practical work contexts in which administrators, coordinators, teachers and students find themselves.

#### **662.0 Educational Supervision**

The purpose of this course is to develop knowledge and skills which are useful for teachers and educational supervisors in program planning, innovation and evaluation. Supervision is defined here as a planned program for the improvement of teaching and learning. The study of select literature and research is integrated with the perspective of the supervisor's role in program development.

#### **670.0 Curriculum Development In Mathematics**

Participants will work (as a team) to develop materials which will enrich their courses in mathematics.

#### **671.0 Social Issues and Education**

Each year one or more social issues will be examined in depth as to their relevance to the influence upon educational practice in Nova Scotia. Issues that might be covered in any particular year include: sex differences and sexism, race differences and racism, ability differences and special education, public opinion and censorship, economic development and labour unrest, national identity and regional disparity, Quebec independence and educational opportunities for Acadians, social stability and socio-economic disparity.

**673.1.(2) Innovations in Education, I**

A critical examination of selected past innovations in education aimed at isolating aspects of them which might be incorporated in future education programs.

**674.1.(2) Innovations in Education, II**

A critical examination of selected current innovations in education intended to develop in the teacher and school administrator an understanding of and an appreciation for significant and promising practices which seem likely to affect the design of future education programs.

**675.0 Global Issues and Education**

Prerequisite: Classroom teaching experience desirable.

A course designed to equip social studies and other teachers to bring global perspectives into their classrooms. Each year the course examines one or more issues and provides teachers with techniques and resources to apply such knowledge in their teaching. Participants will analyze the international context and the development aspects of each issue; and will seek to identify and resolve related pedagogical questions.

**680.1.(2) The Public School and Religious Education**

This course examines the question of whether there are ways in which Nova Scotian public schools can legitimately and effectively contribute to the religious education of students.

**681.1.(2) The Public School and Values Education**

A rationale for values education and a repertoire of methods are derived in this course, through theoretical study and experimentation by the participants in their schools.

**684.0 Curriculum and Instruction: Social Studies**

Prerequisite: certification. (Students should have had an undergraduate course in social studies education.)

A graduate level course designed to give in-service social studies teachers the opportunity of further developing their competencies in the areas of social studies curriculum and instruction. Considerable attention will be given to social inquiry in both its factual and evaluative forms, and participants will be required to become familiar with a broad range of teaching approaches and curriculum projects.

**685.0 Models of Teaching as Dynamics of Curriculum**

Prerequisite: professional teaching experience.

This course takes the perspective that models of teaching reflect modes of thinking that provide the dynamic base for teaching and curriculum development. This course will examine models that provide teachers with structures that enhance creativity and problem solving abilities in students. The aim of the course is to assist teachers in gaining executive control over a number of "personal" models.

**686.0 Models of Teaching for Instructional Design**

Prerequisite: Edu 685.0 or equivalent

This course aims to enhance instructional design by developing an expanded repertoire of models of teaching. In a study of the "information-processing" models, particular attention will be placed on models that teach systems of information, concept attainment, and mnemonic techniques. Teachers will be assisted in constructing applications of these models appropriate to their classrooms.

**687.0 Computers and the Classroom Teacher**

A course designed for classroom teachers and school administrators with the purpose of providing a reasonable degree of computer literacy, computer operation and programming, and program learning techniques using microcomputers. Students will gain a working knowledge and understanding of a variety of operational computer concepts. The student will also gain an operational understanding of the computer language BASIC through "hands on time" with microcomputers.

**688.0 Models of Teaching: Developing a Repertoire**

Prerequisite: Edu 685.0 or 686.0.

The aim of this course is to increase the educator's expertise in an expanded range of models and to facilitate a paradigm shift in teaching skills. Models from a social context, particularly jurisprudence, will be examined in respect to their theory and application. Workshops will concentrate on networking different models to design programs that respond to a variety of educational needs.

**690.1.(2) to 693.1.(2) Individual Study**

Prerequisite: registration is only by permission of professor and Dean of Education.

The course provides an opportunity for students to undertake special directed study in a disciplinary area or topic relevant to their program, especially in the event a course in the subject is not offered during the current session at Saint Mary's or at another university in the metropolitan area. More than one individual study course may be taken if the syllabus is different. Courses meet by arrangement.

## Calendar of Events

1990-91

1990

July

6 Friday

Last day for filing applications for degrees, diplomas and certificates to be awarded in the fall of 1990. Application forms are available in the Registrar's Office (see academic regulation 25).

Note: (a) The graduation fee does not have to be paid when the application is filed. (b) All course work must be completed by the end of the second summer session, 1990, in order to qualify for the fall's graduation.

\* \* \* \* \*

## Registration

### Special Information for Students in the Faculty of Education

Because of the number of students involved and the nature of the several education programs at Saint Mary's University, a more restrictive type of registration has been scheduled for 1990-91. You are urged to read the following very carefully to ensure that you register at the time delineated for your particular program.

(a) Bachelor of Education (Regular Program). All students accepted into the regular Bachelor of Education degree program are required to register by mail during registration in August. This is the only time and method of registration available to students in this degree program.

(b) Bachelor of Education (Special Program). Students in the special programs of the Bachelor of Education degree, i.e., Vocational, and In Association with the Nova Scotia Teachers College, are encouraged to register by mail. However, those students who wish to register in person may do so only on Friday, 10 August, between 9:30 and 11:00 a.m.

(c) Master's degrees in Education. Students in these two Master's degrees are entitled to undertake registration in August, either in person or by mail **only** if they will be registered on a full-time basis for the 1990-91 academic year, or if they will be completing their degree program in time for Spring Convocation 1991. Students who so qualify will be able to complete their registration in person on Friday, 10 August, between 9:30 and 11:00 a.m., or they may participate in registration in August by mail. Students who are interested in registering for graduate courses in Education but who do not qualify for registration in August are advised that they **must** register in person during registration in September at the precise time delineated below for their particular admission category.

(d) Students registered in either the special or upgrading category who wish to take one or more courses in the Faculty of Education are advised that registration in August is **not** available to them.

## August

7 Tuesday

9:30 a.m.-1:00 p.m.

Registration for **RETURNING** undergraduates (full and part-time) in the Faculties of Arts and Science, including the Division of Engineering, only. Registration forms will be distributed at the times noted to the left.

8 Wednesday

9:30 a.m.-1:00 p.m.

Registration for **RETURNING** undergraduates (full and part-time) in the Faculty of Commerce only; also those students enrolled officially in all graduate programs exclusive of Education. Registration forms will be distributed at the times noted to the left.

9 Thursday

9:30 a.m.-1:00 p.m.

Registration for **NEW** undergraduates (full and part-time) in the Faculties of Arts and Science, including the Division of Engineering, only. Registration forms will be distributed at the times noted to the left.

10 Friday  
9:30 a.m.-1:00 p.m.

Registration for **NEW** undergraduates (full and part-time) in the Faculty of Commerce only; and also those students officially enrolled in graduate programs, including those in the Faculty of Education, if qualified under the "priority" system. (See Special Information for students in the Faculty of Education above.) Registration forms will be distributed at the times noted to the left.

11 Saturday  
9:30-11:00 a.m.

Special registration session exclusively for students already accepted into and registering in the CMA program.

13 Monday  
9:00-7:00 p.m.

Registration for new and returning students (full and part-time) in any Faculty or Division exclusive of Education; for new and returning part-time and mature students who have been officially accepted for study in a credit course(s) at Saint Mary's University except those interested in registering for courses in the Faculty of Education; also for students with admission categories of NDS (non-degree status); upgrading (except those registering for courses in the Faculty of Education); audit; and special (i.e., those on a Letter of Permission from other academic institutions, except those registering for courses in the Faculty of Education). Registration forms will be distributed at the times noted to the left.

15 Wednesday

Registration Mail-In forms must be postmarked by this date. Special consideration, however, will be given to forms received from international students, mailed from outside Canada.

*Note: Students in the Bachelor of Education (Regular Program) are expected to have completed their registration in August, by mail.*

## September

5 Wednesday  
5:30-6:30 p.m.

(a) Registration for all students (full and part-time) who are enrolled in a graduate program at Saint Mary's University only. Students officially accepted into a graduate program in the Faculty of Education will begin their "priority registration" at 5:30 p.m. SHARP in Room L172, Loyola Building. Registration forms will be distributed at the times noted to the left.

6:30-7:30 p.m.

(b) Registration for part-time undergraduate students (exclusive of those registering for Education courses) officially accepted in degree, diploma and certificate programs, including CMA, awarded by Saint Mary's University only. Registration forms will be distributed at the times noted to the left.

6 Thursday  
9:00-10:30 a.m.

(a) Registration for **RETURNING** full-time undergraduate students in the Faculties of Arts and Science, including the Division of Engineering, and Bachelor of Education (Special programs, i.e., Vocational and in Association with N.S.T.C.) only. Registration forms will be distributed at the times noted to the left.

2:30-3:30 p.m.

(b) Registration for **RETURNING** full-time undergraduate students in the Faculty of Commerce only. Registration forms will be distributed at the times noted to the left.

4:30-5:30 p.m.

Special session for admission of students in specific categories. Applications for admission will be received and processed for those students who do not yet have an acceptance valid for the 1990-91 academic year and who are eligible for one of the following admission categories: upgrading (i.e., already hold a university degree); special (i.e., on a Letter of Permission from another post-secondary institution); audit; or non-degree status (NDS).

**Note:** Students cannot register without a valid acceptance which should have been filed by 1 July 1990 to ensure receipt by mail of information for the 1990-91 academic year.

6:00-7:00 p.m.

(c) Registration for part-time undergraduate students whether in a degree, diploma, or certificate program offered by Saint Mary's University, or admitted on either a full or part-time basis to a credit course(s) with the following admission categories: NDS (non-degree status); audit; upgrading; or special (i.e., with a Letter of Permission from another academic institution); also students both full and part-time taking graduate level courses but not actually accepted into or enrolled in a graduate program at Saint Mary's University; and Bachelor of Education (Special Programs, i.e., Vocational and in Association with N.S.T.C.). Registration forms will be distributed at the times noted to the left.

7 Friday  
9:00-10:30 a.m.

(a) Registration for **NEW** full-time undergraduate students in the Faculties of Arts and Science, including the Division of Engineering only. Registration forms will be distributed at the times noted to the left.

2:00-3:30 p.m.

(b) Registration for **NEW** full-time undergraduate students in the Faculty of Commerce only. Registration forms will be distributed at the times noted to the left.

*Note: Students registered in the Bachelor of Education (Regular Program) are expected to have completed their registration in August, by mail.*

\* \* \* \* \*

10 Monday

**Classes begin.**

## Late Registration

It is the students' responsibility to ascertain when appropriate deans, chairpersons, and faculty advisors are available to authorize course selection.

10 Monday  
9:30-10:30 a.m.  
5:30-6:30 p.m.

Late Registration begins. Processing of forms by the Registrar will take place at the times noted to the left.

11 Tuesday  
(a) 2:00-3:00 p.m.  
5:30-6:00 p.m.  
(b) 5:30-6:30 p.m.

(a) Late Registration concludes. Forms will be processed by the Registrar (or designates) at the times noted to the left.

(b) The **only** opportunity for students in Education courses (both undergraduate and graduate) to undertake Late Registration.

## Changes of Registration

(Course Changes: adds and drops, as well as section changes)

It is the students' responsibility to ascertain when appropriate deans, chairpersons, and faculty advisors are available to authorize changes.

12 Wednesday  
9:30-10:30 a.m.  
5:30-6:30 p.m.

Change of Registration (as defined above) begins. Processing of forms by the Registrar will take place at the times noted to the left.

13 Thursday  
2:30-3:30 p.m.

The processing of the Change of Registration forms continues at the time noted to the left.

17 Monday  
9:30-10:30 a.m.

The processing of the Change of Registration forms continues at the time noted to the left.

18 Tuesday  
2:30-3:30 p.m.  
5:30-6:30 p.m.

The processing of Change of Registration forms concludes. This marks the last day for making any changes to registration with respect to full (i.e., designated .0) and first semester courses (i.e., designated .1). Forms will be processed at the times noted to the left.

*Note: In the Faculty of Education, all changes to students' registration for 1990-91 will be made through the office of the Dean of Education, and must have been completed by 5:00 p.m., Monday, 17 September.*

\* \* \* \* \*

28 Friday

(a) Last day for filing applications for degrees, diplomas and certificates to be awarded in May 1991. Application forms are available in the Registrar's Office (see academic regulation 25).

Note: the graduation fee does not have to be paid when the application is filed.

(b) Last day for final payment of first semester tuition fees. (See Section 6 of the Calendar.)



## October

8 Monday Thanksgiving Day. No classes.

## November

9 Friday Last day for withdrawing from a first semester course (i.e., designated .1) or a full course (i.e., designated .0) taught over only one semester. See academic regulation 16: "Withdrawing from a Course".

12 Monday Remembrance Day. No classes.

## December

1 Saturday Last day of classes for first semester.

3-15 Monday-Saturday Formal final examinations in first semester courses (i.e., designated .1) and formal mid-year examinations in full year courses (i.e., designated .0). If necessary to accommodate scheduling, these formal examinations may be written on Saturday and in the evenings; also the examination period may be extended.

8 Saturday Patronal Feast of the University. Examinations are normally not scheduled on this day.

15 Saturday\* First semester ends.\*

## 1991

### January

2 Wednesday **Classes resume.** Registration and change of registration for second semester courses (i.e., designated .2) begins. Forms will be processed by the Registrar at the times noted to the left.

9:30-10:30 a.m.  
1:30-2:30 p.m.  
5:00-6:00 p.m.

2-15 Wednesday-Tuesday Payment of tuition fees for second semester.

3 Thursday The processing of registration and change of registration forms for second semester courses will take place at the times noted to the left.

9:30-10:30 a.m.  
1:30-2:30 p.m.  
5:00-6:00 p.m.

4 Friday The processing of registration and change of registration forms continues at the times noted to the left.

9:30-10:30 a.m.  
1:30-2:30 p.m.

7 Monday Late registration and changes in registration for second semester courses conclude. Forms will be processed at the times noted to the left.

1:30-3:00 a.m.  
5:30-6:30 p.m.

15 Tuesday

- (a) Last day for withdrawing from a full course (i.e., designated .0). See academic regulation 16: "Withdrawing from a Course".
- (b) Last day for final payment of second semester tuition fees. (See Section 6 of the Calendar.)

### February

18-24 Winter Break.

### March

13 Wednesday Last day for withdrawing from a second semester course (i.e., designated .2) or a full course (i.e., designated .0) taught over one semester. See academic regulation 16: "Withdrawing from a Course".

29 Friday Good Friday. No classes.

## April

1 Monday	Easter Monday. No classes.
6 Saturday	Last day of classes for second semester.
8-27 Monday-Saturday*	Formal final examinations in second semester courses (i.e., designated .2) and in full courses (i.e., designated .0). If needed to accommodate scheduling, these formal examinations will be written on Saturday and in the evenings; also this examination period may be extended.
26 Friday	Last day to apply to graduate in absentia for Spring Convocation, 1991.
27 Saturday*	Second semester ends.*

## May

13 Monday	Spring Convocation, 1991.
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## July

26 Friday	Last day for filing applications for degrees, diplomas, and certificates to be awarded in the Fall of 1991. Application forms are available in the Registrar's Office. (See academic regulation 25.)
	Note: (a) The graduation fee does not have to be paid when the application is filed. (b) All course work must be completed by the end of the second summer session, 1991, in order to qualify for this fall's graduation.

\*Subject to change should it not be possible to schedule all examinations in this period.

Each year, Saint Mary's University offers two summer sessions, the first from mid-May to the end of June; the second from early July to mid-August. For 1990, the dates of the First Summer Session are 14 May to 29 June and for the Second Summer Session, 3 July to 17 August. Details are available in the Summer Sessions brochure published annually by the Division of Continuing Education.

## 1990

### JUL

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

### AUG

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

### SEPT

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						1
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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

### OCT

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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

### NOV

S	M	T	W	T	F	S
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17	18	19	20	21	22	23
24	25	26	27	28	29	30

### DEC

S	M	T	W	T	F	S
						1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

## 1991

### JAN

S	M	T	W	T	F	S
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

### FEB

S	M	T	W	T	F	S
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10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28		

### MAR

S	M	T	W	T	F	S
						1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

### APR

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

### MAY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

### JUNE

S	M	T	W	T	F	S
						1
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

# Engineering (Eng)

Director, Associate Professor  
Professors  
Associate Professors

V. Sastry  
W. P. Boyle, D. N. Swingler  
V. R. Tarnawski  
D. B. Van Dyer

## 106.1 Engineering Design Graphics

Engineering drawing and sketching. Working drawings, standards and conventional practices. Projection Theory. Orthographic, oblique and isometric drawing and sketching. Introduction to perspective drawing. The engineering design process and its relationship to engineering graphics.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 107.2 Design and Descriptive Geometry

Principles and applications of descriptive geometry. Application to problems such as roadway cut and fill, contour maps, design of dams, outcrops of mineral veins, clearances and drawing developments of shapes. An introduction to the role of computers in handling and analyzing graphical data.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 120.0 Technology and Society

This course is designed for students who are not registered in engineering. The course includes: the complaint against technology; the history of technological change; response to technological change; the question of adequate precautions; and the interrelationship of technology with society.

Classes 3 hrs. a week. 2 semesters.

## 203.1(2) Engineering Mechanics (Statics)

Prerequisite: Mat 200.0 (concurrently).

Fundamental concepts and principles of mechanics, statics of particles, equivalent force systems, equilibrium of rigid bodies, analysis of structures, friction, distributed forces, centroids, centre of gravity, moments of inertia.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 204.1(2) Computer Science

Prerequisite: Mat 100.0.

Introduction to the digital computer and the computing process. Computer organization, information representation, and matching language. Basic data types, operations and expressions. Structure of algorithms and their flowchart representation. Repetitive calculations and arrays. Structure and control of subprocedures. Program optimization. Errors in numerical computation. FORTRAN 77 language.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 220.1(2) Introduction to Microprocessors

Prerequisite: 100 level mathematics or physics; or computer programming course.

This course is geared toward those with a science/technical background who are interested in a fairly detailed introduction to the rapidly expanding world of microprocessors. The underlying aims are to develop some familiarity with microprocessor architecture and physical hardware; to become proficient in Assembler level programming; and to explore the application of program-control input/output operations to the control of simple external devices.

## 300.1 Dynamics of Particles

Prerequisite: Mat 300 (concurrently) and Egn 203.2.

The objective of this course is to study the kinematics and kinetics

of a particle. The course extends the principles developed in the course on statics. Both scalar and vector methods are used where appropriate. While three-dimensional problems are included, the emphasis is on two-dimensional problems. Topics: Kinematics of a particle, rectilinear and curvilinear motion, relative motion, Newton's Second Law; work and energy methods; impulse and momentum methods.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 302.2 Dynamics of Rigid Bodies

Prerequisite: Mat 300.0 (concurrently), Egn 300.1.

This course extends the concepts developed in Egn 300.1 to apply to rigid bodies. The emphasis will be on plane motion of rigid bodies. Topics: kinematics of plane motion, kinetics of plane motion; kinematics and kinetics of three-dimensional motion.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 303.1(2) Fluid Mechanics

Prerequisite: Mat 300.0 (concurrently), Egn 203.1(2) and 204.1(2).

Fluid properties, fluid statics and stability. Lagrangian and Eulerian methods of analysis. Application of the control volume of continuity, energy and momentum. Euler's equation of motion, Bernoulli's equation and applications. Linear momentum equation and applications. Dimensional analysis and dynamic similitude. Viscous effects in pipe flow. Introduction to boundary layers and drag on immersed bodies. Flow measurement techniques.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 304.1(2) Mechanics of Deformable Bodies

Prerequisite: Egn 203.2, Mat 300.0 (concurrently).

An introduction to the techniques and theories involved in the analysis of the strength, deformation and stability of structural members and assemblies under the action of forces. Specifically, the object is to develop understanding of the relationships between loads applied to non-rigid bodies and the resulting stresses and strains. Topics include: stress and strain, axially loaded members, torsionally loaded members, flexural loading, combined loadings, column loading and finally an introduction to the Theory of Elasticity.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 306.1(2) Engineering Thermodynamics

Prerequisite: Phy 221.0, Mat 300.0 (concurrently).

Energy and the first law, ideal gas, gas state equation, macroscopic properties of pure substances, properties and state, energy analysis of thermodynamic systems, entropy and the Second Law, thermodynamic relations, consequences and applications of the Second Law to thermodynamic systems.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 308.1(2) System Dynamics (Electric Circuits)

Prerequisite: Phy 221.0, Mat 300.0 (concurrently).

The objective of this course is to introduce the student to the fundamental laws of electric circuits and circuit parameters, the concept of time-constants, impedances and admittances and general network theorems. Topics include: Kirchoff's Laws; Ohm's law and circuit parameters, resistive networks, loop and node equations; network theorems, super position, Thevenin-Norton; A.C. circuits, sinusoidal response, power, power factor, three-phase circuits; transients in simple circuits.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

# English (Egl)

Chairperson, Professor  
Professors

R. A. MacDonald  
C. J. Byrne, R. H. Crowther  
G. B. Hallett, W. Katz  
K. A. MacKinnon  
R. Perkyens

Associate Professors

G. Thomas, T. A. Whalen  
J. Baker, L. Falk  
T. E. Flynn, D. Pigot  
A. T. Seaman, J. K. Snyder  
M. Harry, J. R. Perkin

Assistant Professors

## Introductory English

Egl 201.1(2) English Composition and 202.1(2) An Introduction to Literature are designed to meet the various needs of students entering the University from Junior or Senior Matriculation. They satisfy the requirement for an English course stipulated by the Faculties of Arts, Commerce, and Science. Composition courses are divided into many sections to ensure as much individual attention to each student as possible. Classes meet three hours per week.

## Advanced Courses

Students are advised not to take courses at the 400 level unless they have a quality point average of at least 2.50 in their previous work in English.

The standard prerequisites for entrance to courses above the 200 level are a pass in English 201.1(2) and 202.1(2) or permission of the department. For additional prerequisites in some courses, see the individual course descriptions.

All advanced courses meet three hours per week.

## The Major Program

Students who declare a major concentration in English, or a major in both English and one other subject area (that is, a double major), must complete the following requirements:

- a total of six English courses beyond Egl 201.1(2) and 202.1(2), at least four of which must be at the 400 (or a higher) level;
- Egl 400.0;
- they must select a faculty advisor in consultation with the departmental chairperson;
- they must select their courses in consultation with a departmental faculty advisor.

## The Minor Program

Students may declare a minor in English, Creative Writing, or Linguistics.

Students who declare a minor in Creative Writing must take at least two Creative Writing courses, one of which is at the 400 level, and two more English courses beyond the 200 level.

Students who wish to major in English and minor in Creative Writing or Linguistics must take eight English courses above the 200 level and fulfil the requirements of both programs. Further details on the Linguistics minor can be obtained from Dr. Lilian Falk.

## The Honors Program

All prospective honors students should refer to the section of this Calendar pertaining to honors degrees and apply to the Registrar for enrolment in honors after their first year in the University.

While students are encouraged to enrol formally in honors as early as possible, those who apply later will be considered if they have the requisite 3.00 average in their English courses.

Honors students must complete the requirements listed below. A slight adjustment in the Honors English requirements will be made for those in a combined honors program.

- Ten courses in English (they are listed here in recommended order):
  - Egl 201.1(2) and 202.1(2)
  - One 300 level English elective. Only one course at this level may be included in a student's minimum for honors. Any 400 level course may be substituted for this elective.
  - Egl 400.0
  - Egl 408.0
  - Egl 406.0
  - Egl 404.0
  - Egl 412.0
  - Egl 416.0
  - Egl 418.0 or 420.0
  - Egl 440.0
- Prospective honors students must consult with the departmental chairperson about admission to the program. After admission each candidate will work with the chairperson in selecting an honors advisor; each year the student's course selection must be approved by his or her advisor.
- Candidates must maintain an average of B (3.00) in their English courses.
- Candidates may substitute an honors thesis in lieu of one of the 400 level electives.

Note: In the cases where courses have been renumbered or where a full course has been split into two half courses, a student who received a credit for the original course is not entitled to repeat the course in its new format for an additional credit.

## 201.1(2) English Composition

This is a composition course. Its focus is on writing and the study of grammar. Some sections of this course are computer assisted.

## 202.1(2) An Introduction to Literature

This course introduces a variety of literary forms through the study of selected essays, fiction, drama, and poetry.

## 250.1(2) Business English

Prerequisite: Egl 201.1(2) and 202.1(2).

Beginning with a review of English grammar, this course provides practice in writing clear, straightforward prose, in organizing ideas effectively, and in dealing with the many forms of business writing — resumes, memos, letters, and reports.

Note: Students who have previously earned a credit for Mgt 293.1(2) or Com 293.1(2) may not earn another credit for Egl 250.1(2) and vice versa.

## 300.1, 301.2, 302.1, 303.2 Selected Topics

The subject matter of particular half-courses will be announced from time to time. These half-courses are designed to treat at an intermediate level authors and topics not dealt with in the other 300 level courses.

## 306.0 Cross-Listed as Classics 306.0

## 311.1(2) Modern English Language

The course will examine the nature of modern English, with reference to its syntax, grammar, and vocabulary. Traditional grammar will be reviewed, and modern approaches to grammar and lexicography will be discussed.

**312.1(2) Modern English Language in Canada**

The course examines the background of Canadian English, the qualities which mark it as distinct from British and American English, and the regional varieties found within it, with emphasis on the speech of the Atlantic Provinces.

**313.0 Narrative in Fiction and Film**

A study of a number of important works of fiction that have been successfully adapted to film. Students consider the specific properties that are unique to each medium and the implications (formal, thematic, social, and political) involved in translating from page to screen.

**314.0 Film Criticism**

The purpose of this course is to teach filmgoers how to read a film, to view it in the light of those basic critical principles and procedures which are regularly employed in the systematic study of literature.

**315.1(2) Masterpieces of Western Literature (Pre Renaissance)**

An historical survey of the major works of Western civilization from classical Greece to the Renaissance.

**316.1(2) Masterpieces of Western Literature (Post Renaissance)**

An historical survey of the major works of Western civilization from the Renaissance to the 20th century.

**317.0 Writing by Women (WMS 317.0)**

A course designed to examine some of the theoretical and practical concerns presented by women's writing. Both the nature of a women's tradition in literature and the scope and method of feminist literary criticism will be studied. The emphasis will be on literature of the 18th, 19th, and 20th centuries, but earlier writings will be considered as well.

**321.1(2) Advanced Composition**

A course in the writing and analyzing of expository prose. Emphasis will be placed on the use and understanding of the principal varieties of rhetorical modes and devices. This course is intended for those who are seriously interested in improving their writing.

Note: Students who have previously earned a credit for Egl 321.1(2) may not also earn a credit for Egl 322.0 and vice versa.

**322.0 Advanced Composition (Computer Assisted)**

Additional prerequisite: typing skills.

The course introduces students to microcomputer word processing as a basic tool of composing and editing. Its purpose is to improve writing skills through the critical analysis and sensitive editing of the writing of peers and published authors. Emphasis is placed on the understanding and use of the principal varieties of rhetorical modes and devices.

Note: Students who have earned a credit for Egl 322.0 may not also earn a credit for Egl 321.1(2) and vice versa.

**331.1(2) History of Children's Literature**

The emphasis in this course will be on those works now considered to be the classics of children's literature. Among the authors studied will be Lewis Carroll, Robert Louis Stevenson, Kenneth Grahame, Rudyard Kipling, and E. Nesbit.

**332.1(2) Children's Literature in the Modern Period**

The emphasis in this course will be on literature written for children in the 20th century. Among the authors studied will be J. R. R. Tolkien, Alan Garner, Phillipa Pearce, Louise Fitzhugh, and Russell Hoban.

**334.0 The Literature of Modern Ireland**

A study of the contradictions and fissures in modern Ireland as these are seen through the imagination of her writers. The writers studied will include: W. B. Yeats, J. M. Synge, G. B. Shaw, Sean O'Casey, Maurice O'Sullivan, Liam O'Flaherty, James Joyce, P. U. Kavanaugh, Padraic Colum, Sean O'Faolain, James Stephens, J.B. Kane, and Brian Freele.

**335.0 Introduction to Folklore**

This course surveys the various types of folklore (tale, song, riddle, proverb, etc.) within a context of ethnic and regional traditions. It will examine further (a) the relationship between folklore and written literature, (b) the problems of diffusion, collection, classification, and evaluation of folklore, and (c) background materials from European and North American traditions.

**340.0 Introduction to Drama**

This course is a survey of drama from ancient times to the present. It studies representative plays from Greece and Rome, from medieval and Elizabethan England, and from the Restoration, 18th Century, Victorian, and Modern periods.

**350.0 Contemporary American Fiction**

A study of American fiction since World War II. Special attention is paid to such writers as Baldwin, Bellow, Heller, Malamud, Mailer, Salinger, and Updike, partly because they interpret some important aspects of the national experience during the last three decades and partly because they raise basic questions about the aesthetics of fiction.

**355.0 Science Fiction**

Under the general designation of science fiction, this course will explore aspects of the visionary or speculative literature that has developed out of the recognition that scientific thought and technology are the most distinctive characteristics of modern time and culture. The authors read include Poe, Wells, Zamyatin, Capek, Stapledon among the early practitioners and contemporary figures such as Bradbury, Miller, Heinlein, Hoyle, Aldiss, Ballard, and others.

**360.1(2) World Literature in English: An Overview**

This course will examine 20th century writers from a number of British Commonwealth and other English-language countries aside from Canada, the U.S., and Britain. Comparative perspectives will be emphasized.

**361.1(2) World Literature in English: Selected Focus**

This course will focus on the development of English-language literature within the confines of a single country or geographically-proximate countries. Writers from England, the U.S., and Canada will not be considered except for comparative purposes.

**365.0 The Modern Novella**

A course designed to introduce the student to a wide range of short novels which illustrate both the rich diversity and the fundamental unity of concern which characterize the modern imagination and cultural consciousness.

**370.0 Contemporary Canadian Literature**

This course offers a study of Canadian prose and poetry of the period from 1965 until the present time.

**375.1(2) Creative Writing I**

Additional prerequisite: permission of instructor.

A course designed especially for students who wish to write fiction. Those interested in writing "regional" literature are particularly encouraged to consider this course. Individual attention and participation in workshops provide students with an opportunity to improve their writing. The aim is to produce work worthy of publication.

**376.2 Creative Writing II**

Additional prerequisite: permission of instructor.

This course encourages students to experiment with literary techniques and to develop their own writing style. Students will participate in workshops and instructors will provide individual attention. Students should aim to produce work worthy of publication.

**377.1(2) Writing Poetry**

Additional prerequisite: permission of instructor.

This course provides students with an opportunity to write poetry and to have their work discussed by others. The instructor will provide individual attention and students will be encouraged to publish their work.

**378.1(2) \*Writing Plays**

Additional prerequisite: permission of instructor.

This course provides students with the opportunity to write and workshop their plays. The instructor will provide individual attention and students will be encouraged to have their plays produced and/or published.

**380.0 Literature of Atlantic Canada**

An examination of the literature and literary background of Atlantic Canada. Emphasis in the first semester is on the 19th and early 20th centuries; in the second semester it is on contemporary writing.

**391.1(2) A Study of Short Fiction**

The course is designed to introduce students to short fiction as well as to the analytical concepts necessary for its critical appreciation and judgement.

**392.1(2) A Study of the Novel**

This course is designed to introduce students to the novel in English as well as to the analytical concepts necessary for its critical appreciation and judgement.

**395.0 An Introduction to Shakespeare**

This course is designed primarily for non-English majors with an interest in Shakespeare. It studies in detail representative selections from the comedies, histories, tragedies, problem plays, and last plays.

**400.0 The Study of Poetry**

Methods and problems in poetics and the reading and analysis of English poetry for the purpose of preparing students for advanced work. The study will be conducted within the context of a chronological presentation of poetry in English. In addition, the work of one poet will be studied in close detail.

**402.0 History of the English Language**

A survey of the development of the English language from its earliest stages to the present. Representative texts are used from each period so that students can acquire first-hand knowledge of the successive change in syntax, grammar, and vocabulary.

**404.0 Chaucer and the 14th Century**

Additional prerequisite: Egl 400.0 (or may be taken concurrently).

A course dealing primarily with the poetry of Chaucer which is studied in the original Middle English. Students are required to do outside reading on literary influences and on life in 14th century England.

**406.0 The Poetry and Prose of the English Renaissance**

Additional prerequisite: Egl 400.0 (or may be taken concurrently).

This course is concerned with the development of a distinctively English prose and poetry between the years 1550 and 1620.

**408.0 Shakespeare and His Contemporaries**

This course begins by tracing the influence of classical and medieval drama on that of the Elizabethan and Jacobean period. While its principal focus is the plays of Shakespeare, the course also studies selections from the work of Kyd, Marlowe, Decker, Jonson, Beaumont and Fletcher, Middleton, and Webster.

**410.0 Drama and Society — Restoration to Late 19th Century**

A course which traces the fortunes of drama over two centuries in relation to the society of the age. The Comedy of Manners is studied with special attention to Congreve, Wycherley, Sheridan and Wilde; the decline of tragedy is traced from the heroic tragedy of Dryden to the rise of the 19th century melodrama. The theatrical revival in the 19th century centres on social drama, particularly by Ibsen, Strindberg, Pinero, and Shaw.

**412.0 Restoration and 18th Century Literature**

The primary emphasis in this course is on the work of Dryden, Swift, Pope, and Johnson. The rise of the novel and the beginnings of Romanticism are also considered.

**414.0 The Novel: Defoe to Austen**

This course surveys the origin and development of the English novel during the 18th century. It includes the study of such novelists as Defoe, Fielding, Richardson, Smollett, Sterne, Goldsmith, and Austen.

**416.0 The Romantic Movement**

Additional prerequisite: Egl 400.0 (or may be taken concurrently).

This course studies the origins and development of the English Romantic movement. Major emphasis will be placed on the works of Blake, Wordsworth, Coleridge, Shelley, Keats, and Byron.

**418.0 The 19th Century Novel**

A study of the English novel in the social and historical context of the 19th century. Attention will be given to technical and stylistic developments, recurrent themes, major conventions, and various other concerns shared by novelists such as Austen, C. Bronte, Thackeray, Dickens, Eliot, Hardy and James.

**420.0 Victorian Poetry and Prose**

The course is devoted to a critical study of the work of such representative poets in the Victorian period as Tennyson, Browning, Arnold, Morris, Swinburne, Hopkins, Kipling, Hardy and Housman.

**422.0 19th Century American Literature**

This course is a survey of the major authors and works of the period, centring on the key figures of the American Renaissance: Emerson, Thoreau, Hawthorne, Melville, and Whitman. It will attempt to give the student an understanding of the creativity released by the Revolution, the subsequent hope for a great civilization of ordinary men, and the bitterness of its corruption and seeming defeat by the opening of the First World War.

**424.0 20th Century American Literature**

A study of significant practitioners of 20th century American fiction and poetry. Important intellectual and cultural trends will be considered as they emerge from a close study of the texts.

**425.0 Biography and Autobiography**

A course focusing on the special features and problems of biographical writing such as subjectivity, bias, historical perspective and the problems of evidence. Students will be expected to read widely from an extensive reading list.

**426.0 The Modern Novel**

A close critical analysis of representative works of a number of prominent late 19th and 20th century novelists in the light of certain literary, cultural, socio-political and philosophic tendencies which have exercised a decisive influence in the formation of the modern imagination.

**428.0 20th Century Poetry**

Additional prerequisite: Egl 400 (or may be taken concurrently).

A study of 20th century poetry in English. British, American and Canadian poetry of the Modernist period and the post-World War II period are given special emphasis.

**430.0 Scottish Literary Traditions**

A selective examination of Scottish literary traditions from the late Middle Ages to the present. As required for particular writers, attention will also be paid to the Scots language and to cultural background.

**432.0 The Development of English Canadian Literature**

This course deals with the literature of Canada preceding the contemporary period (1965-present). A variety of novelists and poets influential in the formation of Canadian literary traditions are examined.

**435.1(.2) 20th Century European Drama**

A study of the principal European dramatists and theatre movements in the present century, with emphasis on the ones that have most influenced drama written in English. Reference is made to works by such dramatists as Ibsen, Strindberg, Chekhov, Pirandello, Brecht, Beckett and Ionesco.

**436.1(.2) 20th Century British Drama**

A study of the directions of modern drama and theatre in the British Isles. Playwrights whose works are studied include Shaw, O'Casey, Eliot, Osborne, Pinter, Bond and Stoppard.

**437.1(.2) Canadian Drama**

This course traces the beginnings and follows the development of drama and theatre in Canada. It includes the study of works by Davies, Coulter, Reaney, Ryga, French, and by Gelinas and Tremblay in translation.

**438.1(.2) American Drama**

This course traces the origins and principal developments of drama in the United States. Special reference is made to the work of leading dramatists, including O'Neill, Wilder, Miller, Williams, Albee, Wilson and Shepard.

**440.0 Theory and Practice of Criticism**

The course involves a general survey of the theoretical and historical backgrounds of literary criticism from the classical writers to such contemporary figures as Northrup Frye, Roland Barthes and Jacques Derrida. Its primary objective is to familiarize students with the basic intellectual tools required for interpreting and judging works of literature.

**441.1(.2) The Irish Short Story**

[IRS 441.1(.2)]

This course will examine the short story as a major form in the fiction (in English) of Ireland, tracing its development from the Irish folktales to the sophisticated modern stories of internationally read practitioners such as Joyce, O'Connor, O Faolain and Lavin.

**442.1(.2) Irish Drama**

[IRS 442.1(.2)]

Irish dramatists from Farquhar and Sheridan to Shaw, O'Casey and Beckett will be studied from the point of view both of their contribution to theatre in the English-speaking world and of their special Anglo-Irish or native Irish cultural background.

**443.1(.2) Irish Poetry**

[IRS 443.1(.2)]

Irish poets and poetry from ancient to modern times will be the subject matter of this course. Special emphasis will be placed on poets of the modern period from Yeats to Hearney, and the course will concentrate on the interaction of the patterns of Irish Gaelic sounds and images with those drawn from English language and culture.

**475.0 Writing Fiction**

Additional prerequisite: permission of instructor.

A course designed for students who wish to develop their writing skills to a high level. Writers will be expected to produce work of a quality considered acceptable for publication.

**550.0 Special Author**

(WMS 550.0)

Additional prerequisite: enrolment in the English honors program, or special recommendation of the department.

This course provides the opportunity to study a particular author in considerable depth and detail, and requires some measure of independence and initiative in the student.

Tutorials by arrangement with supervisor. 2 semesters.

**551.0 Special Subject**

Additional prerequisite: enrolment in the English honors program or special recommendation of the department.

This course provides the opportunity to study a particular subject or period in considerable depth and detail, and will require some measure of independence and initiative in the student.

Tutorials by arrangement with supervisor. 2 semesters.

**English As A Second Language (ESL)**

Course descriptions for this subject area are found at the conclusion of the Modern Languages and Classics Department.

# Executive Master of Business Administration (EMB)

Director

Dr. J. Colin Dodds, Dean of  
Commerce

A complete description of this graduate program is found in Section 3 of this Calendar.

The following courses are available only to students registered in the Executive Master of Business Administration.

## Year 1: Fall Semester

EMB 511.1; 512.1; 514.1; and 522.1.

## Winter Semester

EMB 513.2; 521.2; 523.2; and 524.2.

### 511.1.(2) Managerial and Financial Accounting

This course is designed to improve students' decision-making abilities as managers using accounting information within organizations, and as managers interpreting and using externally published financial statements from other organizations. The use of accounting systems for planning of activities and control of operations with emphasis on the human behavioral aspects will be studied. The course will also develop and further the student's knowledge of accounting techniques and principles and their understanding of accounting data.

### 512.1.(2) Organizational Behavior and Theory

This course is concerned with the behavior and attitudes of individuals and groups in organizations and with how organizations are structured to achieve their goals. The course relies heavily on the contributions of psychology, sociology and anthropology, and strong emphasis is placed in those management decisions that contribute to organizational effectiveness. Topics to be covered typically include leadership, motivation, job design reward systems, control systems, group-dynamics, communication and decision-making, designing jobs and reward systems, evaluating organizational effectiveness, conflict management, organizational culture, and change.

### 513.1.(2) Marketing Management

The purpose of the course is to provide a systematic coverage of the marketing management, locally, nationally and globally — its major concepts, methods and models. In addition, the perspective of the course extends from the marketing concepts to marketing strategy: marketing's strategic role is emphasized, and the perspectives of the marketing mix are analyzed from a strategic angle. The course will, through case studies and class exercises, encourage familiarity with a range of concepts and techniques which can be used to develop effective strategies and plans.

### 514.1.(2) Business Research Methods

This course covers the basic topics related to the collection, analysis and presentation of data for business decision-making. Topics include elementary notions of research and theory, construction and statistical inferential, sample design, regression and correlation, model building, time series and index, and forecasting. The use of primary and secondary data sources will be addressed. The presentation of research results will emphasize the fundamentals of both written and oral communication techniques for effective presentation of business data/research results.

### 521.1.(2) Corporate Finance

The objective of the course is to provide an integrated view of the financing and investment decision of the firm by focusing on how the value of a company is affected by the trade-offs between the returns and risks inherent in all financial decisions. Topics include

agency theory signalling and financial compensation schemes and their impact on financial decision making. Students should complete the course having an in-depth appreciation of the nature of the financial markets within which the firm operates together with a solid working knowledge of a wide variety of financial decision techniques.

### 522.1.(2) Managerial Economics

This course is designed to provide a foundation of economic understanding for use in managerial decision-making. The major microeconomic topics covered include demand, supply and pricing strategy under different market structures. The theory of demand and the concept of elasticity are developed with emphasis placed on interpreting the empirical estimates of these concepts. Production and cost in both the short run and long run are discussed, and the importance of these factors for managerial decision-making is carefully considered. The appropriate firm pricing policy under perfect competition, monopoly, monopolistic competition and oligopoly is covered as well.

### 523.1.(2) Operations Management

This course provides the student with a foundation in the concepts and techniques of operations management, especially the methods used for the planning, organizing and scheduling of operations in both manufacturing and other institutional settings. Students will be introduced to analytic decision making through such techniques as linear programming, decision analysis and simulation. Applications include inventory control, project management, production scheduling and resource allocation.

### 524.1.(2) Human Resource Management

This course is about hiring and managing individuals at work. In broad terms, this course exposes a student to the theory and practice of procuring, developing, and utilizing the human resources of an organization. It will help that student to identify several individual, organizational, and environmental factors that influence people at work and which have a decisive influence on an organization's human resource policies. Specific topics dealt with will include: human resource planning, job analysis, recruitment and selection, orientation, training and development, performance appraisal, compensation management, elements of industrial relations, and quality of work-life improvement strategies.

## Year II: Fall and Winter Semester

### 631.1.(2) Management Information Systems

Information Systems play a critical role in the success of most enterprises. Managing the corporate information systems function has become very challenging, with rapidly changing issues and approaches, and greater requirement for information systems strategy to be aligned with business strategy. This course addresses the major management topics associated with managing the MIS function. Topics include user satisfaction and demand for information, managing service quality of MIS, the successful management of technology, the relationship between automation and productivity, data security, and justification of the MIS budget. Management issues in emerging topics such as office systems and microcomputers are also discussed.

### 632.1.(2) International Capital Markets

The objective of this course is to understand the global nature of financial markets and the role of international banking. The course commences with a recapitulation of the make-up of a developed market financial system. Particular attention will be focused on the



foreign exchange market. The interrelationships within the domestic system and its interdependence with the "world" system are illustrated and the apparent robustness of the system to withstand shocks is assessed, as well as its ability to innovate in the financial claims it can offer and the financial centres that have developed.

#### **633.1(2) Policy I — Business Strategy**

Course objectives: This course is designed to develop a general management perspective within the context of current strategic management concepts and techniques. The concept of strategy will be used as the theme to develop this course, and to assist in the integration of materials covered in other parts of the EMBA course activities. The primary teaching vehicle in this course will be the case method. Although some lectures will be given, concept development will take place through case discussions, readings and presentations. Background material will be provided by the instructor.

#### **634.1(2) Business Research Project I**

The object of this research project course is to give the group the opportunity to examine a particular problem in depth. The individual student's work will be supervised by a faculty member. Students will be required to present the findings of the project in the continuing Business Research Project II course, EMBA 644.

#### **641.1(2) International Business**

This course focuses on some critical issues facing the manager in the international business arena. Introductory sessions examine issues of international trade and foreign market penetration strategies such as exporting, licensing and joint ventures. The multinational enterprise and organizational problems in international operations are also discussed, including the management of foreign exchange rate risk. After discussing issues of strategy and structure in the multinational enterprises, students will examine issues dealing with the nation-state, both in the developed world and in the less developed regions.

#### **642.1(2) Policy II — Public Policy in Business**

This course examines the operation of the macroeconomy and discusses the fiscal and monetary tools available to the central authorities to affect overall economic activity. The traditional Keynesian model is developed and the debate between the monetarists and the Keynesians is discussed. The purpose and the effect of government regulations of the business environment will be examined as well.

#### **643.1(2) Industrial Relations (Elective)**

This course will cover the analysis of structure, functions, and government of the Canadian union movement; application of theoretical models to contemporary problems in labour and industrial relations in Canada, a study of the impact of environmental factors on union management relations. Emphasis will be placed on institutional and behavioral aspects of industrial relations. An attempt will be made to identify the objectives, values and motivations of the various parties involved in collective bargaining and the role of industrial conflict and industrial harmony will be examined in the context of collective bargaining goals.

#### **644.1(2) Financial Innovations (Elective)**

This course will examine the pace of innovation, deregulation and resulting structural transformations that have occurred in financial markets. Attention will focus on new financial instruments, particularly those that are of an off-balance sheet commitment form. Note Issuance Facilities (NIFs), currency and interest rate swaps, currency and interest rate options, Forward Rate

Agreements (FRAs), option strategies and index futures will be covered, and future trends in innovations will be addressed.

#### **645.1(2) International Marketing (Elective)**

This course is designed to provide students with insights into the nature and environmental perspectives of marketing across national boundaries and with those within foreign countries. Emphasis is placed on the analytical processes in international marketing decisions, as well as knowledge of tools and practices for structuring and controlling marketing programs related to international business. Case studies will be used extensively.

#### **646.1(2) Business Research Project II**

Business research requires the scientific development, planning, execution and reporting of a business research project. The research will be conducted and reported under the guidance of a faculty advisor. The project must be well grounded in the current literature, and the report should include a delineation of the problem, method, results, and conclusions. In this course, students will be required to present their research projects to the EMBA students and faculty.

# Finance and Management Science (Fin and Msc)

Chairperson, Assistant Professor  
Associate Professors

J. Gregory  
T. Charles, M. Chew  
D. Connelly, P. Dixon  
E. Lee

Assistant Professors

J. Bartholdy, F. Boabang  
D. Dorp, D. F. Gray

Adjunct Professor

D. Welch

The Department of Finance and Management Science offers a variety of courses that may be classified as follows:

- a. those that deal directly with three of the primary functions of business — finance, data processing, and operations management; and
- b. those whose aim is to develop skills in management science — quantitative methods, computing, and statistics, which indirectly relate to all of the primary functions of business.

In addition to the core courses in quantitative methods (Msc 205, Msc 206, Msc 207), computing (Msc 325), and finance (Fin 360, Fin 361) that are required for the Bachelor of Commerce degree, the department offers a number of advanced courses. In particular, those students pursuing a B.Comm. degree with a major in business administration, may elect to specialize in finance, management science, or data processing. These three programs, along with others available within the business administration major, are outlined in the Faculty of Commerce section of the Calendar.

In addition to the Data Processing program cited above, information on other computer-related degree programs may be found in the Faculty of Commerce and Faculty of Science sections of this Calendar.

At the graduate level, the department offers the core courses (Msc 506, Msc 507, Msc 521 and Fin 561) required of all students in year I of the MBA program, as well as a number of elective courses available at the 600 level in year II of the MBA program.

## Finance

### 260.1(.2) Personal Finance

A survey course designed to enable the student to better understand the considerations involved in the management of personal income savings, investments, mortgage analysis and tax planning.

Classes 3 hrs. a week. 1 semester.

Note: This course may not be taken for credit in the Bachelor of Commerce degree program.

### 360.1(.2) Business Finance I

Prerequisite: Msc 207.1(.2) (which may be taken concurrently) and Acc 242.1(.2).

A basic course in business finance introducing the student to the discipline and presenting financial analysis, working capital management, capital budgeting, the tax environment and the role of financial intermediaries. Microcomputers will be used to perform analyses.

Classes 3 hrs. a week. 1 semester.

### 361.1(.2) Business Finance II

Prerequisite: Fin 360.1(.2).

A continuation from Fin 360.1(.2) covering cost of capital, capital mix, capital and money markets, dividend policy, financial

instruments and mergers, consolidations and bankruptcy. Microcomputers will be used to perform analyses.

Classes 3 hrs. a week. 1 semester.

### 362.1(.2) Principles of Real Estate and Appraisal

Prerequisite: Cml 301.1(.2), and (or concurrently) Fin 361.1(.2).

This course provides an introductory exposure to real estate in Canada. Subject areas that will be addressed include: real estate trends in Canada, financing of real estate, and an introduction to real estate appraisal.

Classes 3 hrs. a week. 1 semester.

### 363.1(.2) Principles of Insurance

Prerequisite: Cml 301.1(.2), and (or concurrently) Fin 361.1(.2).

This course introduces the student to the nature and management of risk. A survey of all types of insurance including life, general and liability are presented. Students will be introduced to the insurance industry from both an internal and external point of view. Special topics of consumer interest will also be addressed.

### 463.1(.2) Financial Management

Prerequisite: Fin 361.1(.2).

This course will deal with the problems of asset management. Topics will include working capital management, capital budgeting, required rates of return and evaluation of risk. Emphasis will be placed on the application of theory through the use of case studies.

Classes 3 hrs. a week. 1 semester.

### 464.1(.2) Corporation Finance

Prerequisite: Fin 463.1(.2) or permission of instructor.

This course examines the capital structure of the firm and the cost of capital in relation to the financing decision and dividend policy. Case studies will be used to examine the implications of the capital mix.

Classes 3 hrs. a week. 1 semester.

### 466.1 Investments

Prerequisite: Fin 361.1(.2).

This course presents an overview of the Canadian investment environment. A framework is developed for assessing the merits of various security investment alternatives, and a brief introduction to portfolio management is given. In this course, calculus and mainframe computers are used extensively.

Classes 3 hrs. a week. 1 semester.

### 467.2 Portfolio Management

Prerequisite: Fin 466.1.

A comprehensive analysis of the decision-making process of portfolio management. Major subject areas include the definition of objectives to accord with the preferences, plans, and obligations of major classes of investors, analysis of the likely risks and gains of investments, individually and by class of security, and the selection of portfolios which appear most likely to satisfy stated investment objectives.

Classes 3 hrs. a week. 1 semester.

**476.1(2) International Financial Management**

Prerequisite: Fin 360.1(2) and 361.1(2).

This course is divided into three major parts. The first part provides a basic understanding of the forces that determine the relative values of currencies in the foreign exchange markets. Parts two and three focus on the firm with the financing of international operations and capital budgeting decisions.

Classes 3 hrs. a week. 1 semester.

**490.1(2) Seminar in Finance**

Prerequisite: permission of chairperson or instructor.

This course deals with selected topics in finance. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructor.

Classes 3 hrs. a week. 1 semester.

**492.1(2) Directed Study**

Prerequisite: permission of chairperson and instructor.

Intended to supplement or provide an alternative to the regular finance courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Tutorial and independent study. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration program and with permission of the MBA Director, to students registered in other Master's programs.**

**561.1(2) Business Finance**

Prerequisite: Eco 500 or 501, Msc 506 or 507, Acc 540 or 548; or consent of MBA Director.

An introduction to financial management and the role of finance, both within the organization and the economy as a whole with emphasis on financial decision-making. The topics considered include investment decisions and subsequent financing, the costs of capital, the management of assets, and dividend policy.

**663.1(2) Financial Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

Managerial in emphasis, this course examines financial planning and analysis, working capital management, capital budgeting techniques, and theories of cost of capital and valuation of the firm.

**664.1(2) Corporate Financing**

Prerequisite: Fin 663.1(2) or equivalent.

This course is also managerial in emphasis and covers material related to financing both the short and long term assets of the firm: bank borrowings, bonds, preferred stock, common stock, as well as mergers and consolidation.

**666.1(2) Capital Markets**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

The purpose of this course is to discuss the management of investments. Although a strong theoretical treatment is adopted, the course is developed in the context of Canadian financial markets and available empirical work will be reviewed. Recent advances in option and bond markets will be developed and computer applications stressed. In addition, the asset-liability

management of financial institutions — banks, mutual funds, insurance companies and public funds — will be reviewed.

**676.1(2) International Business Finance and Banking**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course is organized around two themes — (i) the concept of the multinational firm and the financial management decisions it takes in a multi-currency world — and (ii) the challenges faced in the international banking system of asset/liability management, offshore financial centres, external debt and rescheduling and increased regulatory and supervisory measures.

**690.1(2) Seminar in Finance**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course deals with selected topics in finance. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructor. In the past these have included real estate, investment and portfolio management, and international banking.

**692.1(2) Directed Study**

Prerequisite: completion of all 500 level required courses and consent of MBA Director, departmental chairperson, and instructor.

Intended to supplement or provide an alternative to the regular finance courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

**Management Science****205.1(2) Introduction to Quantitative Methods for Commerce I**

Prerequisite: Mat 113.0 or Grade XII mathematics or equivalent.

This course illustrates applications of basic mathematical techniques in break-even analysis, data manipulation, aggregate planning and financial planning. Topics include linear functions, linear inequalities, the simplex method, compound interest, annuities and depreciation.

Classes 3 hrs. plus recitation session 1 1/2 hrs. a week. 1 semester.

Note: This is the same course as Eco 205.1(2).

**206.1(2) Introduction to Quantitative Methods for Commerce II**

Prerequisite: Mat 113.0, Grade XII mathematics or equivalent.

The purpose of this course is to provide a basic understanding of the dynamics of non-linear functions as they relate to the use of scarce resources for profit maximization. Students will be exposed to the basic methods of calculus and the basic concepts of probability as they relate to decision making in an uncertain environment.

Classes 3 hrs. plus recitation session 1 1/2 hrs. a week. 1 semester.

Note: This is the same course as Eco 206.1(2).

**207.1(2) Introductory Statistics for Commerce**

Prerequisite: Msc 206.1(2).

This course is designed to introduce some common decision aids for coping with uncertainty. Topics include: data collection, summarization and presentation, reporting and interpreting the accuracy of results, evaluating the effectiveness of a decision and

determining relationships among factors for the purpose of prediction. Examples will be drawn from accounting, economics, marketing, management, finance and production.

Classes 3 hrs. plus recitation session 1 1/2 hrs. a week. 1 semester.

Note: This is the same course as Eco 207.1(.2).

### **301.1(.2) Operations Research**

Prerequisite: Msc 205.1(.2) and 207.1(.2).

This course is designed for students who require a deeper understanding of model building techniques for management than that provided in Msc 205.1(.2). Topics include: resource allocation, production and inventory management, the efficient transportation of goods and management of large projects. In each instance, the objective will be to minimize costs by the efficient utilization of available resources.

Classes 3 hrs. a week. 1 semester.

### **303.1(.2) Statistical Analysis for Business and Economics**

Prerequisite: Msc 207.1(.2).

This course provides a further study of the statistical concepts introduced in Msc 207. It develops a working knowledge of such statistical tools as chi-square tests on contingency tables, multiple regression analysis, time series, and analysis of variance as applied to a variety of business and economic problems with the aid of computerized data analysis.

Classes 3 hrs. a week. 1 semester.

Note: This is the same course as Eco 303.1(.2).

### **316.1(.2) Management of Service Operations**

Prerequisite: Mgt 281.1(.2), Msc 205.1(.2), and 207.1(.2).

This course is designed to provide an overview of problems arising in provision of services in such areas as health care, banking, hospitality industries, transportation, etc. Topics covered include forecasting, location analysis, layout design, capacity planning, workshift scheduling, vehicle routing, quality control and inventory control.

Classes 3 hrs. a week. 1 semester.

### **317.1(.2) Management of Manufacturing Operations**

Prerequisite: Mgt 281.1(.2), Msc 205.1(.2), and 207.1(.2).

This course is designed to provide an overview of problems arising from the production and supply of goods and services. Problem areas include: forecasting, distribution, plant layout, inventory management, quality management, planning of large projects and scheduling. Emphasis will be on problem identification and the evaluation of alternative solution strategies.

Classes 3 hrs. a week. 1 semester.

### **322.1(.2) Computer Simulation**

Prerequisite: Msc 325.1(.2) and Msc 207.1(.2).

Management techniques using the computer to model real world systems; heavy reliance on statistical modelling including parameter estimation and tests of significance; emphasis on the process from problem definition through data analysis to model validation and verification; interpretation of results and strategy or action recommendations; quality of output format in terms of its management information value is stressed. Students will use FORTRAN subroutines to construct a simulation language as tailored to their own simulation problem.

Classes 3 hrs. a week. 1 semester.

### **324.1(.2) The Use of COBOL in Data Processing**

Prerequisite: Msc 325.1(.2) or CSC 226.1(.2).

COBOL program organization, file organization, description and accessing, edit, sort, file maintenance and report writing programs, arrayed data, integration concepts, multi-programming concepts.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **325.1(.2) Introduction to Computers**

This course is an introduction to computers and the use of computers in a business environment. Topics covered include: BASIC programming, spread sheet software, computer hardware and software, data processing and information systems.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note: Credit for CSC 101.1(.2) towards a Bachelor of Commerce degree will be given only if taken prior to Msc 325.1(.2).

### **331.1(.2) FORTRAN in Data Processing**

Prerequisite: Msc 325.1(.2) or permission of chairperson.

This course provides the student with a workable knowledge of the FORTRAN language, covering the many facets of the language, its uses and implementations in business.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **402.1(.2) Operations Research Methods and Applications**

Prerequisite: Msc 301.1(.2).

The model-building techniques and optimization methods introduced in Msc 301 are discussed in detail, and utilized in realistic management science case studies. Methods considered will include dynamic programming, nonlinear programming, Monte Carlo simulation and stochastic optimization. An emphasis will be placed on comparing the relative advantages of each operations research method, and selecting appropriate techniques for a given management problem.

Classes 3 hrs. a week. 1 semester.

### **424.1(.2) COBOL II**

Prerequisite: Msc 324.1(.2).

This course is a continuation of Msc 324, aiding the student in developing flowcharting skills and programming capabilities specifically in the COBOL language.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **426.1(.2) Computer Configurations**

Prerequisite: Msc 324.1(.2) or 331.1(.2); and Acc 323.1(.2); or permission of chairperson.

This course provides the student with a broad overview of the differences and similarities among the various types and categories of computer hardware (micro, mini, and large mainframe computers). Emphasis is on selection of the hardware and software systems appropriate to business applications.

Classes 3 hrs. a week. 1 semester.

### **431.1(.2) FORTRAN II**

Prerequisite: Msc 331.1(.2) or permission of chairperson.

This course continues from Msc 331.1(.2) and aids the student in developing flowcharting and programming capabilities, specifically in the FORTRAN language.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**436.1(.2) Seminar in Data Processing Management**

Prerequisite: Msc 426.1(.2) or permission of chairperson.

This course brings together all of the various aspects of data processing management (including languages, software, hardware and human resources management). Complex computer problem situations (including planning, organizing, and controlling user services; and managing the computer information systems development process) are analyzed by means of lecture, discussion and case study analysis.

Classes 3 hrs. a week. 1 semester.

**490.1(.2) Seminar in Management Science**

Prerequisite: permission of chairperson or instructor.

This course deals with selected topics in management science. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructor.

Classes 3 hrs. a week. 1 semester.

**492.1(.2) Directed Study**

Prerequisite: permission of chairperson and instructor.

Intended to supplement or provide an alternative to the regular management science courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Tutorial and independent study. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration program and with permission of the MBA Director, to students registered in other Master's programs.**

**506.1(.2) Introductory Decision Analysis I**

The objectives of this course are to provide a basic understanding of (i) rational decision-making under uncertainty and (ii) the methods of statistical analysis. The approach taken in the course, and also in Msc 507, focuses on the logical process of assimilating quantitative information and the formulation of appropriate models in the context of case problems.

**507.1(.2) Introductory Decision Analysis II**

Prerequisite: Msc 506.1 or permission of instructor.

This is a continuation of Msc 506 with emphasis on the methods of linear programming as applied to the allocation of scarce resources. Problems of queuing and inventory management are also considered.

**521.1(.2) Computers in Business**

This course acquaints the student with concepts relevant to the use of computers in business as well as the role of the computer in the management process. Special emphasis is placed on the logic and programming of a computer, interactive procedures using computer terminals, and the use of the computer as a management decision-making tool.

**603.1(.2) Statistical Applications in Management Science I**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course brings together many of the theories and skills which the student has learned and uses them in designing, conducting, analyzing, and reporting the results of research designs. Statistical techniques used are: chi-square, analysis of variance,

and multiple regression. Extensive use is made of computer-oriented statistical packages.

**604.1(.2) Statistical Applications in Management Science II**

Prerequisite: Msc 603.1(.2).

This course is a further study of the application of research design, statistical techniques, and reporting procedures to actual research problems. Statistical techniques used are: multivariate analysis of variance, factor analysis, discriminant analysis, and cluster analysis.

**615.1(.2) Operations Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A foundation in the concepts and techniques of operations/production management, dealing with methods used for the planning, organizing and scheduling of operations in both industry and other institutional settings.

**636.1(.2) Data Processing Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

In this course, concepts of business computer management (including hardware, software, personnel, data and procedures) needed in the development and acquisition of a computerized information system are covered.

**690.1(.2) Seminar in Management Science**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course deals with selected topics in management science. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructor.

**692.1(.2) Directed Study**

Prerequisite: completion of all 500 level courses and consent of MBA Director, departmental chairperson, and instructor.

Intended to supplement or provide an alternative to the regular management science courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

# Geography (Gpy)

Chairperson, Associate Professor  
Professors

B. Robinson  
D. Day, R. McCalla  
H. Millward  
P. J. Ricketts

Associate Professor

## General Information

In its broadest sense geography studies the relationship between people and their surroundings. It derives much of its educational value from its interdisciplinary approach to such relationships. At the same time it is a subject of practical importance in such fields as urban and regional planning, resource development, industrial location, marketing research and environmental management. The Geography Department has developed four major programs. The first is a general major which will be of particular interest to teachers and prospective geography teachers. The second structured major is for people interested in the field of urban and regional development. The third major is in coastal and marine studies while the fourth is in environmental studies.

## Departmental Policy

1. The department regards Gpy 200.0 as a service course for the university in general and a basic introductory course for geography majors and honors students. Higher level courses are designed to serve the interest of geography majors but may be of interest to students in cognate areas. In some cases, the department may allow a student from a cognate area to take the course without the stated prerequisite: for example, economics students may be admitted to Gpy 321.1(.2); 331.1(.2); and 341.1(.2). Similarly history majors may be allowed to take Gpy 429.1(.2).
2. The course content in most geography courses is cumulative.
3. Where a prerequisite is specified, a student wishing to take the course must have obtained at least a C grade in the stated prerequisite.
4. Normally 300 and 400 level courses are not open to students in their first year at university.
5. Students may enter courses without the stated prerequisites, providing they have permission of instructors.
6. Because program changes occur from time to time with renumbered or restructured courses, students are advised that they are not eligible to take a course for credit if they already have a credit for a comparable course, even if that course was taken at a different level or under a different number.

## General requirements for majors

1. To obtain a major in geography a student must complete the equivalent of seven university credits in geography.
2. The following courses are required for the major:
  - a. Gpy 200.0.
  - b. Three of Gpy 326.1(.2), Gpy 336.1(.2), Gpy 356.1(.2), Gpy 366.1(.2), and Gpy 446.1(.2), (although students are encouraged to take more than three).
  - c. The equivalent of a full course credit at the 400 level.
  - d. Three and a half other full course equivalents in geography.
3. In order to graduate with a major in geography, a student must obtain a quality point average of at least 2.00 in geography courses counting towards the major.
4. All majors must follow a program of study established in conjunction with, and approved by, a member of the Department

of Geography and must have the program approved by the department at the beginning of each year.

5. For more complete information on the geography program, the student should obtain a copy of *Notes and Guidelines for Geography Students* from the departmental secretary.
6. All majors should purchase a copy of *Goode's World Atlas* or the *Oxford World Atlas* (paperback version).
7. Gpy 326.1(.2), 336.1(.2), 356.1(.2), 366.1(.2) and 446.1(.2) are normally open only to declared geography majors and minor program students.

## Honors Program

1. To be admitted to the honors program a student must have a B standing in geography courses and have completed one year at the University. The candidate must have obtained satisfactory grades in non-geography courses.
2. To complete the program students must complete the following courses in geography:
  - a. Gpy 200.0.
  - b. Gpy 326.1(.2) and Gpy 336.1(.2).
  - c. Two of Gpy 356.1(.2), Gpy 366.1(.2), and Gpy 446.1(.2).
  - d. Gpy 406.1(.2) and Gpy 416.1(.2).
  - e. Gpy 526.0.
  - f. Seven other full course equivalents in geography.
3. Each year a student's program, including electives, must be approved by the department chairperson, and each year a B average in geography courses must be maintained.
4. Complete details regarding the program and honors research project are contained in *Notes and Guidelines for Geography Students and Regulations for Presentation, Submission and Marking of the Honors Research Project*.
5. In addition, students must meet the general Faculty of Arts requirements for honors students.

## Co-operative Education Program

The department offers a Co-operative Education Program for regular and honors students. In addition to meeting the general academic regulations which apply to Co-operative Education and those regulations which apply to majors and honors students in Geography, the department specifies the following regulations:

1. Major students in the Co-operative Education Program must complete satisfactorily three work terms. The normal sequence of academic study terms and work terms with the academic co-operative education core term is:

Fall 1A	Winter 1B	Summer H	Fall 2A	Winter 2B	Summer W1
Fall C	Winter W2	Summer W3	Fall 3A	Winter 3B	

Note: 1A, 1B, 2A . . . = Academic Terms; H = Home; W1, W2, W3 = Work Terms.

C = Academic Co-operative Education Core Term.

Terms C and W2 can be switched given departmental approval.

2. It is possible to combine Honors and Co-operative Education by fulfilling satisfactorily requirements for both programs. For exact details, see the departmental Co-operative Education Co-ordinator.

3. Normally at least two half credits from Gpy 326.1(2), 336.1(2), 356.1(2), 366.1(2), and 446.1(2) must be completed before the commencement of the first work term.

4. The academic co-operative education core term requires students to complete five half course credits approved from a departmental list of courses available from the departmental Co-operative Education Coordinator. One of these courses must be Gpy 346.1(2).

#### **Minor Program in Geography**

It is possible to minor in geography by completing the equivalent of four full course credits in geography. These courses should include Gpy 200.0, and two of 326.1(2), 336.1(2), 356.1(2), 366.1(2), and 446.1(2).

#### **200.0 Geography of Canada**

The course serves as an introduction to university geography with the focus on Canada. Canada as a geographical entity in a physical, cultural, political, and economic context is discussed. Case studies are taken from the various regions of the country. Topics for discussion include: the concept of region, the physical environment and its influence on human activity, the concept of resources and their distribution in Canada, the location and functions of Canadian settlements, and regional disparities.

Classes 2 hrs. a week and practical work 2 hrs. every second week. 2 semesters.

#### **302.0 The Geography of World Affairs**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

The course introduces students to various facets of geography and to different approaches to geographical analysis, through a study of major world problems including conflicts over the division of land, sea and outer space; relationships between population growth and resources, food supply and health problems; natural hazards; the effects of climatic change; levels of economic development; ethnic and religious conflicts.

Classes 3 hrs. a week. 2 semesters.

#### **303.1(2) The Natural Environment**

Prerequisite: Gpy 200.0.

This course presents a global approach to the study of physical geography. The characteristics of the major natural environments of the world will be examined, from polar deserts to equatorial rainforests. Emphasis is placed on climatology, soils, vegetation and geomorphology, and some of the major human impacts are discussed.

Classes 3 hrs. a week. 1 semester.

#### **304.1(2) Environmental Management**

Prerequisite: Gpy 200.0.

This course examines modern policy approaches to the management of environmental resources and landscapes. Specific environments and selected management issues focusing on the natural environment (such as soil erosion, water, pollution, and natural hazards) will be examined, together with methods of environmental planning and impact assessment.

Classes 3 hrs. a week. 1 semester.

#### **310.0 Geography of the United States**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

A geographical analysis of the United States. The first part of the course will discuss the following topics: the physical framework,

population distribution and trends, the location of economic activities, and regional interaction in the United States. This will be followed by an analysis of geographical patterns and characteristics of selected regions. The course will include a discussion, from the viewpoint of geography, of some of the major problems of present-day U.S.A.

Classes 3 hrs. a week. 2 semesters.

#### **311.1(2) Rural Geography**

Prerequisite: Gpy 200.0.

Examines the nature of rural settlement and land use in various cultural and technological settings. Emphasis is placed on agricultural patterns, and the changing organization of the countryside in modern societies. Topics include frontier settlement; land surveys; village morphology; land abandonment; farm enlargement and fragmentation; forestry, mining, and recreational uses; commuting; and conflicts over multiple land use and scenic preservation.

Classes 3 hrs. a week. 1 semester.

#### **312.1(2) Urban Land Use**

Prerequisite: Gpy 200.0.

The course analyzes the pattern of land use and the process of land use change in the city. Topics include: measurement and classification of land use; land use mix; models of the internal structure of cities; land values and land use zoning; the characteristics and use of residential, commercial, manufacturing land in cities; public and semi-public land; the impact of public policies on urban land use.

Classes 3 hrs. a week. 1 semester.

#### **313.1(2) Geomorphology**

[Geo 373.1(2)]

Prerequisite: Gpy 303.1(2) or Geo 200.0.

The study of geomorphological processes and related landforms, with an emphasis on fluvial activity. Processes of weathering, soil formation, slope development and river action will be discussed. Laboratory work will include methods of field and data interpretation, soil analysis, sediment analysis and geomorphological mapping.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester. Some field work may be required.

#### **314.0 The Oceans: A Physical Geography**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

This course begins with a study of the role of the oceans in the global environment. It considers the origin, nature, and distribution of ocean relief features, the principles and patterns of water circulation, and factors affecting the distribution and abundance of marine life. The implications of global climatic changes such as the Greenhouse effect on the oceanic environment will be considered, as well as the effects of the physical geography on human use of the oceans.

Classes 3 hrs. a week. 2 semesters.

#### **319.0 Cultural Ecology**

Prerequisite: Gpy 200.0.

Introduction to the study of the relationship between people and their environment, ranging from hunting and gathering societies to the industrial revolution.

Classes 3 hrs. a week. 2 semesters.

**320.0 Geography of Europe**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

An analysis of the physical, social, cultural and economic characteristics and problems of the region. Consideration will be given to external and internal relationships of the region and to the problems of and prospects for the region's economic development.

Classes 3 hrs. a week. 2 semesters.

**321.1(2) Geography of Manufacturing**

Prerequisite: Gpy 200.0 or Eco 201.1(2).

The course concerns the identification of key factors, and a discussion of their influence, in the geographical distribution and location of manufacturing industries. Both location theory and case studies are used to analyze the location of these industries. Examples include iron and steel, motor vehicles, and oil refining.

Classes 3 hrs. a week. 1 semester.

**322.1(2) Systems of Cities**

Prerequisite: Gpy 200.0.

Examines cities as nodes in a system, which interact both with each other and with the regions surrounding them. Emphasis is placed on changes in the function and importance of cities, and on implications for regional planning. Topics include urban functions, central place theory, the urban hierarchy, urban system development, transport and communication linkages, urban growth rates, metropolitan dominance, commuting zones, and the planning of city systems.

Classes 3 hrs. a week. 1 semester.

**324.0 Ocean Use and Management**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

A geographical study of the present and future uses of the oceans. Examination of the development and spread of new and traditional oceanic uses will focus attention on management issues. Course will include mineral and energy exploitation, fish production, fish "ranching" and mariculture, shipping, recreational uses, military uses, and ocean dumping. Regional case studies will be used to illustrate evolving concepts of oceanic management, including the use of computerized information systems.

Classes 3 hrs. a week. 2 semesters.

**325.1(2) Cross-listed as Geo 325.1(2).****326.1(2) Statistical Methods for Geographers**

Prerequisite: Gpy 200.0.

This course introduces students to methods and problems in the collection, description, and analysis of geographic data. Included are descriptive and inferential statistics for spatial data, regression and correlation, analysis of patterns, and use of statistical package programs.

Classes 2 hrs. and lab 2 hrs. a week. 1 semester.

**330.1(2) Geography of China**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

An analysis of the physical, social, cultural and economic characteristics and problems of the region. Consideration will be given to external and internal relationships of the region and to the

problems of and prospects for the region's economic development.

Classes 3 hrs. a week. 1 semester.

**331.1(2) Geography of Natural Resources and Energy**

Prerequisite: Gpy 200.0 or Eco 201.1(2).

The course begins by defining natural resources and discussing their geographical distribution on a world scale. It also considers their influence on economic development, settlement patterns, and world trade flows. Aspects of resource conservation and resource management are discussed. Particular emphasis is placed on energy: its distribution, influence and use.

Classes 3 hrs. a week. 1 semester.

**336.1(2) Principles of Cartography**

Prerequisite: Gpy 200.0.

An introduction to the design, compilation, and construction of maps and diagrams. Topics include map projections, scale change and generalization, lettering, symbolization, graphs, and colour. The major types of thematic mapping (proportional symbols, isopleths and choropleths) are studied.

Classes 2 hrs. and lab. 2 hrs. a week. 1 semester.

**340.1(2) Geography of Nova Scotia**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

This course explores the geographical diversity of the province, with particular emphasis on interrelationships between physical and human patterns. A section on the physical environment is followed by a discussion of settlement, cultural patterns, and economic development. Current issues of resource development, industrial reorganization, environmental management, and land use planning are addressed.

Classes 3 hrs. a week. 1 semester.

**341.1(2) Marketing Geography**

Prerequisite: Gpy 200.0 or Eco 201.1(2).

The course examines the location of wholesale, retail, and service establishments, both in theory and practice. Historical marketing systems (fairs, periodic markets, market towns, and the mercantile system) are studied and contrasted with central place theory and other location models. Spatial competition for markets is considered at the inter-urban, and local levels, and the design and location of planned shopping centres is examined.

Classes 3 hrs. a week. 1 semester.

**346.1(2) Directed Study for Co-operative Education Students**

Prerequisite: Gpy 200.0.

The course relates the student's co-operative education work experience to fundamental concepts in theoretical and applied geography. Particularly, the course focuses on the role of geography and geographers in the private business and public administration sectors.

Seminar 3 hrs. a week. 1 semester.

Note: This course is open only to students enrolled in the Co-operative Education program.

**350.0 Geography of the Soviet Union**

Prerequisite: at least 5.0 full courses (or half course equivalents) from a university.

An analysis of the physical, social, cultural and economic characteristics and problems of the region. Consideration will be



given to external and internal relationships of the region and to the problems of and prospects for the region's economic development.

Classes 3 hrs. a week. 2 semesters.

### **354.1(.2) Mankind and the Oceans: A Political and Historical Geography**

Prerequisite: one of Gpy 314.0 or Gpy 324.0.

A geographical examination of the role of the sea in exploration and discovery, and in international affairs. Through case studies the course will analyze the evolution of sea empires, the geographical background to maritime disputes and the delimitation of maritime boundaries and the use of the sea in military affairs.

Classes 3 hrs. a week. 1 semester.

### **356.1(.2) Remote Sensing of the Environment**

Prerequisite: Gpy 200.0.

A study of the principles and techniques used in the interpretation of air photographs and satellite imagery. The application of remote sensing to land use analysis and environmental management is stressed.

Classes 2 hrs. and lab 2 hrs. a week. 1 semester.

### **364.1(.2) Geography of Shipping**

Prerequisite: Gpy 200.0.

The course considers the spatial dynamics of the world shipping industry. Topics for discussion include: theories of international trade, oceanic shipping's importance to world trade, bulk trade patterns, general cargo trade patterns, the changing time-space relationships associated with increasing ship size and new types of ships and the importance and development of the world's merchant fleet with particular emphasis on Canada.

Classes 3 hrs. a week. 1 semester.

### **366.1(.2) Field Techniques and Research Methods**

Prerequisite: Gpy 200.0.

Topics include: the nature of geographic problems, formulating a research plan, locating and measuring field phenomena, spatial sampling designs, and questionnaire designs. Students will learn basic methods of field surveying, including triangulation and levelling.

Classes 2 hrs. and lab 2 hrs. a week. 1 semester.

### **370.0 Geography of Southeast Asia**

Prerequisite: a 200-level geography course or permission of instructor.

An analysis of the physical, social, cultural and economic characteristics and problems of the region. Consideration will be given to external and internal relationships of the region and to the problems of and prospects for the region's economic development.

Classes 3 hrs. a week. 2 semesters.

### **374.1(.2) Geography of Ports**

Prerequisite: Gpy 200.0.

The course considers the seaport as a modern transport node. Topics for discussion include: locational characteristics of ports; the "gateway" functions vs. the terminal function of port cities; the process of hinterland penetration and foreland development; and port competition and planning.

Classes 3 hrs. a week. 1 semester.

### **384.1(.2) Fisheries Development**

Prerequisite: one of Gpy 314.0 or Gpy 324.0, or ACS 310.0.

A study of the physical, economic, political, technological, and cultural forces that have shaped the geographical development of world fisheries. The course includes: a geographical analysis of the primary sector of the world industry; factors affecting the utilization, distribution and marketing patterns for fish and fish products; the role of the fishing port; locational analysis of fish processing facilities; fisheries management.

Classes 3 hrs. a week. 1 semester.

### **406.1(.2) Seminar in Theoretical Geography**

Prerequisite: seniors and honors students in geography.

Students will be made familiar with major advances in theoretical and philosophical aspects of geography.

Classes 3 hrs. a week. 1 semester.

### **412.0 Transportation Geography**

Prerequisite: the equivalent of a full credit in geography at the 300-level.

The course considers air and land transportation's influence on the location of activities on the landscape. The structure of transportation networks through the use of graph theory is considered. Flows, their cause, dimension, and allocation are discussed. Furthermore, two problem areas in transportation are analyzed: transportation's role in regional development, and the nature of transportation in cities.

Classes 3 hrs. a week. 2 semesters.

### **413.1(.2) Coastal Geomorphology**

Prerequisite: Gpy 313.1(.2).

The course discusses both the physical processes which operate in the coastal zone and the resulting forms of these processes. Particular emphasis is placed on the action of waves and tides in the formation of coastal features. The effects of wind and people acting as geomorphological agents and the classification of coasts are considered.

Classes 3 hrs. a week, including lab and practical work. 1 semester. Some field work may be required.

### **414.1(.2) Coastal Management**

Prerequisite: Gpy 304.1(.2) and the equivalent of one other full credit in geography at the 300 level.

Using a problem oriented approach, attention will be focused on the resource attributes of the coastal zone, the spatial organization of use that it supports and the areal impacts and conflicts that can occur at this land-sea interface. Techniques of resource evaluation will be reviewed. Concepts associated with the spatial aspects of coastal resource management will be discussed.

Classes 3 hrs. a week. 1 semester. Some field work may be required.

### **416.1(2) Seminar in Applied Geography**

Prerequisite: seniors and honors students in geography.

Role of the geographer and geographical studies in fields such as environmental, regional and urban planning; resource management; mapping and surveys; and marketing.

Classes 3 hrs. a week. 1 semester.

**423.1(2) Glacial and Periglacial Geomorphology  
[Geo 474.1(2)]**

Prerequisite: Gpy 313.1(2) or Geo 373.1(2).

The study of geomorphological processes and landforms in glaciated landscapes and periglacial environments. Particular emphasis will be laid on the effects of glaciation and periglaciation on the Maritime Region and Canada's northern lands respectively.

Classes 3 hrs. a week including lab and practical work.  
1 semester.

**429.1(2) Urban Historical Geography**

Prerequisite: the equivalent of one full 300 level geography course.

The geography of the city (its morphology and function) is employed as an indication of the landscape impression produced by various historical periods (conceived as cultures) during the evolution of urban forms in Europe and North America. Examples are taken in historical sequence from Greek to Industrial times.

Classes 3 hrs. a week. 1 semester.

**432.1(2) Social Geography of the City**

Prerequisite: Gpy 312.1(2).

Examines the location of residential areas in cities, and the differentiation and segregation of those areas by income, occupation, race, ethnic status, and religion. Emphasis is placed on the historical evolution of social patterns, on the link between social areas and the physical fabric of the city, on competition between groups for amenity locations and facilities, and on conflicts over noxious facilities.

Classes 3 hrs. a week. 1 semester.

**434.1(2) The Northwest Atlantic**

Prerequisite: one of Gpy 314.0 or Gpy 324.0 or ACS 310.0.

A geographical analysis of the physical environment of the Northwest Atlantic Ocean and of the evolution of political jurisdiction in the region provides the framework for a study of fisheries development, offshore oil and gas exploration, shipping, and other marine uses. Problems of regional oceanic management will also be studied.

Classes 3 hrs. a week. 1 semester.

**442.1(2) Urban Planning**

Prerequisite: Gpy 312.1(2).

Examines the physical and environmental planning of urban areas, with special reference to current practice in Nova Scotia. Topics include the emergence of modern town planning, the Planning Act, planning process, structure plans, general and partial urban allocation models, municipal plans, zoning, subdivision control, site planning, urban renewal, and new towns. The costs and benefits of planning are appraised.

Classes 3 hrs. a week. 1 semester.

**446.1(2) Computer Mapping and Geographic Information Systems**

Prerequisite: Gpy 336.1(2).

Introduces students to the principles and practice of inputting locational information to the computer, storing and manipulating it, and outputting it in the form of maps. Topics include digitizing (vector and raster formats), data structures, data manipulation, output devices, and software for image analysis, projections, and

thematic mapping. Familiarity with a computer programming language would be an asset.

Classes 2 hrs. and lab 2 hrs. a week. 1 semester.

**456.0 Directed Study**

Prerequisite: permission of chairperson.

An instructor will guide a student in topics of special interest that have been decided upon after consultation between student and instructor. The topics will be part of the special research interest of the instructor and of mutual interest to student and instructor.

**465.1(2) Cross-listed as Geo 465.1(2)****466.1(2) Directed Study**

Prerequisite: permission of chairperson.

An instructor will guide a student in topics of special interest that have been decided upon after consultation between student and instructor.

**526.0 Honors Research Project**

Prerequisite: honors standing in geography.

Honors students will be assigned to a research advisor who will guide the student in the formulation of the research proposal, the methodology to be followed during the course of the research and in the analysis and write-up of the research findings.

# Geology (Geo)

Chairperson, Associate Professor  
Professors  
Associate Professor  
Assistant Professor  
Adjunct Professors

G. Pe-Piper  
J. Dostal, Q. A. Siddiqui  
J. Waldron  
J. V. Owen  
D. Keppie, G. Williams

The Department of Geology offers programs of study for students enrolled in the degree of Bachelor of Science with concentration in geology and for those registered in the degree of Bachelor of Science with major and honors in geology.

The courses of the core program for a student majoring in geology are: Geo 200.0, 211.1, 213.2, 311.0, 322.0, 325.1, 413.1 and 457.0. Students are required to take at least one additional geology credit for a minimum total of seven full courses in the department.

The core courses for the honors program, in addition to those for majors, are 550.0 and one other credit in geology at the 500 level. Honors students must take sufficient additional geology courses for a minimum total of ten credits; Physics 221.0 and one credit in Chemistry at the 200-level are also required.

Students entering the major and honors programs in geology normally would initially take Geo 200.0, 211.1 and 213.2. Other science students interested in geology would take Geo 200.0. Geo 204.0 is designed chiefly for students in Commerce, Education and Arts including Atlantic Canada Studies. These two courses give a broad survey of the discipline. Either but not both of these courses may be taken as a science elective. In exceptional cases where a student has taken Geo 204.0 with high standing and then decides to major in geology, that course may, with the consent of the department, be accepted in the geology core program in lieu of Geo 200.0. Under special circumstances, some prerequisites for 300-, 400- and 500- level courses may be waived with the consent of the department. It is strongly recommended that all geology major and honors students take Geo 300.1(2).

Students should seek the advice of the department as to their elective and supporting courses. The supporting science courses in geology programs are, firstly, physics and chemistry; biology may also be elected.

Senior students are encouraged to participate in the research projects being carried out in the department.

In addition to the traditional program of study, the Department of Geology offers a Co-operative Education program in Geology (COEG). A description of the Co-operative program can be found later in this section.

## 200.0 Principles of Geology

The earth as a dynamically evolving planet and how we study it; its rocks and minerals; surface processes of erosion and deposition by water, wind and glacial ice; the fossil record and measurement of time; internal processes active within the earth that give rise to volcanoes, earthquakes, continental drift, and the generation of new ocean floors. Geological evolution of North America.

Laboratories include field trips, geological maps and mapping, and recognition of minerals and rocks.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 201.1(2) Geology for Engineers

Physical geology; rock forming minerals, igneous, metamorphic and sedimentary rocks. Diastrophism, geological processes.

Introduction to earth history, identification of rock forming minerals and rock types. Interpretation of geological and topographic maps and aerial photographs.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 204.0 The Earth: Atlantic Canada Perspective

Towards an understanding of the earth around us and the processes which affect it. Continental drift and the earth history as traced through rock and fossil records. Recognition and interpretation of common earth features and materials. Geology of Atlantic Canada and its economic mineral resources will be emphasized. Intended mainly for non-science students including those in Atlantic Canada Studies.

Classes 3 hrs. a week. 2 semesters.

### 211.1 Mineralogy

Prerequisite: Che 101.0 and Phy 111.0 or equivalents and Geo 200.0 (all of which may be taken concurrently).

A systematic study of minerals including their crystallography, structure, chemical compositions, physical properties and identification.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 213.2 Optical Mineralogy

Prerequisite: Geo 211.1 and 200.0 (which may be taken concurrently) or permission of department.

Optical properties of minerals. Determinative mineralogy with emphasis on the optical methods of mineral identification. Petrography of the more common rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 300.1(2) Field Methods

Prerequisite: Geo 200.0 and attendance at field camp.

This integrated lecture-laboratory-field course gives essential practice in basic field techniques used by geologists including recording observations, surveying and geological mapping. Data collection and preliminary work for the course must be carried out in advance, during approximately 10 days attendance at field camp.

Classes 3 hrs. a week plus fieldwork. 1 semester.

### 305.1(2) Geophysics

Prerequisite: Phy 221.0 or equivalent.

The physics of the earth, including rotation, gravity, seismology and internal structure, geomagnetism and palaeomagnetism, rheology, radioactivity, and the earth's heat. The application of physics to geological exploration, including seismic, magnetic, gravity and electrical methods.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### 312.1 Igneous Petrology

Prerequisite: Geo 200.0 and Geo 213.2.

The mineralogical and chemical characteristics of igneous rock associations. The origin of magmas and igneous rocks. Classification, petrography, tectonic setting and origin of igneous rocks. Laboratory work involves hand specimen and microscopic investigation of igneous rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**313.2 Metamorphic Petrology**

Prerequisite: Geo 200 and 213.2.

Description, classification and interpretation of metamorphic rocks. Progressive metamorphism of mafic, pelitic and carbonate rocks. Introduction to chemographic analysis, geothermobarometry, and reaction balancing methods. Laboratory work involves the study of metamorphic rocks in hand sample and thin section.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**322.0 Palaeontology**

Prerequisite: permission of department.

Fossils, their nature and mode of preservation, the morphology classification and stratigraphic ranges of the main groups of invertebrate fossils. Introductory micropalaeontology. Elementary vertebrate paleontology. Ecological interpretation.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**325.1(2) Stratigraphy and Sedimentation**

[Gpy 325.1(2)]

Prerequisite: Geo 200.0 or Gpy 200.0.

Principles of lithostratigraphic and biostratigraphic correlation. Description of common sedimentary rock types, stratigraphic sequences, and unconformities. Processes of sedimentation and the origin of sedimentary structures. Interpretation of sedimentary rocks in the light of comparison to modern depositional environments.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**326.1(2) Sedimentary Petrology**

Prerequisite: Geo 325.1(2) and Geo 213.2 (which may be taken concurrently).

Mineralogy, petrology, and origin of the main groups of sedimentary rocks. Laboratory work involves hand specimen and microscopic investigation of sedimentary rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**330.1(2) Introduction to Micropalaeontology**

Prerequisite: permission of department.

Techniques for the collection, preparation and identification of microfossils. Major groups of microfossils and their industrial use, especially in the petroleum industry.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**355.0 Analytical Chemistry for Chemists and Geologists (Che 331.0)**

Prerequisite: Che 201.0.

An integrated lecture-laboratory course at the intermediate level with emphasis on analytical methods of importance to chemists and geochemists.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**373.1(2) Geomorphology**

[Gpy 313.1(2)]

Prerequisite: Geo 200.0.

The study of geomorphological processes and related landforms, with an emphasis on fluvial activity. Processes of weathering, soil formation and characteristics, landsliding and slope development will be discussed. Laboratory work will include methods of field and data interpretation, soil analysis, sediment analysis and geomorphological mapping.

Classes 3 hrs. and lab 1/2 hr. a week. 1 semester.

**413.1(2) Structural Geology**

Prerequisite: Geo 200.0.

Mechanical behavior of rocks in the earth's crust. The primary and secondary structures of rocks. The geometry and dynamics of structures in layered and massive rocks. Laboratory includes analysis of structures using graphical and stereographic projection techniques and interpretation of geological maps and aerial photographs. It is recommended that students take Geo 300.1(2) — Field Methods — before taking this course.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**414.1(2) Global Geology**

Prerequisite: Geo 311.0 and 413.1 (which may be taken concurrently).

Global aspects of regional geology related to plate tectonics, geochemistry and experimental and theoretical petrology. Analysis and interpretation of major structural provinces as they relate to plate interactions and metallogenesis. Areas of specific emphasis may vary from year to year.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**450.1(2) Advanced Igneous Petrology**

Prerequisite: Geo 311.0.

Genesis of magmas, magma types, petrographic provinces and their distribution in time and space and their relations to their tectonic setting. Differentiation indices, variation diagrams, distribution trends of major and trace elements. Equilibrium and fractional crystallization in selected synthetic systems and their application to natural systems. Study of selected suites of igneous rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**451.1(2) Advanced Metamorphic Petrology**

Prerequisite: Geo 311.0.

The topics covered in this course include phase equilibria in metamorphic systems, stability of metamorphic minerals and mineral assemblages, study of individual metamorphic facies using type examples, and the concept of facies series and the petrogenetic grid.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**453.1(2) Principles of Geochemistry**

Prerequisite: Geo 200.0.

Principles of distribution of elements in the solar system, in rocks, and in minerals. Chemical processes of geological importance. Chemical interpretation of geological processes in aqueous environments, diagenesis, igneous and metamorphic rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**454.1(2) Applied Geochemistry**

Prerequisite: Geo 453.1(2).

The application of geochemistry to prospecting for minerals and oil fields; methods of sampling and analysis; statistical evaluation of geochemical data; cycling of geochemical species in the environment.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**457.0 Economic Mineral Deposits**

Prerequisite: Geo 200.0.

The nature, occurrence, origin and classification of mineral deposits. The principles and application of geology and geochemistry to mineral exploration. Laboratory includes the

study of suites of samples representing major types of metallic and non-metallic mineral deposits and discussion of exploration methods and property evaluation.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**462.1(.2) Micropalaeontology of Ostracoda and Foraminifera**  
Prerequisite: Geo 322.0 or 330.1 (which may be taken concurrently).

A detailed study of Ostracoda and Foraminifera with particular reference to their morphology, taxonomy, ecology, and biostratigraphy. The use of these microfossils in oil exploration will be emphasized.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**465.1(.2) Sedimentology**  
[Gpy 426.1(.2)]

Prerequisite: Geo 325.1(.2) or Gpy 325.1(.2).

Modern sedimentary environments and their preservation in the stratigraphic record. Analysis and interpretation of stratigraphic sequences in ancient sediments.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**466.1(.2) Petroleum Geology**

Prerequisite: permission of department.

The origin, migration and accumulation of oil and natural gas. Types of oil bearing structures and basic principles in oil exploration.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**474.1(.2) Glacial and Periglacial Geomorphology**  
[Gpy 423.1(.2)]

Prerequisite: Geo 373.1(.2).

The study of geomorphological processes and landforms in glaciated landscapes and periglacial environments. Particular emphasis will be laid on the effects of glaciation and periglaciation on the Maritime Region and Canada's northern lands respectively.

Classes 3 hrs. a week. 1 semester. Some field work is required.

**513.1(.2) Tectonics**

Prerequisite: 5th year honors standing.

Major geologic structures and tectonic patterns. Ocean basins, ridges and trenches. Plate tectonics. Geosynclines and continental shields. Evolution of the earth.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**516.1(.2) Precambrian Geology**

Prerequisite: 5th year honors standing or permission of department.

General characteristics of Precambrian rocks throughout the world. The lithology, tectonics and chronology of the Canadian Precambrian shield. Evolution of the early crust of the earth. Special problems of Precambrian geology.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**530.1(.2) Directed Study in Geology**

Prerequisite: 5th year honors standing or permission of department.

Intended to supplement or provide an alternative to the regular geology courses in order to meet the special needs and interests of students. The course provides an opportunity to study a

particular subject in detail and requires from the student some measure of independence and initiative.

Classes 72 hrs. per semester; classes and labs.

**540.1(.2) Special Topics in Geology**

Prerequisite: 5th year honors standing or permission of department.

Readings and discussions of current literature in geology on selected topics. Such topics as plate tectonics, geochemistry, statistics in geology, isotope geochemistry, petrogenesis, ore genesis, may be included.

Classes 72 hrs. per semester; classes and labs.

**550.0 Honors Project**

Prerequisite: honors standing and permission of department.

Research project carried out under the supervision of one member of the department or jointly by more than one faculty member. Originality of the research project is emphasized.

**565.1(.2) Advanced Sedimentology**

Prerequisite: 5th year honors standing.

Facies models, environmental interpretation, and basic analysis applied to modern and ancient sediments. Diagenetic changes in sedimentary rocks.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**Co-operative Education in Geology (COEG)**

This program, which is available at both the major and honors level, integrates on-the-job experience and academic studies. Upon completion of one of the COEG programs, the student receives the Bachelor of Science degree in Geology, at the major or honors level, with the added qualification of "Co-operative Education".

Entrance to the program is determined at the end of the first semester of the first year and will be based on the student's grades. Final decision on admission to the program will be at the end of the second semester. The students are expected to apply for the program. The school year is divided into 3 four-month terms (September-December, January-April and May-August) and the student is required to complete a series of academic terms (AT) and work terms (WT) as outlined in the following schemes.

**B.Sc. with Geology Major (COEG)**

Year	Term		
	Sept.-Dec.	Jan.-Apr.	May-Aug.
1 (N.S. Grade 12 or equivalent)	AT	AT	—
2 (Sophomore)	AT	AT	WT
3	AT	AT	WT
4	AT	AT	WT
5	WT	AT	

— Year 1 is equivalent to N.S. Grade XII: students receiving advanced standing in 5.0 Grade XII subjects enter the program at Year 2.

— program consists of 8 academic terms (AT) and 5 work terms (WT) spread over almost 5 years (4 years from N.S. Grade XII).

— students must satisfy the same academic requirements as non co-operative students for a major degree.

**Honors B.Sc. in Geology (COEG)**

Year	Term		
	Sept.-Dec.	Jan.-Apr.	May-Aug.
1 (N.S. Grade 12 or equivalent)	AT	AT	—
2 (sophomore)	AT	AT	WT
3	AT	AT	WT
4	AT	WT	WT
5	AT	WT	WT
6	AT	AT	

- Year 1 is equivalent to N.S. Grade XII: students receiving advanced standing in 5.0 Grade XII subjects enter the program at Year 2.
- program consists of 10 academic terms and 6 work terms spread over almost 6 years (5 years from N.S. Grade XII)
- students must satisfy the same academic requirements as non co-operative students for an honors degree.

In general, the COEG programs take one year longer to complete than the corresponding traditional programs but the academic content is the same. Students may, with the permission of the department, transfer from the COEG programs to the non co-operative programs at any time. Transfers from the traditional programs to COEG are not permitted after the spring term of Year 2. Fees for the COEG program are as follows:

- a. Students pay for their academic courses as they take them; and
- b. Students pay a fee equivalent to a half credit for a work-term they undertake. This amount is paid to the Business Office within one month of the start of the work-term.

Placement for work terms is arranged by the department in consultation with the student and the employer. The student's salary and benefits will be determined by the policies of the employer. A faculty advisor is available throughout the year to assist students concerning their studies and work terms. Work term reports are required and graded and, along with the employer's assessment, form the basis for a final grade for the work term (pass/fail). A student who fails a work term will not be permitted to continue in the COEG program.



# History (His)

Chairperson, Associate Professor  
Professors

B. Kiesekamp  
D. O. Carrigan, E. Haigh  
C. Howell, J. Reid  
R. Twomey, G. F. W. Young  
R. Bollini, R. H. Cameron  
W. Mills, J. H. Morrison  
R. Twomey  
J. Lee

Associate Professors

Assistant Professor

## Departmental Policy

To obtain a major concentration in history, students must complete at least 6.0 full university history courses (or half course equivalents). These must include:

- a. His 300.0
- b. 1.0 course at the 500 level
- c. the remaining 4.0 courses are to be selected to include at least 2.0 at the 300 level chosen from different geographical and subject areas as defined below:
  - (i) North America.
  - (ii) Europe (including Britain, Russia and the U.S.S.R., Classical Greece and Rome), and the History of Science.
  - (iii) The Third World.

The program of each student must be approved by the department.

All prospective honors students should refer to the section of this Calendar pertaining to honors degrees and apply to the Registrar for enrolment in that program after their first year at the University.

Candidates for an honors degree must satisfy the requirements of the major program. They must also complete one additional full history course equivalent at the 300 level; two additional courses at the 500 level, and His 500.0 (the honors essay). The program of each student must be approved by the department.

All students majoring in history are strongly advised to take two university courses in a foreign language. In the case of students concentrating in Canadian History, French is specified as the recommended language.

Graduate students should refer to the material entitled "Master's Degree" which is found in Section 3 of this Calendar.

## General Course Description

- a. History courses numbered on the 200 level are survey courses open to students with no university credits in the discipline. They are normally lecture courses; some combine lectures with small tutorial group meetings.
- b. To register for a course on the 300 level, a student must have at least one university course in history, though it need not necessarily be in the same area of the discipline. Exceptions may be made only with the permission of the chairperson. 300 level courses are usually structured to consist of both lectures and seminars.
- c. History courses on the 500 level are normally seminar courses designed for advanced work by history majors and honors students in their junior and senior years, and for M.A. candidates.
- d. History courses on the 600 level are graduate courses. Courses on the 300 level may often be taken for graduate credit and are designated as having two numbers in the Calendar; for example, 340.0 (640.0). Graduate students taking such courses

will be expected to attain a higher level of achievement and may be required to do additional assignments.

e. With renumbered or restructured courses, students are advised that they are not eligible to take a course for credit if they already have a credit for a comparable course, even if that course was taken at a different level.

## 201.0 Civilization in the West

A course designed to explore the origins and development of the characteristic political, legal, and cultural institutions of Western Civilization and its impact on other cultures.

## 203.0 The Twentieth Century

An historical approach to the major problems of our time. Emphasis will be placed upon the backgrounds to World Wars I and II, the emergence of the United States as a world power, the Communist Revolution and its impact and the problems of industrial society.

## 209.0 East Asia

This course studies the traditional civilization of East Asia and its modern transformation. In the early part of the course, various aspects of the traditional cultures of East Asian societies will be studied. This will then be followed by an examination of the developments which have greatly changed them since the 19th century.

## 221.0 The British Experience—from Primeval Beginnings to the Modern Age

This course explores the great landmarks and concerns of British history—in politics, in social and economic institutions and practices, in culture and ideas—during two thousand years of change and continuity.

## 231.0 Canada to Confederation

This course will examine early Canadian history from the time of the first Indian-European contact up until Confederation. Emphasis will be placed on the development of New France/Lower Canada, Upper Canada, and the West. Political, social, and economic themes will be considered.

Note: Students who have received credit for His 230.0 may not enrol in this course.

## 232.0 Canada: Confederation to the Present

The shape of political culture in modern Canada. The debate between the advocates of the nation state and of federalism and the impact of industrialization, regionalism, war and depression on that debate.

Note: Students who have received credit for His 230.0 may not enrol in this course.

## 240.0 North American Social History

An introductory survey of Canadian and American social history. Topics such as crime, the permissive society, marriage and the family, prejudice and discrimination, and social welfare will be examined in historical perspective.

## 250.0 The United States to 1877

A course dealing primarily with the major themes of American history from the colonial period to the Civil War and Reconstruction; the origins and nature of American government, politics, and society; the origins of slavery and racism; expansion. These themes will be approached through a study of the major groups and events in American history (the New England Puritans, the Founding Fathers, Southern slaveholders;

the American Revolution, the Civil War), as well as major political figures from Thomas Jefferson to Abraham Lincoln.

#### **251.0 The United States: 1877 to the Present**

A course concerned with the impact of modern industrialism on American society since 1877. Included is an analysis of the changing nature of American foreign policy, new relationships between business, labour and agriculture, and the impact of industrialism on liberal democratic thought and culture.

#### **300.0 (600.0) Introduction to the Study of History**

This course addresses the nature of historical study, that is, the theories, methods, principles and problems associated with the discipline of history. It examines the following basic areas of historical inquiry: the purposes of historical study; the relevance of the past; the relationship between the past and present; the nature and validity of historical knowledge; the relationship of history to other disciplines; and the current state of historical explanations and of historical explanation as such.

#### **301.0 (601.0) History of Greatness and Decay**

This course will explore the long-standing historical question of "rise and decline" by comparing the imperial histories of such great and famous nations of the past as: Athens and Sparta; Rome and Byzantium; Florence and Venice; Spain and the Ottoman Empire; 18th Century France and 19th Century England; and the contemporary situation of the United States and the Soviet Union.

#### **302.0 (602.0) Enlightenment**

The aim of this course is the study of the intellectual revolt which we know as the Scientific Revolution of Western Europe. The point is to examine man's reinterpretation of the natural universe in the context of the philosophical, cultural and social milieu of the 16th, 17th and 18th centuries.

#### **303.0 (603.0) Tudor and Stuart England**

This course is a survey of English history from the accession of Henry Tudor in 1485 to the Restoration in 1660. It includes an examination of the Tudor monarchy, the nature, causes and effects of the English Reformation, the Elizabethan Age, the constitutional conflicts during the reigns of James I and Charles I, the Civil War, the establishment of the Commonwealth and the Cromwellian Protectorate.

#### **304.0 (604.0) Europe 1815-1945**

An examination of the political, social, and economic history of Continental Europe focusing on France, Germany, and Italy from the end of the Napoleonic Era to the Allied victory in World War II. In particular the social and economic developments underlying the rise of Liberalism, Imperialism, Socialism, and Fascism, and the causes and consequences of World Wars I and II will be considered in some detail.

#### **305.0 (605.0) History of Russia and the U.S.S.R.**

An introductory survey beginning with the establishment of Kievan Russia and ending with a glance at Soviet society in the 20th century.

#### **306.0 (606.0) Images and European History**

Since its beginning, Western culture has been accompanied by pictures as both illustration and vindication. This is a course about pictures and what can be pictured. Students will deal with much already familiar to them, and sources will range from St. Augustine to the photographers of the Farm Security Administration.

#### **307.0 (607.0) Science in the West Since 1500 A.D.**

An examination of the development of western science, concentrating on the period between the Scientific Revolution and

the end of the 19th century. The emphasis will be on science as a cultural and intellectual phenomenon.

#### **309.0 (609.0) The Old World and the New: Transformations of European Ideals in Canada and the United States**

The European confidence in the nation as the vehicle for the largest aspirations of men in community. Qualifications and revisions of this ideal in North America. War, the structure of law, the limits of rational government. Topically organized, the course will draw from the history of the 18th, 19th and 20th centuries.

#### **310.0 (610.0) Anglo-American History: Studies in Pre-Industrial Labour and Culture, 1600-1865**

This course examines "pre-industrial" working people (slave and "free") from a comparative perspective. It begins with an overview of the various historical stereotypes of American and English crowds in the 18th century, American slaves from the 17th to the 19th centuries, the English radical and working class movements at the time of the American Revolution. It then looks at the political, economic and cultural lives and attitudes of these groups. Was there a distinctive "popular culture" in history? Did common people have significant ideas and play an active role in the making of history?

#### **311.0 (611.0) Health, Sport and Leisure in Victorian Society**

This course deals with the concern for healthy bodies and minds in Victorian Britain and North America. It will address a range of issues including the professionalization of medicine and psychiatry, attitudes toward body and mind, the preoccupation with moral and physical degeneracy, the rise of organized sport, and the notion of social regeneration.

#### **312.0 (612.0) Medieval Europe: the Birth and Progress of a Great Civilization**

With the decline of Imperial Rome, Europeans were obliged to recreate for themselves the basic institutions and practices of a viable society. The course is concerned with their endeavours and achievements, from the first onslaught of the barbarian hordes to the heights of Medieval culture and onward to the dawn of the Renaissance.

#### **313.1(.2) [613.1(.2)] The First British Empire**

A study of British colonial expansion from Elizabeth I to George III. This course will concern itself with British overseas endeavours of the "First British Empire", and with Britain's conflicts with the rival overseas empires of Spain, Portugal, Holland and France.

Note: Students who have received credit for His 305.0 may not enrol in this course.

#### **314.1(.2) [614.1(.2)] The British Empire—Commonwealth**

A study of British imperial expansion and decline in the 19th and 20th centuries. This course will concern itself with the theory and practice of imperialism of the "Second British Empire", and with the economic basis of British power.

Note: Students who have received credit for His 305.0 may not enrol in this course.

#### **315.0 (615.0) Britain in the 19th Century: The Leading World Power in a New Age**

The Modern Era was preceded by a great transformation from rural, agrarian, hierarchical to urban, industrial, pluralistic societies. The course explores the earliest occurrence of this process—in Britain—and traces her ascent to the heights of Victorian achievement and preeminence among nations.



**316.1(.2) [616.1(.2)] Africa in the 19th Century, Intrusion and Conquest**

This course will outline the nature, values and history of traditional African societies; it will examine the intrusion, partition and conquest of those societies by Europeans in the 'Scramble for Africa'.

Note: Students who have received credit for His 321.0 (621.0) may not enrol in this course.

**317.1(.2) [617.1(.2)] Africa in the 20th Century, Colonialism and Independence**

An examination of the activities of the colonial powers in governing the territories and peoples which they had acquired in the 'Scramble'. The course will also study the reactions of Africans to colonialism and the factors which led to independence.

Note: Students who have received credit for His 321.0 (621.0) may not enrol in this course.

**318.0 (618.0) The United States in the 20th Century**

A history of the United States in the 20th century with the main emphasis on political development.

**319.0 (619.0) Canadian-American Relations**

This course will examine basic developments in Canadian-American relations. Political as well as social, economic, and religious trends will be analyzed. Some opportunity will be afforded students to use the vast quantity of primary source material at the Public Archives of Nova Scotia.

**320.0 (620.0) The Atlantic Provinces and New England 1534-1974**

An examination of the relationship of New England and the Atlantic Provinces undertaken from a comparative point of view. This course deals with political, economic, and religious trends common to the experience of both communities.

**322.0 (622.0) South Africa**

A study of the complex relationships and conflicts arising from different cultures, religions, and skin colours from the 17th century to the "apartheid" state of the mid-20th century.

**323.0 (623.0) China Before 1800**

This course studies the history of China from the earliest times to the end of the 18th century. The first term covers up to around A.D. 960; the remainder is dealt with in the second term. Special attention will be paid to the changes in cultural, institutional and societal patterns over the time.

**324.0 (624.0) History of Japan**

This course studies the history of Japan from the beginning to the present, focusing on social, institutional and cultural developments. Emphasis will be placed on the traditional aspects, but the transformation of Japanese society since the late 19th century will also be explored.

**325.0 (625.0) Asian Crossroads: Southeast Asia from 1600 to Independence**

This course will concentrate on the vibrant and sometimes turbulent countries of Southeast Asia. This area, including Burma, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam, has been a confluence for commercial trade and cultural influence for centuries. The course will begin with the indigenous kingdoms and societies, trace European, American, and Asian expansionism and the resultant resistance to it, and examine the rise of the nationalist movements leading to independence in the second half of this century.

**326.1(.2) [626.1(.2)] History of West Africa: 1600 to 1960**

This course will examine the age of African empires, the European intrusion and imperial expansion, the Islamic revolution, and the slave trade through to independence in the 1960s. The course will also include some analysis of methodology used in African history including archaeology and oral tradition.

**327.1(.2) [627.1(.2)] Imperial Spain and Portugal**

A study of the history of Spain and Portugal from their Roman beginnings to the middle of the 17th century. Special attention will be focused on late Medieval Iberian society as the backdrop to the exploration of the "Ocean Sea" and the rise of the Spanish and Portuguese Empires.

Note: Students who have received credit for His 326.0 (626.0) may not enrol in this course.

**328.1(.2) [628.1(.2)] Modern Spain and Portugal**

A study of the history of Spain and Portugal from the middle of the 17th century to the present. Special attention will be focused on the change of dynasty and the coming of the Enlightenment in the 18th century, the final loss of empire during the cataclysm of the Napoleonic Wars, and the ideological conflicts and Civil War of the 19th and 20th centuries.

Note: Students who have received credit for His 326.0 (626.0) may not enrol in this course.

**329.0 (629.0) History of Canada 1849-1920**

This course deals with the problems arising from the attempt to build a British North American nation in the age of Macdonald and Laurier.

**330.0 (630.0) American Social and Intellectual History**

Broadly defined, a study primarily of the political and social thought of a variety of groups in American history from the colonial period to the present. Special emphasis on the history and current status of the American conservative, radical, and liberal traditions. Groups, ideas, themes may differ from year to year.

**331.0 (631.0) The American Revolution, 1763-1789**

A consideration of the causes and consequences of the American Revolution from several viewpoints—including military, political, social, economic, religious—and the Loyalist experience.

**332.0 (632.0) Canadian Social History, 1760-1930**

This course will trace the development of British North America from a group of predominately agricultural, rural French-English colonies to an industrialized, urban, mixed-ethnic nation. Particular attention will be given to the process of Canadianization and the impact of industrialization on social institutions, working conditions, cultural activities, political ideas and economic development between 1867-1930.

**333.0 (633.0) History of Canada in the 20th Century**

A course designed to examine the emergence of Canada's social, political, and economic structures in the 20th century. Some attention will also be given to Canada's role as an emerging world power, her relationship with the United States and her role within the British Empire and Commonwealth.

**334.0 (634.0) Myth and History: The Problem of Interpreting Human Existence**

Man's search for meaning. The life of man in relation to his own past and that of his communities; the question put to Marc Bloch: "Papa, what good is history?" Students in this course co-register in Rel 306.0.

**335.0 (835.0) Restoration and 18th Century Britain: War, Revolution and Empire, 1660-1815**

Britain from the mid-17th century Revolution to the struggle with Napoleon. The course deals with the resolution of the great 17th century conflicts, the emergence of a new stability and challenges to it from within and without in the half century before Waterloo.

**339.0 (639.0) Russia and the U.S.S.R. since 1917**

This course will deal with Russia and the Soviet Union from the abdication of Tsar Nicholas II to the post-Khrushchev period. There will be an attempt made to examine the discrepancies between the theory of communism and its practice, and the possible reasons for that discrepancy. Some time will be spent considering the situation of religion, culture and the arts in the U.S.S.R.

**340.0 (640.0) History of the Atlantic Provinces**

Commencing with the earliest European contact with the region, this course will concentrate on the period after the beginning of permanent settlement. Special emphasis will be given to Nova Scotia as an area of severe clashes between the Indian and European cultures, of intense English-French rivalry, and later of the problems in adopting traditional British models of government, settlement, and society to a colonial region.

**341.0 (641.0) China and Japan in the 20th Century**

This course studies the history of China and Japan since the middle of the 19th century. The course will centre around two major themes: modernization and national-building. The experience of each country will be compared and contrasted and then explained in relation to its respective historical background.

**342.0 (642.0) China in Revolution 1840 to Present**

This course introduces various aspects of traditional Chinese social order such as religion and village life and, based on this introduction, surveys both the period of upheaval in Chinese society from 1840-1949 and China in revolution from 1949 to present. The intent is to evaluate the impact of sweeping social change on Chinese society.

**343.0 (643.0) To the Great War**

Between the time of Napoleon and World War I, Europeans came to agree to a remarkable extent on a lexicon of political concepts such as honor, duty, citizen/subject, nation and democracy. This course will examine these and similar concepts, particularly the consensus with respect to war as both a supreme test of the community and the agency of its freedom. Emphasis is on Britain, France and Germany.

**344.0 (644.0) History of Nova Scotia**

This course will examine political, economic and intellectual aspects of Nova Scotian development.

**345.0 (645.0) History of the Ethnic Groups and Minorities in Nova Scotia**

This course will consider the historical experience of such ethnic groups and minorities as the Acadians, the Blacks, the Native Peoples, the Irish and the Scots within the context of the history of Nova Scotia from the 18th century to the present.

Note: Students cannot receive credit for both His 345.0 and 346.1(.2).

**346.1(.2) [646.1(.2)] Black Heritage in Maritime Canada**

This course will provide a historical survey of the Black population in Maritime Canada, its origins, socio-economic conditions and evolution to the present.

Note: Students cannot receive credit for both His 345.0 and 346.1(.2).

**347.0 (647.0) Blacks in Canada**

A course dealing with Black history in Canada to the present. Issues to be addressed include Black immigration and settlement, slavery, Black Loyalism, colour and prejudice, religion and education, characteristics and institutions of the Black community, Black identity, and contemporary institutions and values.

**348.0 (648.0) Modern Nationalisms and the Canadian Experience**

Nationalism, in a multitude of forms, has been the most important and convulsive force over the past 200 years. Concrete examples from Europe and Africa will be used to develop a system for categorizing different types of nationalisms. This system will be applied to Canadian examples (French-Canadian nationalism, imperialism, Quebecois nationalism, 'federalism' and the 'Dene Nation').

**349.0 (649.0) Canadian Labour History**

An examination of the development of labour in Canada in both its institutional and non-institutional forms, during the years 1800 to 1960. Topics will include the frontier labourer, growth of trade and industrial unions, conditions of living and working, class structure, women in the workplace, farmer-labour coalitions, worker education, the labour press, and strike activity.

**350.0 (650.0) Cross-listed as Classics 303.0****351.0 (651.0) Cross-listed as Classics 304.0****360.0 (660.0) A History of Women in the Western World**

A survey which examines the role of women in western civilization from the post Roman and early Christian world to the 20th century. This course will especially concern itself with an historical perspective of women's participation in the social and economic life of their communities.

**361.1(.2) [661.1(.2)] Canadian Business History, 1820-1867**

Between 1820 and Confederation, British North Americans came to accept the view that the development of an enterprising business sector was necessary for the survival of a British nationality in North America. This course will examine the origins of this consensus and the impact it had on the way the business community conducted its affairs in the period 1820 to 1879.

**362.1(.2) [662.1(.2)] Canadian Business History, 1867-1920**

In this period, corporate business in Canada increasingly came to identify its objectives and goals with those of the nation. This course will examine how this self-understanding determined both the corporate strategy of the business sector and the contribution it made to society at large.

**363.1(.2) [663.1(.2)] Canadian Business History, 1920 to the Present**

This course will attempt to assess the impact of the following developments on business enterprise, on its relation to the state and on its identification with the goals of the nation: regionalism, separatism, depression, war and the relationship of Canada to the United States.

**365.0 (865.0) The History of Religion and Civil Life in Canada [Rel 365.0 (465.0)]**

This course will assess the contribution religion made to the shaping of an absolutist and national allegiance in Canada. One of its large concerns will be to detail the impact of pietism, revivalism and Christian renewal movements on an anti-statist or federalist political allegiance.

**372.1(.2) [672.1(.2)] Common History: Sources and Methodology**

This course will examine local history with particular reference to the Atlantic Region. Documentary and non-documentary sources

will be examined and methodology for local history research established. This course will be of interest to those who have an interest in local, ethnic and family history.

**373.1(.2) [673.1(.2)] Voices of the Past: Oral Research Methodology**

This course examines historical methodology with particular attention to the use of oral research. In areas where there is little documentation, such as labour, ethnic or community history, oral research is of vital importance and represents in an age of instant communication, an integral part of contemporary history. The theoretical and practical use of oral sources will be examined and methodology, technique and interviewing experience will be included with particular reference to the Atlantic region.

**375.0 (675.0) Modern Latin America**

A survey of the emergence and historical development of the Latin American nations since their independence from Spain and Portugal in the early 19th century. The course will focus especially on the political, economic and social evolution of the more populous nations.

**380.0 (680.0) Latin America in the 20th Century**

This course deals with the transformation of Latin America during the 20th century. It focuses on issues such as the integration of national economies into a global system; the rural-urban transition; the diversification of social groupings; the varieties of political experience; and relationships with the outside world. Case studies such as Argentina, Chile, Brazil, Cuba, Mexico and Central America illustrate the complexity of Latin America's modern history.

**385.0 (685.0) The Third World Since 1500 (IDS 385.0)**

Prerequisite: a course in history.

Selected African, Asian and Latin American societies will be examined especially with regard to the impact of European expansion and conquest since 1500 on what is now called the Third World. The resistance of the Third World to colonialism will provide a context for understanding the forces and events which led to independence (post 1945) and the rise of the 'global village' of the 1990s.

**390.0 (690.0) History of Asians in Canada**

Asians have always played a significant part in the history of Canada from the arrival of the Chinese in the 19th century to the present coming of the Vietnamese. This examination of the historical experience of Asian Canadians will interest majors in Asian Studies and Canadian Studies, teachers and officials of multiculturalism as well as students of race and ethnic relations.

**391.0 (691.0) East Asia and the West**

This course studies the relationship between East Asian countries and the West in both historical and contemporary settings. The course will cover such topics as trade, cultural exchange, Christian missions in East Asia, the European expansionism and colonialism in East Asia. The course will try to establish not only the nature of East-West relationships throughout history but also the place of East Asia in world history.

**500.0 The Honors Essay**

Prerequisite: admission to the final year of the honors program.

History honors students are required to submit and defend a substantial essay to be selected and prepared in conjunction with a faculty advisor.

Classes: Individual study and the supervision of a faculty advisor.

**501.0 The English Civil War**

This course will explore the political, religious, and economic factors which created a revolutionary situation in England in 1640. Emphasis will be placed on the struggle for power which led to the overthrow of the monarchy and on Cromwell's dictatorship.

**502.0 Local History: Halifax, A Case Study**

Prerequisite: registration in major or honors program in History or permission of instructor.

This course will examine the theoretical and methodological approaches to the study of local history using Halifax as a model. Oral and archival research will be utilized and the case study will be placed in the broader perspective of social history themes of ethnicity, labour, family and women's studies.

**511.0 Modern East Asia, Selected Problems in Modernization**

Prerequisite: His 209.0.

The influence of the West on the modernization efforts of China and Japan during the 19th and 20th centuries.

**515.0 Seminar in Historography**

Prerequisite: senior or graduate standing.

A specific historical period or topic will be selected by the instructor and each student will be assigned a particular historian or historical school for the purpose of writing a paper. The seminar will address a variety of historical viewpoints and demonstrate the influence of one's milieu on the writing of history.

**517.0 Seminar in Modern British History**

A seminar on selected topics in the history of modern Britain, 1660-1870, intended for senior students in history. Topics for consideration will be chosen by the instructor and students will be required to present papers to the seminar for discussion, criticism and evaluation.

**518.0 Seminar in Early Modern History**

Prerequisite: senior standing or permission of instructor.

A seminar on selected topics in the history of Early Modern Europe, 1450-1800, intended for senior students in history. Topics for examination will be selected by the instructor and students will be required to research and write a major paper on the subject and present it to the seminar for discussion and criticism.

**519.0 Seminar in Modern European History**

A seminar on selected topics in the history of modern Europe, 1800 to present, intended for seniors, honors, and graduate students in history. Topics to be examined will be selected by the instructor; students will be required to research and write a major paper on the topic selected, and present it to the seminar for discussion and criticism.

**520.0 The Two World Wars**

This course will consider the origins of each of the two world wars of the early 20th century, and the diplomacy, war-aims, and conduct of the war by each of the principal belligerents. The first semester will be devoted to World War I and the second semester to World War II.

**522.0 Seminar in North American History**

A seminar on some aspects of North American history (Canadian, American, or comparative) intended for senior students in history. Topics to be examined will be determined by the instructor. Among them will be: nationalism, religion, reform/radicalism, slavery, liberal democracy and culture, regional history, populism and progressive reform.

**523.0 Seminar on North American Social History**

Prerequisite: a course in history or one of the social sciences.

This seminar will offer an in-depth study of the historical background of specific social problems. Research topics will be selected from the following subject areas: crime, the permissive society, marriage and the family, prejudice and discrimination, and social welfare.

**560.0 History and Society: The Atlantic Provinces Seminar**

Prerequisite: honors or graduate standing.

This course, intended for Master's students in Atlantic Canada Studies and honors students and M.A. candidates in history, addresses the nature of historical inquiry into issues relating to the social and economic history of the Atlantic region. Topics to be covered will include regional culture, gender and race, the family, processes of development and underdevelopment, scientism and professionalization, health, recreation and sport. Students who have completed His 560.0 are not eligible to enrol in ACS 660.

**589.1(.2) Reading Course in History — Selected Topics in Irish History**

Prerequisite: permission of instructor.

An independent reading course in selected topics in Irish history, primarily social, political, and intellectual history in the 18th and 19th centuries. Topics include: Irish popular and radical movements and ideas in a transatlantic context; Ireland in the Age of the Democratic Revolutions; the Irish in America and Canada; Irish political institutions and political culture. Readings, consultations, and final paper.

**590.1(.2)-599.1(.2) Reading Courses in History**

Prerequisite: permission of instructor.

Each reading course will be organized by the instructor(s) involved. In general, each course will be centred round a specific theme, and the students will be expected, through their reading, to be familiar with all aspects of the chosen area. Examinations and/or papers will be required at the end of each course.

**690.0 Thesis Research**

Prerequisite: graduate standing.

The students will be engaged in research for and the writing of an M.A. thesis under the supervision of an advisor.

**Cross-Listed Courses**

Certain courses offered by the Departments of Modern Languages and Classics, Anthropology and Religious Studies may, in special circumstances, be cross-listed and counted in a student's history concentration. In such cases, the student must obtain the department's permission.

# International Development Studies (IDS)

## Committee on International Development Studies

H. Veltmeyer, Coordinator	Sociology
J. Ahiakpor	Economics
P. Arya	Economics
G. Barrett	Sociology
P. Bowles	Economics
J. Chamard	Management
T. S. Chan	Marketing
T. Charles	Finance/Management Science
L. Christiansen-Ruffman	Sociology
P. Connelly	Sociology
H. Das	Management
J. C. Dodds	Finance/Management Science
J. Fiske	Sociology
P. Fitzgerald	Management
S. Halebsky	Sociology
A. Harvey	Economics
J. Jabbra	Political Science
J. Jaquith	Anthropology
J. Lee	History
J. H. Morrison	History
A. Mukhopadhyay	Economics
I. Okraku	Sociology
H. Ralston	Sociology
H. Schwind	Management
S. Wein	Philosophy
J. Woolfrey	International Education Centre

## Adjunct Professors

C. Amaratunga	International Centre on Ocean Development
J. Kirk	Latin American Studies (Dalhousie)
T. Li	Sociology (Dalhousie)
R. McKinnell	International Development (Saint Mary's)
J. Parpart	History (Dalhousie)
J. Sacouman	Sociology (Acadia)
T. Shaw	Political Science (Dalhousie)
M. Turner	History (Dalhousie)

The undergraduate program in International Development Studies is offered collaboratively between Saint Mary's and Dalhousie Universities. "Development" is a broad concept and refers to problems that range from the socioeconomic impact of a new hydroelectric dam to the rapid changes in family structure and sex roles that often occur during periods of rapid demographic and economic change. As the list of recommended courses below demonstrates, "development" has political, social, cultural, economic and historical dimensions. The International Development Studies program combines theoretical insights and practical skills from both the social sciences and the humanities. The goal is to help students take a multidisciplinary approach to problems of development and the possibilities for change in countries that loosely comprise what has been termed The Third World in the context of an increasingly global political economy.

A program in International Development Studies can be taken towards a B.A. degree or B.A. honors at either university. A degree in International Development Studies can also be combined with a degree in one of the major disciplines involved in the program. Joint major concentrations can be worked out by consultation with an International Development Studies Coordinator and the relevant department at either university.

In addition to the general university requirements for a B.A. degree, the following requirements will also apply to a program in International Development Studies:

### The Major Program

- appropriate first year (200 level) courses, including as per Faculty of Arts regulation 3-d at least one of the following full courses (or half course equivalents) social science electives: Ant 200.0, Eco 201.1(2)/Eco 202.1(2), Pol 200.0, and Soc 200.0.
- the equivalent of six full-year courses approved for the program, of which
  - two must be IDS 300.0 and IDS 400.0;
  - at least one must be Eco 310.1(2); Eco 411.1(2); Soc 385.1(2); or Soc 386.1(2);
  - the remainder must involve at least two established disciplines within IDS; and
  - five must be at the 300 level or above, with at least one seminar at the 400 level exclusive of IDS 400.0.

### The Minor Program

The equivalent of four full-year courses (or half course equivalents) approved for the program, of which

- one must be IDS 300.0;
- one must be Eco 310.1(2), Eco 411.1(2), Soc 385.1(2), Soc 386.1(2);
- the remainder must include at least two disciplines within IDS.

### The Honors Program

All candidates for the B.A. (honors) degree in International Development Studies must complete no fewer than ten full courses or equivalent courses from the International Development Studies program, of which

- three must be IDS 300.0, 400.0 and 500.0;
- two must be Eco 310.1(2), Eco 411.1(2), Eco 312.1(2), Eco 315.1(2), Soc 385.1(2), Soc 386.1(2);
- a minimum of two courses must be taken in at least two different established disciplines within International Development Studies;
- eight must be at the 300.0 level or above, with at least one seminar at the 400 level exclusive of IDS 400.0;
- courses must be approved by a program advisor or the coordinator.

Although not officially required, it is strongly recommended that students in IDS gain competency in an appropriate second language.

Listing of approved courses (asterisk marks core courses in specific disciplines which should be taken before others in these disciplines).

### Anthropology

201.0	Woman: A Cultural Perspective
300.0	Culture and Society
310.0	Applied Anthropology: Culture Change and Development
315.0	Peasant Society and Culture

- 320.0 World Ethnography
- 325.0 Ethnology: Oceania
- 335.0 Psychological Anthropology

**Asian Studies**

- 410.2 Special Topics on Japan

**Economics**

- \*310.1(.2) Development Economics
- 312.1(.2) History of Economic Thought
- 313.1(.2) International Finance
- 315.1(.2) Comparative Economic Systems
- 323.1(.2) Soviet-Type Economies
- \*410.1(.2) Issues in Economic Development
- 414.1(.2) International Trade

**Finance and Management Science**

- 476.1(.2) International Financial Management

**Geography**

- 302.0 Geography of World Affairs
- 330.1(.2) Geography of China
- 370.0 Geography of Southeast Asia

**History**

- 209.0 East Asia
- 316.0 Africa in the 19th Century, Intrusion and Conquest
- 317.0 Africa in the 20th Century, Colonialism and Independence
- 322.0 South Africa
- 323.0 China Before 1800
- 341.0 China and Japan in the 20th Century
- 342.0 China in Revolution 1840 to Present
- 375.0 Modern Latin America
- 380.0 Latin America in the 20th Century
- \*385.0 The Third World Since 1500
- 391.0 East Asia and the West
- 511.0 Modern East Asia, Selected Problems in Modernization

**Management**

- 488.1(.2) International Business Management

**Marketing**

- 375.1(.2) International Marketing

**Modern Languages and Classics**

- 305.0 Culture and Society of the Dominican Republic

**Philosophy**

- 325.1(.2) Ethical Issues in International Development

**Political Science**

- 305.0 International Relations
- 322.1(.2) Politics of International Trade
- \*340.0 The Politics of the Developing Areas
- 341.0 Government and Politics in East Asia
- 418.0 International Law
- 553.0 International Studies Seminar

**Religious Studies**

- 312.1(.2) Jesus and Liberation
- 341.1(.2) Political Theology: East and West
- 347.1(.2) Ecology and Religion

**Sociology**

- 319.0 Reform and Revolution in Latin America
- 331.1(.2) Modernization and Aging
- 333.0 Social Movements
- 380.0 Third World Urbanization
- \*385.1 Problems of Development
- \*386.2 Sociology of Developing Societies
- 387.1(.2) Women and Development
- 403.0 Revolution and Change: A Case Study: Cuba
- 417.0 Religious Movements
- 420.0 Comparative Regional Development
- 422.1(.2) Gender and Development: Theory and Method
- 423.1(.2) Gender and Development: Policy Issues
- 425.0 Corporate Power and the World Economy
- 429.0 Rural Society

**300.0 Introduction to Development Studies**

Prerequisite: one of Ant 200.0, Eco 201.1(.2)/202.1(.2), Pol 200.0, Soc 200.0.

This course will introduce students to the scope and nature of Development Studies. Its main emphasis will be on various theories of development and social change in under-developed and developing countries, and on the lines of research associated with these theories. Students will review the contributions that various disciplines have made to development studies; and they will examine the ways in which these interact and complement each other in the explanation of changing conditions and societies in under-developed and developing countries.

**320.0 Development Studies Through Canada World Youth**

Prerequisite: assignment with Canada World Youth (hereafter CWY).

This course is intended for CWY participants who wish to earn academic credit related to their work in the Third World. It includes predeparture tutorials. CWY registrants will receive supervised readings in development studies and directions for field observations. They will be required to keep a journal on their observations and to prepare a research proposal for which they will collect materials while in the Third World. On returning to Canada they will communicate regularly with their advisor as they prepare a brief report on their field experience and an original research paper for evaluation.

**400.0 Seminar in Development Studies**

Prerequisite: IDS 300.0.

In this course students will begin to apply some of the theoretical perspectives and analytical tools of Development Studies or one of its related disciplines to a selected problem of development in one particular region of the world; selected regions include Southern Africa, Tropical Africa, North Africa and the Middle East, South-East Asia, South Asia, the Caribbean and Latin America. Theoretical and policy implications and various case studies will be discussed. Presentations of student work will be preceded by presentations by faculty associated with the Development Studies Consortium.

**420.1(.2); 421.1(.2); 422.0 Special Topics in Development Studies**

Prerequisite: IDS 300.0.

This course will investigate in some depth a particular topic or set of topics in Development Studies. The specific topic(s) will vary from year to year, depending on the availability of visiting scholars, invited research fellows, or the research plans of associated faculty.

**450.0; 451.0; 452.1(2)-455.1(2) Directed Studies**

Prerequisite: IDS 300.0 or permission of coordinator.

These courses provide an opportunity for students to study, in depth, topics not normally covered by regular course offerings. Students are expected to demonstrate some initiative and independence.

**470.1(2) [570.1(2)] Environment and Development**

Prerequisite: IDS 300.0 or permission of instructor.

This seminar will explore the implications for world economic development of the rising tide of "environmental problems", as well as the question of what "economic development" might mean in the context of tackling the growing disruption of the global ecosystem. The importance of a sociological and political-economic analysis of the problems of environmental disruption will be emphasized as the basis for understanding the threat which environmental problems pose for the very existence of human kind and certain patterns of economic development.

**500.0 Honors Essay in Development Studies**

Prerequisite: IDS 400.0.

**Master of Arts in International Development Studies**

The graduate degree program is based on a core program of policy-oriented courses in the field of International Development Studies in addition to offerings by associated academic departments, primarily economics, sociology and history but also anthropology, political science, geography, education, international business (management and marketing), and finance and management science.

The interdisciplinary program of courses offered in International Development Studies has as its primary focus an analysis of the problems experienced by developing countries in the Caribbean, Latin America, Asia and Africa; and of the social, cultural, economic, historical and political structures and forces that underlie and produce these problems. Another concern of the program is with the development strategies pursued by groups of people and governments in these developing countries. An evaluation of the different models and strategies for national development that countries pursue in an increasingly global context is an important feature of the program.

The graduate program of study will be useful to those seeking employment in national and international settings, as knowledge of the Third World is increasingly needed in many departments of the federal government (CIDA, External Affairs), international development agencies, refugee and immigration services, non-governmental organizations like Oxfam and CUSO and professions such as teaching, journalism, development planning, administration, and business.

Detailed requirements for the Master of Arts in International Development Studies are found in Section 3 of this Calendar.

**Courses approved for the Master's Program:**

IDS 510.0	Seminar on International Development
IDS 520.1(2)/ 620.1(2)	Methodology of Research and Analysis
IDS 530.1(2)	Contemporary Development Planning
IDS 540.1(2)- 545.1(2)	Special Topic in International Development
IDS 550.1(2)- 555.1(2)	Directed Readings

IDS 560.1(2)	Field Research Project
IDS 570.1(2)	Environment and Development
IDS 600.0	Development in a Global Context
IDS 610.1(2)	Problems of Development
IDS 622.1(2)	Gender and Development: Theory and Method
IDS 623.1(2)	Gender and Development: Policy Issues

**Courses offered by associated departments at Saint Mary's University:**

Eco 409.1(2)	Economic Modelling/ Forecasting
Eco 410.1(2)	Issues in Economic Development
Eco 414.1(2)	International Trade
Eco 490.1(2)	Seminar in Economics
Eco 501.1(2)	Economics of Enterprise Environment
Eco 690.1(2)	Seminar in Economics
Edu 651.1(2)	Comparative Education: Britain and the Commonwealth I
Edu 652.1(2)	Comparative Education: Britain and the Commonwealth II
Edu 653.0	Comparative Education: USA, Middle and Far East
Edu 654.0	Comparative Education: Europe, USSR, Latin America
Edu 675.0	Global Issues and Education
Fin 676.1(2)	International Finance and Banking
His 616.1(2)	Africa in the 19th Century: Intrusion and Conquest
His 617.1(2)	Africa in the 20th Century: Colonialism and Independence
His 622.0	South Africa
His 623.0	China Before 1800
His 641.0	China and Japan in the 20th Century
His 642.0	China in Revolution 1840 to Present
His 675.0	Modern Latin America
His 680.0	Latin America in the 20th Century
His 685.0	The Third World Since 1500
His 691.0	East Asia and the West
Mgt 681.1(2)	International Business Management
Mkt 675.1(2)	Multinational Marketing
Soc 420.0	Comparative Regional Development
Soc 421.0	Gender and Development
Soc 425.0	Corporate Power and the World Economy
Soc 429.0	Rural Sociology

**510.0 Seminar in International Development**

Students will be expected to formulate a project on a problem of international development and present it, by stages, in a seminar of honors and first-year Master's students. Students are expected to demonstrate initiative and capacity for self-directed research. Those who have received credit for IDS 500.0 cannot take this course.

**520.1(2) Research Methodology**

Basic techniques of research design and quantitative/qualitative analysis are reviewed and applied to a selected range of development problems.

**530.1(.2) [630.1(.2)] Contemporary Development Planning**

This course is designed to examine the approach to development planning in various contemporary contexts. First, the origins, expectations, methods and achievements of planning in the period 1950-1975 are analyzed. After surveying the next decade of disenchantment with national planning, the realities of development planning are assessed in the context of the mixed economy, centralized state-control, democratic socialism, and IMF management. How to plan on the basis of different development strategies is then examined, before concluding with an assessment of the effectiveness, limitations and future of development planning. Students who have taken IDS 545.1(.2) Contemporary Development Planning, cannot take this course.

**540.1(.2)-545.1(.2) Special Topics in International Development**

These courses will investigate in some depth a particular topic or set of topics in international development. Specific topics will depend on availability of visiting scholars, invited speakers and research plans of associated faculty.

**550.1(.2)-555.1(.2) Directed Readings**

These courses provide an opportunity for students to pursue in depth topics not normally covered by regular course offerings. Students are expected to demonstrate some initiative and independence.

**560.1(.2) Field Research in Development**

This course will provide an opportunity for students to pursue a supervised research program in the field. The research and project report must be approved by the Coordinator of the IDS Program.

**570.1(.2) Described above as 470.1(.2).****600.0 Development in a Global Context**

This course places the dynamics and problems of third world development in a global context and reviews the theoretical, historical and policy issues involved. Students are expected to apply a set of these issues in a specific regional setting.

**610.1(.2) Problems in International Development**

A seminar in which faculty and graduate students will present their research and review general questions of research design and analysis.

**620.1(.2) Research Methodology**

Basic techniques of research design and quantitative/qualitative analysis are reviewed and applied to a selected range of development problems. Those who have received credit for IDS 520.1.2 cannot take this course.

**622.1(.2) Gender and Development: Theory and Method [WMS 622.1(.2)]**

Prerequisite: Soc 364.1(.2), 365.1(.2), and 363.1(.2), or permission of instructor.

This course will examine the role of women and development in the Third World. It will discuss the interrelationship of various development and feminist theories, methodological approaches to the study of women and development will also be examined. This course will provide students with a conceptual overview and practical tools for understanding the problems faced by women in developing countries.

Note: Students cannot receive credit for both IDS 621.0 and 622.1(.2).

**623.1(.2) Gender and Development: Policy Issues [WMS 623.1(.2)]**

Prerequisite: Soc 364.1(.2), 365.1(.2), and 363.1(.2), or permission of instructor.

This course will examine case studies of the role of women in the development process in various Third World countries. It will provide an analysis of the gender dimensions of programs and policies that affect women in different international, regional and community contexts. Case studies will focus on a number of specific issues such as work, education, health and empowerment. These will vary from year to year.

Note: Students cannot receive credit for both IDS 621.0 and 623.1(.2).

**640.1(.2)-645.1(.2) Special Topics in International Development**

These courses will investigate in some depth a particular topic or set of topics in international development. Specific topics will depend on availability of visiting scholars, invited speakers and research plans of associated faculty.

**650.1(.2)-655.1(.2) Directed Readings**

These courses provide an opportunity for students to pursue in depth topics not normally covered by regular course offerings. Students are expected to demonstrate some initiative and independence.

**660.1(.2) Field Research in Development**

This course will provide an opportunity for students to pursue a supervised research program in the field. The research and project report must be approved by the Coordinator of the IDS Program.



# Irish Studies (IRS)

C. Byrne, Professor  
P. O. Siadhail

Coordinator  
D'Arcy McGee Chair

## The Minor Program

At the present time the University offers a minor program in Irish Studies but not a major.

The following program constitutes a minor in Irish Studies according to the "Requirements for the degree of Bachelor of Arts", as stated above in Section 3.

IRS 301.1(2) An Introduction to Modern Irish

IRS 302.1(2) Modern Irish Language

and the equivalent of at least three full courses from the following:

IRS 305.1(2) An Introduction to Mediaeval Welsh Language

IRS 306.1(2) An Introduction to Mediaeval Welsh Literature

IRS 307.0 Celtic Literature and Atlantic Canada

IRS 308.0 Irish-Canadian Literature

Egl 334.0 The Literature of Modern Ireland

Egl 335.0 Introduction to Folklore

### 301.1(2) An Introduction to Modern Irish

This course will introduce students to Modern Irish, with emphasis on the spoken and written forms.

### 302.1(2) Modern Irish Language

Prerequisite: IRS 301.1(2) or permission of instructor.

This course will develop the student's ability to speak, write, and read Modern Irish.

### 304.0 An Introduction to Scottish Gaelic

This course provides an introduction to Scottish Gaelic, a language that holds the key to an essential part of Scotland's cultural heritage. Emphasis will be placed on the language in both its spoken and written forms.

### 305.1(2) An Introduction to Mediaeval Welsh Language

Mediaeval Welsh, a P-Celt language, is a valuable tool in the study of the Celtic tradition, giving the student an insight into the non-Gaelic mediaeval cultures of Wales and southern Scotland, and the related culture of Brittany.

### 306.1(2) An Introduction to Mediaeval Welsh Literature

Prerequisite: IRS 305.1(2) or permission of instructor.

This course will introduce students to the literature of the most important of the non-Gaelic Celtic languages, Welsh. Of the group of P-Celt languages, Welsh is the only one with a large extant collection of early and mediaeval literature. The traditions, motifs, and metaphors of such works as *The Gododdin* and *The Four Branches of the Mabinogi* are very similar to those of Gaelic (Irish and Scottish) literature. Where they differ, it is largely as a result of early contact with Anglo-Norman culture. A study of Welsh literature, therefore, leads to an enhanced understanding of the Celtic identity.

### 307.0 Celtic Literature and Atlantic Canada

This course will focus on the following themes: the nature of traditional oral and written Celtic literature, aspects of the history of Celtic scholarship, the literary response to the changes in British and European Celtic culture leading to the emigrations in the 18th and 19th centuries, the survival of the Gaelic language and Gaelic culture in Newfoundland and the Maritimes into the 20th century, and the Irish, Scottish, and Welsh contributions to the literary arts in the Atlantic Provinces.

### 308.0 Irish-Canadian Literature

This course will examine writers of Irish and Irish-Canadian background who have made significant literary contributions in Canada. The first semester will deal with early emigrant poets like Donnchadh Ruadh MacConmara and Standish O'Grady, with Canadian folk poets in the Irish tradition such as Lawrence Doyle, Larry Gorman, and Johnny Burke, with figures like Thomas D'Arcy McGee, Mary Ann Sadlier, and Cornelius O'Brien, and with the image of the Irish in Canadian literature. The second semester, focusing on the 20th century, will treat authors like Morley Callaghan, Leo Kennedy, Margaret Duley, Edward McCourt, Sheila Watson, Brian Moore, Harry Boyle, Dennis Patrick Sears, Alden Nowlan, Leo Simpson, and George McWhirter.

### 390.1(2) Reading Course in Irish Studies: Selected Readings on Contemporary Ireland

The emphasis in this course will be on the political and social movements which led to the present Republic of Ireland. The politics of repeal, the Home Rule movement, the growth of extreme republicanism and the transition to independence will be included.

### 401.1(2) Advanced Modern Irish I

Prerequisite: IRS 302.1(2).

This course will deal with modern spoken and written Irish, with emphasis on acquiring a facility in spoken Irish.

### 402.1(2) Advanced Modern Irish II

Prerequisite: IRS 401.1(2).

This is an intensive course designed to develop further the student's ability to speak and write modern Irish.

### 407.1(2) The Recovery of the Gaelic Past

Prerequisite: IRS 302.1(2) and a minimum grade of C in Egl 200.0.

This course will trace the process by which the Anglo-Irish discovered and translated the Gaelic literary heritage. It will examine, among other things, the publication of James MacPherson's fraudulent Ossian poems and the work of scholars and translators such as Charles O'Connor, Charlotte Brooke, John O'Donovan, and Eugene Curry. The course will also look at English reaction to these developments as reflected in Matthew Arnold's "On the Study of Celtic Literature".

### 408.1(2) The Romantic Popularization of the Gaelic Past

Prerequisite: IRS 302.1(2) and a minimum grade of C in Egl 200.0.

This course will look at the process by which the new awareness of the Gaelic literary heritage fostered by the efforts of the scholars was exploited by the 19th century creative writers in Ireland. The focus of the course will be on the work and careers of writers such as James Hardiman, James Clarence Mangan, and Samuel Ferguson, as well as on Charlotte Brooke, who begins the process, and Standish James O'Grady, whose work marks its end.

### 430.1(2) Irish Folklore

A comprehensive study of folklore in Ireland. All aspects of folklore will be examined, with special emphasis on the storytelling, song, and folk drama traditions.

441.1(2) Cross-listed as Egl 441.1(2)

442.1(2) Cross-listed as Egl 442.1(2)

443.1(2) Cross-listed as Egl 443.1(2)

**450.1(2) Modern Gaelic Literature in Translation**

Prerequisite: permission of instructor.

This course will cover works in translation by prominent 20th century writers in Irish. Emphasis will be placed on the prose writings of Pádraic Ó Conaire, Máirtín Ó Cadhain, the Basket Island writers, and modern Gaelic poetry.

**451.1(2)-453.1(2) Special Topics in Irish Studies**

Prerequisite: permission of coordinator of the Irish Studies Program.

These courses will investigate in depth a specific topic or set of topics in Irish Studies. The topics will vary from year to year.



# Management (Mgt)

Chairperson, Professor  
Professors

S. G. Pendse  
J. C. Chamard, H. Das  
P. Fitzgerald, F. C. Miner  
H. F. Schwind  
G. A. Badawi, J. Gale  
R. Summers, T. H. Wagar  
J. Breeze, R. Stuart-Kotze

Associate Professors  
Assistant Professors  
Adjunct Professors

The Department of Management offers two programs to business administration majors: Management as well as Human Resource Management and Industrial Relations.

In addition to meeting the general requirements for the Bachelor of Commerce degree the following courses are required for each of these programs.

## Human Resource Management and Industrial Relations Program

### Junior Year

Mgt 385(1/2) Human Resource Management  
Mgt 386(1/2) Industrial Relations  
Eco 339(1/2) Labor Economics  
Eco 340(1/2) Human Resources Economics  
Free elective, 200 level or above (1/2)

### Senior Year

Mgt 481(1/2) Organization Theory: Structure, Process, Analysis and Design  
Mgt 483(1/2) Interpersonal Behavior I  
Non-Commerce electives (2)  
Free electives, 200 level or above (1 1/2)

Note: If Eco 339 and/or Eco 340 were used to satisfy the required economics electives in the sophomore year, the number of free electives is increased to 1 or 1 1/2 as appropriate.

## Management Program

### Junior Year

Msc 316(1/2) Management of Service Operations, or  
Msc 317(1/2) Management of Manufacturing Operations  
Accounting elective (1/2)  
Marketing elective (1)  
Commerce elective (1/2)

### Senior Year

Mgt 385(1/2) Human Resource Management  
Mgt 386(1/2) Industrial Relations  
Mgt 481(1/2) Organization Theory: Structure, Process, Analysis and Design

Finance elective (1/2)  
Non-Commerce electives (2)  
Free elective, 200 level or above (1/2)

## 281.1(.2) Introduction to Business Management

Prerequisite: freshman standing or the permission of the chairperson.

The purpose of this course is to introduce the student to the various aspects of business in the Canadian environment. Emphasis will be placed on the functional areas of marketing, production, finance, and the individual in the organization. In addition, the process of management will be outlined and discussed. Teaching methods will include lectures, group presentations and discussions of cases as well as other exercises.

Classes 3 hrs. a week. 1 semester.

## 301.1(.2) Work and Alienation

Prerequisite: completion of at least ten university courses.

This is an interdisciplinary seminar which explores the issue of quality of work life in both capitalist and communist societies. The issue will be examined from the perspectives of business administration, the humanities, and the social sciences.

Classes 3 hrs. a week. 1 semester.

## 382.0 Organizational Behavior

Prerequisite: Mgt 281.1(.2).

This course presents behavioral science theories and concepts that apply to organizations. It is designed to help students diagnose, understand, and predict the behavior of people as individuals, in interpersonal relationships, in groups, and in complex organizations.

Classes 3 hrs. a week. 2 semesters.

## 385.1(.2) Human Resource Management

Prerequisite: Mgt 281.1(.2) and 382.0.

A study of the conceptual and practical aspects of the human resource management function in organizations, with a special emphasis on business organizations. The course focuses on the major issues, procedures and problems involved in manpower planning, recruitment and selection, compensation, training and development, and maintenance of human resources.

Classes 3 hrs. a week. 1 semester.

## 386.1(.2) Industrial Relations

Prerequisite: Mgt 281.1(.2) and 382.0.

An introduction to the field of industrial relations. It focuses on the impact of collective bargaining in management/labor relations. Topics covered include the historical development, structure, and operation of labor unions, the process and contents of negotiations and the settlement of union/management disputes.

Classes 3 hrs. a week. 1 semester.

## 388.1(.2) Business and its Environment

Prerequisite: Mgt 382.0 (or permission of instructor); and Mgt 281.1(.2); and Eco 201.1(.2)/202.1(.2).

Business and its economic and political environment, the social responsibilities of business.

Classes 3 hrs. a week. 1 semester.

## 391.1(.2) Women in Management

[WMS 391.1(.2)]

Prerequisite: completion of at least ten university courses.

The course will examine issues faced by managers as women become a large proportion of the workforce; changing roles and status; sex roles differences; legal implications; corporate politics; and career planning.

Classes 3 hrs. a week. 1 semester.

## 481.1(.2) Organization Theory: Structure, Process, Analysis and Design

Prerequisite: Mgt 382.0.

In a systems context, the first phase of the course will expose the student to different concepts of formal organization. The second phase will involve the application of concepts using various design approaches and configurations.

Classes 3 hrs. a week. 1 semester.

**483.1.(2) Interpersonal Behavior I**

Prerequisite: Mgt 382.0.

This course studies and attempts to improve the kinds of interpersonal competence that can contribute to the effectiveness of an administrator. By focusing on the causes of misunderstandings between persons and reducing the causes of such misunderstandings, the course attempts to improve an individual's interpersonal skills as a member of an organization.

Classes 3 hrs. a week. 1 semester.

**484.1.(2) Interpersonal Behavior II**

Prerequisite: Mgt 483.1.(2).

The course is designed to give further understanding of interpersonal behavior in an organizational context. It will give students the opportunity to practice interpersonal skills and gain further theoretical insights.

Classes 3 hrs. a week. 1 semester.

**485.1.(2) Wage and Salary Administration**

Prerequisite: Mgt 385.1.(2).

This course is designed to integrate compensation systems with employment planning, career development, and organizational planning concepts.

Classes 3 hrs. a week. 1 semester.

**486.1.(2) Personnel Staffing, Training and Development**

Prerequisite: Mgt 385.1.(2).

The course deals with the theoretical and practical issues of matching job requirements with personal characteristics and the assessment, counselling, training and development of human resources.

Classes 3 hrs. a week. 1 semester.

**487.1.(2) Small Business Opportunities**

Prerequisite: Fin 361.2 and Mkt 370.1.(2).

The objective of the course is to stimulate informed interest in creating and managing a small business; the course includes the investigation of new business opportunities, capital requirements and sources, information systems, marketing and tax considerations.

Classes 3 hrs. a week. 1 semester.

**488.1.(2) International Business Management**

Prerequisite: Mgt 382.0.

An introduction to the nature of environment of international business management including the study of multinational corporations, intercultural differences and their effects on management style and policy and execution. The focus of discussion and presentation will be on management systems in North and South America, Europe, the Communist Bloc, Middle East, South-East Asia, China, and Japan.

Classes 3 hrs. a week. 1 semester.

**489.1.(2) Business Policy**

Prerequisite: Fin 361.1.(2), Mkt 370.1.(2), Mgt 382.0 and one additional full credit at the 300 level from Acc, Eco, Mgt, Fin, Mkt, or Msc.

This is a "capstone" course that attempts to utilize all the business disciplines (management, marketing, finance, accounting, etc.) in an effort to identify, diagnose, and recommend appropriate action for real managerial problems. It is hoped that through this course, students will gain a better understanding of the complexity and

interrelationship of modern managerial decision making. It is also hoped that this exposure will facilitate the students' ability to analyze complex problem situations.

Classes 3 hrs. a week. 1 semester.

**490.1.(2) Seminar in Management**

Prerequisite: Mgt 382.0 and consent of instructor.

The course deals with selected topics in the management area. The topics to be covered will vary depending on the interests of the students and instructors.

Seminar 3 hrs. a week. 1 semester.

**492.1.(2) Directed Study**

Prerequisite: permission of departmental chairperson and instructor.

Intended to supplement or provide an alternative to the regular management courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Tutorial and independent study. 1 semester.

**493.1.(2) Business-Government Relations in Canada**

Prerequisite: Mgt 382.0 or permission of instructor.

This course deals with the various ways in which business and government in Canada influence each other; examines the causes and consequences of increased government involvement in business; describes and assesses the various responses of business managers to government involvement; and develops an understanding of the interrelationships between government and corporate actions.

Classes 3 hrs. a week. 1 semester.

**494.1.(2) Entrepreneurship: Theories and Concepts**

Prerequisite: Fin 360.1.(2).

Through lectures and seminars, this course covers the nature of entrepreneurship, theories of entrepreneurship, characteristics and behaviors of entrepreneurs, the entrepreneur as catalyst for economic activity, application of the concepts of entrepreneurship to public and non-profit enterprises both large and small, entrepreneurship in developing and developed economies.

Classes and seminar 3 hrs. a week. 1 semester.

**495.1.(2) Small Business Performance Improvement**

Prerequisite: Acc 348.1.(2) and Mkt 370.1.(2).

This course uses lectures and case analysis to develop students' ability to diagnose operating and other problems of small businesses and to develop workable solutions to the problems.

Classes 3 hrs. a week. 1 semester.

**496.1.(2) Collective Bargaining**

Prerequisite: Mgt 386.1.(2)

An examination of the process of collective bargaining and its role in management-union relation. The course examines the nature of negotiation, its characteristics, the roles of power, persuasion, communication, social structure, negotiating strategies and tactics, and negotiators' personalities. Grievance handling as a form of negotiation is also examined.

Classes 3 hrs. a week. 1 semester.

**497.1(2) Issues in Industrial Relations**

Prerequisite: Mgt 386.1(2).

An examination of some of the important issues related to industrial relations. Examples include employment statutes, human rights legislation, collective bargaining in the public sector, and the settlement of management-union disputes. Topics may be slightly varied depending on emerging issues and the interests of instructor and students.

Classes 3 hrs. a week. 1 semester.

**499.1(2) Senior Management Perspectives**

Prerequisite: fourth year Commerce student and consent of instructor.

This course involves a series of guest speakers who have senior management experience from business, political, and non-profit organizations. Speakers present talks and topics related to interests. Each presentation will be followed by an open discussion.

Classes 3 hrs. a week. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration program and with permission of the MBA Director, to students registered in other Master's programs.**

**584.0 Organizational Behavior**

This course will present an investigation of behavioral science theories and concepts that apply to organizations. This course helps the student to diagnose, understand and predict the behavior of people as individuals, in interpersonal relationships, in groups, and in complex organizations.

**681.1(2) International Business Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

The course focuses on the nature and environment of international business management, including the study of multinational corporations and joint ventures and their impact on the host country, inter-cultural differences and their effects on management style, policy, and execution.

**682.1(2) Compensation Theory and Administration**

Prerequisite: Mgt 685.1(2) or consent of MBA Director.

The focus of this course will be on the historical development of wage and salary administration, fundamentals of job and employee evaluation, motivation theories and how they relate to reward systems, job satisfaction, the relationship between reward and performance, basic compensation systems (including fringe benefits), managerial compensation, and wage and salary administrative controls.

**683.1(2) Management of Interpersonal Relations**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course aims at improving the individual's ability to interact productively with others in two-person and small group relationships. It seeks to develop an individual's awareness of how a person's behavior affects and is affected by that of others.

**684.1(2) Management of Organizational Design and Development**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A study of the evolution of organizational design and the use of current techniques in organizational development. Emphasis is

placed upon understanding how the evolution of organizational structures has affected our present ones and how current research can be utilized to improve and develop them in the future.

**685.1(2) Strategic Human Resource Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

An investigation of the role of the personnel manager and the changes in the nature of responsibilities brought about by changes in the legal and technological environments of organizations. The course deals mainly with manpower planning, selection, and compensation and the development of the human resources of the organization.

**686.1(2) Labor-Management Relations**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

An examination of the role of the labor-management functions in the organization and the changing interplay between management, union and public policy, focusing on some of the main legal, behavioral and institutional issues in collective bargaining.

**687.1(2) Small Business Opportunities**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

The objective of the course is to stimulate informed interest in creating and managing a small business. The course includes the investigation of small business opportunities, capital requirements and sources, information systems, marketing and tax considerations.

**688.1(2) Social Issues in Business**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course will foster an awareness of the social impacts of business activity and decision making. Social costs and corporate social responsibility will be examined. Various social issues and the manner in which management might respond to societal expectations will be discussed.

**689.1(2) Management Policy and Strategy Formulation**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course focuses attention on the role of the senior management function to develop and implement strategy in the context of the resources. It draws upon case material based on companies of differing sizes, technologies and degrees of diversification. By providing an insight into the problems and responsibilities faced by general management at the senior level, it seeks to provide an overall perspective for the remainder of the program.

**690.1(2) Seminar in Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

The course deals with selected topics in the management area. The topics to be covered will vary depending on the interests of the students and instructors.

Seminar 3 hrs. a week. 1 semester.

**692.1(.2) Directed Study**

Prerequisite: completion of all 500 level courses and consent of MBA Director, departmental chairperson, and instructor.

Intended to supplement or provide an alternative to the regular management courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

**695.1(.2) Small Business Performance Improvement**

Prerequisite: completion of all 500 level courses and consent of MBA director.

This course uses lectures and case analysis to develop students' abilities to diagnose operating and other problems of small businesses and to develop workable solutions to the problems.

# Marketing (Mkt)

Chairperson, Associate Professor	V. N. Baydar
Associate Professors	T. S. Chan, N. D. Kling T. Musial, Z. Qureshi
Assistant Professors	L. Rieber, L. Van Esch

The Department of Marketing offers a program for business administration majors which, in addition to the general requirements for a Bachelor of Commerce degree as outlined in Section 3 of this Calendar, requires students to take Mkt 376.1(2) (Consumer Behavior), 378.1(2) (Marketing Research), and 479.1(2) (Marketing Policy) and three additional electives (1 1/2 credits). It is strongly recommended that Com 475.1(2) be taken in conjunction with Mkt 479.1(2). For additional information, students should consult the departmental chairperson and/or faculty advisors. The department administers the managerial communications courses [Com 293.1(2); Com 475.1(2); and Com 675.1(2)] described earlier in this Calendar.

## **370.1(2) Introduction to Marketing**

Prerequisite: Bus 280.0 or Mgt 281.1(2) and Eco 201.1(2) and 202.1(2).

A study of principles and fundamental concepts of marketing and marketing management: pricing, promotion, merchandising, distribution structure and marketing research.

Classes 3 hrs. a week. 1 semester.

## **371.1(2) Retailing**

Prerequisite: Mkt 370.1(2) or permission of chairperson.

A comprehensive study of the activities involved in marketing goods and services directly to the ultimate consumer. Other areas studied will be evolution of retailing, retailing within the marketing channels, shopping behavior and various retail trends.

Classes 3 hrs. a week. 1 semester.

## **372.1(2) Marketing Communication and Promotions Management**

Prerequisite: Mkt 370.1(2).

This course examines the marketing communication process. Various models of interpersonal communication and mass communication are examined. The major focus of the course will be a management of the promotion function within the firm as it specifically applies to integrating advertising, sales promotion, publicity, public relations, and personal selling activities. Emphasis will be placed on the structure, strategic planning, and evaluation of effectiveness of promotional strategy.

Classes 3 hrs. a week. 1 semester.

## **373.1(2) Management of Marketing Channels**

Prerequisite: Mkt 370.1(2).

A study of the marketing distribution system, retailing and wholesaling, merchandising, and relevant legislation.

Classes 3 hrs. a week. 1 semester.

## **374.1(2) Sales Management**

Prerequisite: Mkt 370.1(2).

A study of the managerial problems involved in sales management, including the recruitment, training, compensation and motivation of sales personnel and the control and integration of the individual selling effort.

Classes 3 hrs. a week. 1 semester.

## **375.1(2) International Marketing**

Prerequisite: Mkt 370.1(2).

An introduction to the nature and environment of international marketing including the study of the international consumer, product policy, distribution, promotion, research and management.

Classes 3 hrs. a week. 1 semester.

## **376.1(2) Consumer Behavior**

Prerequisite: Mkt 370.1(2).

A study of the nature of consumer behavior, the foundation of consumer research, consumer market segments, consumer attitudes.

Classes 3 hrs. a week. 1 semester.

## **377.1(2) Industrial Marketing**

Prerequisite: Mkt 370.1(2).

A study of the marketing functions of industrial producers whose products are employed in the manufacture of other products or become part of other goods and services, behavior of industrial, governmental and institutional buyers.

Classes 3 hrs. a week. 1 semester.

## **378.1(2) Marketing Research**

Prerequisite: Msc 207.1(2) and Mkt 370.1(2).

This course deals with the managerial, conceptual and technical aspects of marketing research. Technical problems in data collection will be covered in depth. Specific statistical techniques for data analysis will not be taught, but conceptual issues in the application of techniques learned in Msc 207.1(2) will be covered. The course will require the use of one or more of the Micro Computer Labs (including the Macintosh Lab) and the Main Frame (VAX Computer). On completion of the course, a student should be able to formulate and execute research as well as to evaluate research reports prepared by others.

Classes 3 hrs. a week. 1 semester.

## **472.1(2) Advertising Management**

Prerequisite: Mkt 370.1(2); 372.1(2); and 376.1(2). (The latter course may be taken concurrently.)

This course provides an introduction to the techniques of advertising as an integral part of the marketing communications process. Fundamentals covered in the course will include: procedures for creating advertising appeals; advertising management; advertising research; methods of allocation for advertising budgets; practices of advertising agents; media selection and planning; evaluation of the success of advertising campaigns.

## **479.1(2) Marketing Policy**

Prerequisite: at least three half courses in marketing beyond 370.1(2), one of which must be Mkt 376.1(2) (Consumer Behavior); or permission of chairperson.

Managerial in focus, this course is devoted to analyzing opportunities, studying marketing activity and its organization, planning the marketing program and controlling the marketing effort. This is a "capstone" marketing policy course which is designed to integrate the material learned in the prerequisite upper-division, marketing courses.

**490.1(.2) Special Topics in Marketing**

Prerequisite: two half courses in marketing beyond 370.1(.2).

An in-depth study of selected topics in marketing. Topics selected for discussion are at the discretion of the instructor with approval of the department. Issues to be discussed may include such topics as marketing productivity, marketing auditing, marketing models, social issues in marketing. Topics will vary from year to year. The course may be repeated for credit when topics vary.

**492.1(.2) Directed Study**

Prerequisite: permission of chairperson and instructor.

Intended to supplement or provide an alternative to the regular marketing courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the students some measure of independence and initiative.

Tutorial and independent study. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration program and with permission of the MBA Director, to students registered in other Master's programs.**

**571.1(.2) Marketing Management: An Overview**

A course providing managerial introduction to the fundamentals of marketing with primary focus on the planning, organizing, and controlling of product, price, distribution, promotion, and public policy strategies, in both domestic and international markets.

**672.1(.2) Marketing Communications: Planning and Strategy**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A study of communications theory as it applies to the role of interpersonal and mass communication media in marketing. Emphasis is placed on the formulation, coordination and evaluation of the effectiveness of advertising, personal selling, sales promotional, and public relations strategies.

**673.1(.2) Marketing Distribution: Planning and Strategy**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A systematic analysis of the decision-making factors underlying the development of effective distribution policies and strategies. The course focuses on the institutions and functions of the marketing channel with emphasis placed on distribution regulation, direct selling, retail, wholesale and physical distribution functions.

**675.1(.2) Multinational Marketing**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A comprehensive survey of the nature and environment of multinational marketing. This course focuses on the marketing management aspects of multinational business. Emphasis is placed on developing analytical decision-oriented abilities in the area of multinational pricing, product, policy, distribution, promotion, research and development and market segmentation.

**676.1(.2) Consumer Behavior: Decision-Making Applications**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

An examination of the buying behavior of individuals as it is affected by psychological and sociological influences. Emphasis is placed on the understanding of how such behavioral science concepts as social class, reference group, perception, attitude,

motivation, personality and learning can contribute to the improvement of marketing decision-making.

**677.1(.2) Industrial Marketing Management**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

This course studies the management of the marketing processes among industrial product producers, institutional, industrial and government consumers. Methods of procurement such as buying centres, and various buyer/seller relationships are examined.

**678.1(.2) Marketing Research**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A study of the decision-making application of marketing research techniques and procedures. Emphasis is placed on research design, sampling, data collection, analysis and presentation. The course will require the use of one or more of the Micro Computer Labs (including the Macintosh Lab) and the Main Frame (VAX Computer).

**679.1(.2) Marketing Policy**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

A comprehensive, integrated study of marketing management. Primary focus is placed on the analysis and solution of complex marketing problem situations. The course also includes several seminar discussions on contemporary issues such as multinational marketing, consumerism, and marketing regulation.

**690.1(.2) Seminar in Marketing**

Prerequisite: completion of all 500 level required courses or consent of MBA Director.

An in-depth study of selected topics. Selections for discussion are at the discretion of the instructor with approval of the department. Issues to be discussed may include such topics as marketing productivity, marketing auditing, marketing models, social issues in marketing. Topics will vary from year to year. The course may be repeated for credit when topics vary.

**692.1(.2) Directed Study**

Prerequisite: completion of all 500 level required courses and consent of MBA Director, departmental chairperson, and instructor.

Intended to supplement or provide an alternative to the regular marketing courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

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## Master of Business Administration (MBA)

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Director

T. S. Chan

Requirements for this graduate program are found in Section 3 of this Calendar.

**MBA 691.1(.2) Management Research Project**

Each student is required to complete a project, normally on an in-company basis, involving the practical application of the concepts and techniques learned in a specialist area, under the direct supervision of a faculty member in that area.



# Mathematics and Computing Science (Mat and CSC)

Chairperson, Professor  
Professors

M. T. Kiang  
B. L. Hartnell, D. G. Kabe  
R. L. Kruse

Associate Professors

A. S. Finbow, W. Finden, P. Muir  
P. Scobey, Y. P. Singh

Assistant Professor  
Lecturer

F. L. Hughes  
K. J. MacLeod

The Mathematics and Computing Science Department offers a broad range of courses, including introductory courses intended for students with little mathematical background; preparatory courses for students intending to enter fields requiring mathematics or computing science; and specialized courses for more advanced mathematics and computing science students.

## Introductory Courses

Mat 118.1(2) is a remedial course designed for students with a weak mathematical background who need to review topics usually covered in high school algebra.

CSC 101.1(2) is an introduction to computer programming designed for the student with little mathematical background and no previous experience with computers, who may have only casual interest in programming or needs only limited knowledge for application in other subjects.

**Note:** The above courses are not allowed as credit towards a major or concentration in mathematics.

## Preparatory Courses

Mat 100.0 and 113.0 are both accepted as the equivalent of Grade XII Mathematics. Mat 100.0 is intended, primarily, for students entering natural sciences or mathematics, and includes emphasis on trigonometry as well as algebra. Mat 113.0 is intended, primarily, for students in commerce and the social sciences, omits trigonometry, and concentrates instead on applicable finite mathematics.

Mat 200.0 is the first course and Mat 300.0 is the second course in calculus.

Mat 320.1 provides an introduction to linear algebra, while further topics in linear algebra are covered in Mat 321.2.

The CSC 226.1(2)/227.1(2) sequence is intended to be a first course for all students who intend to pursue further studies in computing science.

## Specialized Courses

Students may obtain a degree which has a special emphasis in one of the areas indicated below by choosing the majority of their optional courses from those listed following the area of selection:

### Special Emphasis in Pure Mathematics:

Mat 370.1(2); 401.1(2); 402.1(2); 420.1(2); 421.1(2); 426.1(2); 427.1(2); 435.0; and 440.0.

### Special Emphasis in Applied Mathematics:

Mat 308.1(2); 309.1(2); 314.0; 401.1(2); 402.1(2); 405.1(2); 406.1(2); 408.1(2); 409.1(2); 414.0; 415.1(2); 416.1(2); 445.0; 456.1(2); and 457.1(2).

### Special Emphasis in Computing Science

All courses in Computing Science at 300.0 level or above except CSC 387.1(2) and 388.1(2).

## Requirements for Majors in Mathematics and Computing Science (effective September 1985)

A major in mathematics and computing science is offered for students working towards the degrees of B.A. and B.Sc. and for students of above average ability working towards the degrees of B.A. (Honors) and B.Sc. (Honors).

The entering student without advanced placement in mathematics should complete Mat 100.0 in the first year.

## The departmental requirements for a major in mathematics and computing science are:

1. Mat 200.0
2. CSC 226.1(2) and 227.1(2)
3. Mat 300.0
4. Mat 320.1(2) and 321.1(2)
5. A minimum of four additional credits in mathematics and computing science, from courses chosen by the student in consultation with the department. These courses must be numbered 205 or above and at least two must be numbered 400 or above.

## Requirements for Honors in Mathematics and Computing Science (effective September 1985)

The honors program is designed for mathematics and computing science majors of above average ability. Mathematics and computing science majors in their sophomore year with an overall quality point average of at least 2.50, and with a quality point average of at least 3.00 in their mathematics and computing science courses, should consider enrolling in the honors program, and are advised to consult with the department before making a final decision.

## The departmental requirements for honors in mathematics and computing science are:

1. Mat 200.0
2. CSC 226.1(2) and 227.1(2)
3. Mat 300.0
4. Mat 320.1(2) and 321.1(2)
5. A minimum of seven additional credits in mathematics and computing science, from courses chosen by the student in consultation with the department. These courses must be numbered 205 or above, and at least four must be numbered 400 or above.

**Note:** Students must obtain formal departmental approval of their program at the time of their declaration to enter the major or honors program, as well as for any subsequent changes.

## Requirements for Major in Computing Science and Business Administration

Students interested in the above program should contact the Department of Mathematics and Computing Science or the Dean of Science. This program requires the following courses from this Department: Mat 200.0, CSC 226.1(2), CSC 227.1(2), Mat 320.1(2), Mat 321.1(2), CSC 327.1(2) and 328.1(2), CSC 345.0, CSC 461.1(2) and CSC 462.1(2). Additional information may be found in the Faculty of Science section in this Calendar.

## Co-operative Education Program for Computing Science Students (COES)

This program is designed for those students who wish to gain work experience in computing science while attending university.

The general requirements for this Co-operative Education Program are found in the Faculty of Science portion, Section 3 of this Calendar, and as follows:

The required courses are identical to those in the non co-op honors program, with the exception of work term reports (students in the co-op program are required to write a work term report at the end of each work term). Work term reports are graded on a pass/fail basis.

The overall structure of the co-op program is as follows (with ATx denoting an academic term, and WTx denoting a co-op work term):

Year	Fall	Winter	Summer
1	AT1	AT2	WT1
2	AT3	AT4	WT2
3	WT3	AT5	WT4
4	AT6	WT5	WT6
5	AT7	AT8	

Students interested in the above program should contact the Co-op Coordinator, Department of Mathematics and Computing Science.

#### Credit for Duplicate Courses

No student may receive credit for both Mat 100.0 and Mat 113.0, and no student who has received credit for an advanced mathematics or computing science course may later receive credit for a mathematics or computing science prerequisite to the course without permission of the department. With renumbered or restructured courses students are advised that they are not eligible to take a course for credit if they already have a credit for a comparable course, even if that course was taken at a different level or under a different number.

## Mathematics

### 100.0 Algebra and Trigonometry

Prerequisite: Grade XI Mathematics.

Elementary logic. Set theory and operations on sets. Real numbers and the real number line, including interval notation. Inequalities and absolute values. The Cartesian plane and representation of ordered pairs of real numbers. Elements of analytic geometry. Relations, functions, and graphs, with emphasis on the polynomial, trigonometric, exponential, and logarithmic functions. Complex numbers. Sequences and series. Mathematical induction. Permutations, combinations, and the binomial theorem. Matrices, determinants, and systems of linear equations.

Classes 3 hrs. plus recitation sessions 1 1/2 hrs. a week. 2 semesters.

### 113.0 Mathematics for Commerce and the Social Sciences

Prerequisite: Grade XI Mathematics or Mat 118.1(2).

Elementary set theory and the real number system, including the notions of absolute value and interval notation. Techniques for solving a variety of equations and inequalities in a single variable. Systems of linear equations. The Cartesian plane and functions and graphs, with emphasis on polynomial, exponential and logarithmic functions. Sequences and series. Permutations, combinations, the binomial theorem, and probability. Emphasis throughout on the skills needed to solve "word problems".

Classes 3 hrs. plus recitation sessions 1 1/2 hrs. a week. 2 semesters.

### 118.1(2) Remedial Mathematics

Prerequisite: none.

This course is designed for students with weak mathematical backgrounds. It reviews most topics usually covered in high school algebra and may be taken concurrently with Mat 100.0 or Mat 113.0.

Credit for this course may be obtained simultaneously with or prior to credit given for Mat 100.0 or Mat 113.0, but not subsequent to credit given for Mat 100.0 or Mat 113.0.

Classes 3 hrs. plus 1 hr. tutorial a week. 1 semester.

### 200.0 Calculus I

Prerequisite: Mat 100.0 or Grade XII Mathematics.

Functions, limits and continuity. The derivative and the indefinite integral. The definite integral and fundamental theorem of calculus. Continuity and its relation to differentiability and integrability. Techniques of differentiation and integration for algebraic, exponential, logarithmic and trigonometric functions. Numerical integration. Simpson's Rule and Trapezoidal Rule. Applications of the derivative and the definite integral, including: tangent and normal lines; related rates; Rolle's and the mean value theorems; local extrema, concavity and their aid in plotting graphs; area under a curve; volumes of revolution; work and arc length.

Classes 3 hrs. plus recitation sessions 1 1/2 hrs. a week. 2 semesters.

### 205.1(2) Survey of Discrete Mathematics

Prerequisite: Mat 200.0 (or concurrently).

This course will provide an overview of several topics in discrete mathematics which are of particular interest to students intending further studies in computing science.

Classes 3 hrs. plus recitation session 1 1/2 hrs. a week. 1 semester.

### 207.1(2) Survey of Statistics

Prerequisite: Mat 200.0 (or concurrently).

This course will provide an overview of several topics in probability and statistics that students intending further studies in computing science will find particularly useful.

Note: No credit will be given for this course simultaneously with or subsequent to a credit given for Mat 314.0.

Classes 3 hrs. plus recitation session 1 1/2 hrs. a week. 1 semester.

### 300.0 Calculus II

Prerequisite: Mat 200.0.

Parametric equations, polar coordinates, L'Hôpital's Rule, Taylor and Maclaurin series. Hyperbolic functions, analytic geometry, transformations, solid analytical geometry including lines, planes, spheres, cones, cylinders and paraboloids. Cylindrical and spherical coordinate systems. Curves in space. Improper integrals. Infinite series, including positive term series, alternating series, and power series. Functions of several variables, including partial derivatives, directional derivatives, and geometrical applications. Maxima, minima and the method of Lagrange multipliers. Line integrals, double and triple integrals. Use of polar, cylindrical polar and spherical polar coordinates, with applications. Vector algebra, calculus of vector valued functions, gradient, divergence and curl, and vector formulation of line integrals.

Classes 3 hrs. plus recitation sessions 1 1/2 hrs. a week. 2 semesters.

**301.1(.2) Introduction to Vectors, Matrices and Complex Numbers for Engineering Students**

Prerequisite: Mat 300.0 concurrently.

Algebra of matrices. Rank and inverse matrices. Theory of linear systems. Cramer's rule and use of determinants. Algebra of complex numbers, polar forms and DeMoivre's Theorem. First order differential equations. Linear differential equations with constant coefficients and methods of variation of parameters. Introduction to Laplace Transforms.

Note: No credit will be given for this course simultaneously with or subsequent to a credit given for Mat 405.1(.2).

Classes 3 hrs. a week. 1 semester.

**308.1(.2) [CSC 308.1(.2)] Numerical Analysis I**

Prerequisite: Mat 200.0 plus CSC 125.1(.2) or 226.1(.2), or equivalent programming experience.

A discussion of errors in numerical analysis. Theoretical and practical consideration of numerical procedures in non-linear equations in one variable including polynomial equations, in systems of linear equations and systems of non-linear equations. A brief discussion of vectors, matrices and norms.

Classes 3 hrs. a week. 1 semester.

**309.1(.2) [CSC 309.1(.2)] Numerical Analysis II**

Prerequisite: Mat 308.1(.2) or permission of instructor.

Theoretical and practical considerations of numerical procedures in function approximations including splines, interpolation and least squares and in numerical integration.

Classes 3 hrs. a week. 1 semester.

**314.0 Introduction to Statistics**

Prerequisite: Mat 200.0.

This course is designed to provide a mathematical basis for fundamental statistical concepts. It assumes familiarity with calculus and deals with the following topics: elements of set theory, probability, and conditional probability; Bayes-Laplace rule; binomial, hypergeometric, Poisson, multinomial, uniform, exponential, gamma, beta, and normal distributions; mathematical expectation, moments, and generating functions; Chebychev's Theorem; sums of random variables; sampling distributions; chi-square, F and T distributions; point and interval estimation; tests of hypotheses; linear regression and correlation; bivariate normal distribution; the method of least squares. Lab exercises are assigned in class.

Classes 3 hrs. a week. 2 semesters.

**320.1(.2) Linear Algebra I**

Prerequisite: Mat 200.0.

This course presents the basic concepts and techniques of linear algebra, including Gaussian elimination, matrix algebra, vector spaces, orthogonality and inner products, together with various applications and computational methods.

Classes 3 hrs. plus recitation sessions 1 hr. a week. 1 semester.

**321.1(.2) Linear Algebra II**

Prerequisite: Mat 320.1(.2).

This course continues Mat 320.1(.2) with further concepts and theory of linear algebra. Topics include determinants, linear transformations and their matrix representation, change of basis and similarity, eigenvalues and eigenvectors, canonical forms,

with applications to linear differential equations and quadratic forms.

Classes 3 hrs. plus recitation sessions 1 hr. a week. 1 semester.

**370.1(.2) Problem-Solving Seminar**

Prerequisite: permission of instructor.

A study will be made of advanced problem solving techniques and strategies. These will be applied to a wide variety of problems taken from several areas of mathematics.

Seminar 3 hrs. a week. 1 semester.

**401.1(.2) Sequences, Series and Improper Integrals**

Prerequisite: Mat 300.0.

Infinite sequences and series, convergence tests, grouping and rearrangements, sequences and series of functions, pointwise and uniform convergence, power series, double sequences and series, differentiation under the integral sign, improper single and double integrals, functions defined by improper integrals; Fourier series and transforms.

Classes 3 hrs. a week. 1 semester.

**402.1(.2) Vector Calculus**

Prerequisite: Mat 300.0 and 320.1(.2).

Curves and surfaces, directional derivatives, gradient, divergence, curl, differentiable functions from  $R_n$  to  $R_m$ , Jacobians, change of variables in multiple integrals, inverse of transformations and the implicit function theorem, line and surface integrals, the integral theorems of Green, Gauss and Stokes.

Classes 3 hrs. a week. 1 semester.

**405.1(.2) Differential Equations I**

Prerequisite: Mat 300.0 or permission of instructor.

First order differential equations, linear differential equations with constant coefficients, Laplace transforms, linear differential equations with variable coefficients (series solutions), applications.

Classes 3 hrs. a week. 1 semester.

**406.1(.2) Differential Equations II**

Prerequisite: Mat 405.1(.2) and Mat 320.1(.2) or permission of instructor.

Systems of differential equations, boundary value problems, Sturm-Liouville problems, Fourier series, simple classical partial differential equations.

Classes 3 hrs. a week. 1 semester.

**408.1(.2) [CSC 408.1(.2)] Advanced Numerical Analysis I**

Prerequisite: Mat 309.1(.2) or permission of instructor.

Theoretical and practical considerations of numerical analysis in the eigenvalue-eigenvector problem and in the solutions of ordinary differential equations.

Classes 3 hrs. a week. 1 semester.

**409.1(.2) [CSC 409.1(.2)] Advanced Numerical Analysis II**

Prerequisite: Mat 408.1(.2).

Theoretical and practical considerations of numerical analysis in the solutions of ordinary and partial differential equations.

Classes 3 hrs. a week. 1 semester.

**414.0 Statistical Simulation Theory**

Prerequisite: Mat 314.0 or equivalent.

Students are introduced to statistical modelling, simulation languages, validation of model analysis, input and output data analysis, random number generation, Monte Carlo studies, elementary queuing theory, optimal performance theory and optimal selection theory. Emphasis is on statistical simulation theory rather than on program writing:

Classes 3 hrs. a week. 2 semesters.

**415.1(2) Mathematical Statistics**

Prerequisite: Mat 300.0 and a course in the Pascal computer programming language.

This course studies mathematical foundations of statistics, including both parametric and non-parametric inferences. Emphasis is placed on the properties of random variables and their distributions. The estimation of parameters by using sample statistics and tests of related hypotheses are included. Applications to computer science are studied.

Classes 3 hrs. a week. 1 semester.

**416.1(2) Mathematical Probability**

Prerequisite: Mat 415.1(2).

The aim of the course is to introduce students to mathematical (non-measure-theoretic) foundations of probability and elements of stochastic processes. The topics include conditional probabilities, conditional distributions, characteristic functions, limit theorems, Markov chains and Markov processes, birth and death processes and elementary queuing theory.

Classes 3 hrs. a week. 1 semester.

**420.1(2) Abstract Algebra I**

Prerequisite: Mat 321.1(2) or permission of instructor.

The study of algebraic structures, such as groups, rings, fields, posets, graphs, or universal algebras. The major emphasis will be on derivation of theory, with inclusion of applications and examples.

Classes 3 hrs. a week. 1 semester.

**421.1(2) Abstract Algebra II**

Prerequisite: Mat 420.1(2) or permission of instructor.

The further study of algebraic structures and their applications.

Classes 3 hrs. a week. 1 semester.

**426.1(2) Introduction to Combinatorics**

Prerequisite: Mat 300.0 or Mat 320.1(2) or permission of instructor.

This course will introduce the student to various enumeration techniques and will include such topics as permutations and combinations, recurrence relations and generating functions. Various finite structures and their applications will also be studied.

Classes 3 hrs. a week. 1 semester.

**427.1(2) [CSC 427.1(2)] Computational Methods in Graph Theory**

Prerequisite: Mat 300.0 or Mat 320.1(2) or permission of instructor.

This course discusses various graph theoretic algorithms and their application to different problems. Topics to be discussed will be chosen from the following: the connector problem, the shortest path problem, the Chinese Postman Problem and Euler trails, matchings and their applications to the Personnel and Optimal Assignment Problems, colouring problems (with reference to timetabling) and Flows in networks.

Classes 3 hrs. a week. 1 semester.

**430.1(2) Set Theory**

Prerequisite: Mat 300.0 or 320.1(2).

Basic set theory will be developed using one of the widely accepted axiom systems. Alternate systems will be discussed. The topics will include: set operations, cardinality, ordered sets, well ordering, cardinal and ordinal numbers, and the axiom of choice.

Classes 3 hrs. a week. 1 semester.

**432.1(2) Elementary Topology**

Prerequisite: Mat 300.0 and 321.1(2); Mat 430.1(2) is recommended.

This course will begin with a study of the topology of metric spaces. Topics will include bounded and totally bounded sets, completeness and fixed point theorems. Following this, abstract topological spaces will be studied.

Classes 3 hrs. a week. 1 semester.

**435.0 Theory of Functions of A Complex Variable**

Prerequisite: Mat 300.0.

The complex plane. Elementary transformations and mappings, analytical functions, branch points and cuts, infinite series and uniform convergence, conformal mapping, complex integration, Cauchy's theorem, residues, Liouville's theorem and the fundamental theorem of algebra.

Classes 3 hrs. a week. 2 semesters.

**440.0 Real Analysis**

Prerequisite: Mat 300.0.

Sets, functions, and relations, the real number field; the least upper bound axiom; countability, sequences and subsequences, accumulation points, metric spaces, continuous functions, compactness and connectedness, series of functions, uniform convergence, integration.

Classes 3 hrs. a week. 2 semesters.

**445.0 Introduction to Operations Research**

Prerequisite: Mat 300.0 and Mat 320.1(2).

The course will discuss mathematical models of real world problems together with a variety of recently developed mathematical programming techniques for their solution. Some theory will be presented but emphasis will be on the problem-solving approach and actual implementation of various problem-solving methods on the computer.

Classes 3 hrs. a week. 2 semesters.

Note: Students who have received credit for Mat 335.0 may not register in this course.

**456.1(2) Introduction to Applied Mathematics I**

Prerequisite: Mat 300.0 and 301.1(2) or permission of instructor.

Leibnitz rules for repeated derivatives of a product, differentiation under the sign of integration, Beta and Gamma functions, Hankel functions, Legendre polynomials, the convolution theorem and singularity functions for Laplace Transforms, physical meaning and applications of curl, divergence and integral theorems.

Classes 3 hrs. a week. 1 semester.

**457.1(2) Introduction to Applied Mathematics II**

Prerequisite: Mat 300.0 and 301.1(2) or permission of instructor.

Orthogonal curvilinear coordinate systems and transformation of Laplacian to cylindrical and spherical polar coordinates. Method of residues for contour integration. Properties of orthogonal functions and eigenvalue expansions. Derivation of the

Laplace equation, the wave equation and the heat equation. Methods of solution for various geometrical and boundary conditions.

Classes 3 hrs. a week. 1 semester.

#### **490.1(.2) to 499.1(.2) Directed Study in Mathematics**

Prerequisite: permission of instructor.

This course is intended to supplement or provide an alternative to the regular mathematics courses in order to meet the special needs and interests of students. The course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

## **Computing Science (CSC)**

### **101.1(.2) Basic Programming and Computer Concepts**

Prerequisite: none.

An elementary introduction to computer programming intended for the student with no previous experience. Study of the BASIC computer language with practice in writing and running several programs. Discussions of the capabilities and applications of modern computers.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 125.1(.2), CSC 226.1(.2), and CSC 227.1(.2).

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **226.1(.2) Introduction to Computer Programming I**

Prerequisite: one of Mat 100.0 or 113.0; senior matriculation; or permission of the instructor.

This course teaches the fundamentals of algorithm development, stressing the technique of top-down design. Emphasis will be placed on writing programs that are highly modularized and that exhibit good programming style. Pascal or another suitable programming language will be presented; also included is a brief overview of the organization of a computer system.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **227.1(.2) Introduction to Computer Programming II**

Prerequisite: CSC 226.1(.2).

This course stresses the continuing development of skills in algorithm design using the technique of top-down design. Emphasis will be placed on the writing of modular programs exhibiting good programming style. The fundamentals of algorithm analysis will be presented. These principles will be applied to writing larger computer programs in the language introduced in CSC 226.1(.2). Advanced aspects of this language will be treated, and a brief look at a second high-level programming language may be included. Other topics to be covered in the course are simple data structures, basic search and sorting techniques and recursion.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **308.1(.2) [Mat 308.1(.2)] Numerical Analysis I**

See description under Mat 308.1(.2) in the listings of Mathematics courses.

### **309.1 [Mat 309.1(.2)] Numerical Analysis II**

See description under Mat 309.1(.2) in the listings of Mathematics courses.

### **327.1(.2) Computer Organization and Assembly Language Programming**

Prerequisite: CSC 226.1(.2) and 227.1(.2).

This course considers basic concepts of computer organization

and assembly language programming. Topics covered include hardware components, integrated systems, data representation, assembly language programming, data manipulation and structures, and I/O programming. Assignments and labs will require the use of available computer equipment.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 326.0.

### **328.1(.2) System Architecture**

Prerequisite: CSC 327.1(.2).

This course continues the coverage of CSC 327.1(.2) and considers basic computer structures, addressing methods, the processing unit, microprogrammed control, I/O organization, computer arithmetic and main memory.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 326.0.

### **332.1(.2) Survey of Programming Languages**

Prerequisite: CSC 226.1 and 227.2.

This course will provide the student with a survey of several different programming languages. Examples of languages to be considered are Ada, Turing, C, Prolog, and Lisp. Global properties of algorithmic languages will be compared including scope of storage allocation, grouping statements, control of program logic, type of procedure implemented, default mechanisms and debugging facilities. There will be comparison of languages in order to determine the most suitable for particular applications.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **345.0 Data Structures and Program Design**

Prerequisite: CSC 227.1(.2).

This course emphasizes the importance of data structures in program design and performance. Fundamentals of data structure and algorithm analysis and comparison will be presented. The course will survey a number of common classes of data structures for internal memory and discuss a variety of searching and sorting algorithms based on these structures. The concept of data abstraction will be emphasized throughout and some attention will be given to related concepts in software engineering. The course will conclude with a brief look at basic information structures and algorithms for external storage.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 325.0.

### **387.1(.2) Scientific Uses of Microcomputers I**

Prerequisite: Mat 200.0.

Course coverage includes an introduction to microcomputer architecture, acquisition of data and control of experiments, computerized communication and access to information and use of databases.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

### **388.1(.2) Scientific Uses of Microcomputers II**

Prerequisite: Mat 200.0.

Course coverage includes an introduction to microcomputer graphics, image analysis, computerized communication and access to information.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**408.1(.2) [Mat 408.1(.2)] Advanced Numerical Analysis I**

See description under Mat 408.1(.2) in the listing of Mathematics courses.

**409.1(.2) [Mat 409.1(.2)] Advanced Numerical Analysis II**

See description under Mat 409.1(.2) in the listing of Mathematics courses.

**421.1(.2) Data Communication**

Prerequisite: CSC 328.1(.2).

The design and use of data communications systems will be discussed in this course. Topics will include terminals, modems, telephone communications, communication satellites, modes of data transmission, transmission speed, character coding, error handling, congestion, deadlock, ring networks, star networks and distributed networks.

**422.1(.2) Microcomputer Architecture and Programming**

Prerequisite: CSC 431.1.

Topics to be covered include: microprocessor technology and evolution, basic microcomputer organization, addressing modes and programming operations, programming and architecture of specific microcomputer systems.

**424.1(.2) Topics in Advanced Data Communications**

Prerequisite: CSC 421.1(.2) or permission of instructor.

An in-depth examination of current and future trends in data communications. Topics to be covered include: multimedia, ISDN, the DARPA (DOD) Protocol suite (include IP), gateway designs, and hypermedia.

**427.1(.2) [Mat 427.1(.2)] Computational Methods in Graph Theory**

See description under Mat 427.1(.2) in the listing of Mathematics courses.

**431.1(.2) An Introduction to Operating Systems I**

Prerequisite: CSC 327.1(.2) and 328.1(.2).

The fundamental principles of modern operating system design are presented. Some of the specific topics which will be covered are: processor management, real and virtual storage organization and management, resource allocation, deadlock handling, concurrent processes, interprocess communication and synchronization, and protection problems.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 451.1(.2).

**432.1(.2) Introduction to Operating Systems II**

Prerequisite: CSC 431.1(.2).

This course continues the survey of topics begun in CSC 431.1(.2).

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 451.1(.2).

**451.1(.2) Topics in Theoretical Computing Science I**

Prerequisite: permission of instructor.

According to the interests of students and instructor, this course surveys topics from theoretical computing science such as algorithm analysis, automata, abstract machine theory, complexity theory, data and algorithm abstraction, and mathematical linguistics.

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 471.1(.2).

**452.1(.2) Topics in Theoretical Computing Science II**

Prerequisite: permission of instructor.

This course continues the survey of topics begun in CSC 451.1(.2).

No credit will be given for this course simultaneously with or subsequent to credit given for CSC 472.1(.2).

**461.1(.2) Database Systems**

Prerequisite: CSC 345.0, CSC 327.1(.2) and 328.1(.2) or permission of the instructor.

This course discusses database architecture, database management, relational algebra, relational calculus and other selected topics which may include distributed databases. A major project will be included in this course.

**462.1(.2) File Structures**

Prerequisite: CSC 345.0.

This course continues the study of the organization of information on external storage devices within a computer system, begun in CSC 345.0. The course will include an overview of schemes for compact storage of information, a fairly extensive survey of single-key access methods, with particular attention given to adaptive methods, and a survey of multi-key access methods. Also included will be some discussion of advanced sort and merge algorithms for external memory. A brief overview of several file structure systems may also be presented.

**463.1(.2) Numerical Software Engineering I**

Prerequisite: CSC 308.1(.2), 309.1(.2), and 345.0.

This course will study the software development process in the area of numerical software from a software engineering perspective. Emphasis will be placed on software development and implementation aspects of a variety of numerical algorithms. The course will also examine a substantial number of software packages including some which are currently available in some of the large commercial software libraries, as well as a number of published software packages which have yet to appear in libraries and even a few experimental codes which have not yet appeared in the literature. The main project in the course will be the development of a large software package by the class working as a programming team in a selected area of numerical algorithms. Other projects to be undertaken during the course include the modification of one or more existing mathematical software packages and the critical analysis of several existing software packages. A number of assignments related to the software packages considered will also be given.

**464.1(.2) Numerical Software Engineering II**

Prerequisite: CSC 463.1(.2).

This course will continue the study of numerical software engineering begun in Numerical Software Engineering I.

**474.1(.2) Information Retrieval**

Prerequisite: CSC 345.0 or permission of instructor.

This course is designed to complement CSC 461.1(.2) and considers manipulations on a bibliographic database. Topics to be covered include an introduction and basic definitions, inverted file structures, automatic indexing, prototype systems, retrieval and refinements and natural language processing.

**482.1(2) Introduction to Artificial Intelligence**

Prerequisite: CSC 345.0.

This course will include the following topics: (1) introduction to general concepts: natural intelligence, Turing's test, short history of A.I.; (2) problem solving: reduction and graphs, problem solvers, reasoning programs; (3) game playing: game trees and heuristic search (minimax, statistic evaluation, Alpha-beta technique); (4) theorem proving: first order predicate calculus, theorem proving techniques (resolution, heuristic search strategies), solving problems with theorem provers; (5) natural language programming; (6) recognition: texture analysis, image enhancement and line detection, region perception and object perception; (7) introduction to logical languages and programming in Prolog.

**491.1(2) to 499.1(2) Special Topics in Computing Science**

Prerequisite: permission of instructor.

This course covers advanced topics in computing science chosen according to the interests of the students and instructor, and requires some measure of independence and initiative from the student.

Seminar 3 hrs. a week. 1 semester.



# Modern Languages and Classics

**Egyptian (Egp) — Classics (Cla) — Latin (Lat) — Greek (Gre) — French (Fre) — German (Ger) — Spanish (Spa) — Chinese (Chi) — Italian (Ita) — English As a Second Language (ESL)**

Chairperson, Professor

A. J. Farrell

## Classics

Associate Professors

G. T. Thomas, V. McB. Tobin

## French

Associate Professors

P. Bernard, K. Flikeid  
G. LePièrres

Assistant Professor  
Lecturer

A. Murphy  
G. Nahrebecky

## German

Assistant Professor

M. Heukaeufer

## Spanish

Professor

A. J. Farrell

## Egyptian

Associate Professor

V. McB. Tobin

### Department Policy — Modern Languages and Classics

The Department of Modern Languages and Classics offers major programs in Classics, French, German, and Spanish; language and literature courses in Greek, Latin, and Ancient Egyptian; introductory language courses in Chinese, Italian, and Modern Greek; and English as a Second Language.

The program in Classics is comprised of courses of instruction in languages, literature, history, culture and civilization. One of the language courses may be used to satisfy the 3-b requirement of the Faculty of Arts while the other courses in Classics may be used to satisfy the 3-c requirement.

Recognizing the significance of the cultural links between the classical civilizations of Greece and Rome and their later European descendants, the department encourages its students to explore language as an evolving tool of communication and expression. Students majoring in Classics are strongly advised to study at least one of the classical languages; Latin is a valuable asset for students majoring in French, Spanish or German.

The student's eligibility to enroll in language and literature courses, and in specific sections of those courses, is determined by the Department in light of the student's ability level in the language concerned, previous course work completed at university or elsewhere, and overall size of the course or section of a course.

The Department of Modern Languages and Classics supports a policy of regular class attendance by students. Frequent, unexplained absences from class will result in a lowering of the final grade in a manner to be determined by each faculty member.

Students who have received an advanced standing credit in one of the languages taught by the department (French, Spanish, German, Italian, Chinese, Latin, Greek and Ancient Egyptian) cannot take and receive credit for first level language courses at Saint Mary's University. Therefore, they should register in second level or intermediate level language courses. Students enrolling in any French course below the 300 level will be required to take a

placement test (unless they have previously taken a French course at this University at the 200 level). This test is administered on the first day of classes. Attendance at this first class is required.

### a. Major concentrations

Students intending to major in Classics, French, German, or Spanish are required to consult the chairperson of the department for advice about, and approval of, their academic programs. Where appropriate, supporting courses offered by other departments will be suggested. The following general requirements apply:

**Classics:** A major in Classics consists of at least six courses, four of which must be at the 300 level or above.

The following are recommended as core courses for the major:

Cla 201.1(2)	Mythology of Greece and Rome, I
Cla 202.1(2)	Mythology of Greece and Rome, II
Cla 203.1(2)	Art in Greece and the Ancient Near East
Cla 204.2(1)	Art in Rome and Christian Europe to the 14th Century
Cla 301.0	Classics in Translation
Cla 303.0	History of Greece
Cla 304.0	History of Rome
Cla 306.0	The Epic
Cla 310.0	History of Israel
Cla 316.0	History of Egypt
Cla 352.1(2)	Women in Antiquity
Cla 405.0	Advanced Reading and Tutorial

**French:** A major in French normally consists of at least six university credits in French beyond Fre 200.0. Both Fre 300.0 and Fre 301.0 are compulsory. At least two of the six credits must be made up of courses at the 400 level; one of these 400 level credits must be chosen from among the following group of courses which centres on the literature of the French-speaking world: 414.0, 415.0, 419.0, 420.0, 424.0, 426.1, 427.2, 428.1(2), and 429.1(2).

Fre 100.0, 110.0, and 200.0 cannot be counted for the French major. Potential French majors with a strong background in French are urged to begin their university French studies with courses beyond French 200.0.

**German and Spanish:** Major programs in these languages are worked out in consultation with the professor concerned, and are predicated upon the Faculty of Arts regulations governing major programs.

### b. French language courses

In an effort to provide the students with the language course which best suits their needs, a placement test is administered during the first day of class in Fre 110.0, 200.0, and 250.0. Fre 100.0 is primarily intended for students who have never taken French, although it is also available to students whose placement test scores indicate that they would greatly benefit from the course. Students who have already taken a university course in French elsewhere are asked to consult the department before registering for a course in French.

### c. French courses on the 300 and 400 level

These courses are normally taught in French. 400 level courses are offered by rotation.



#### d. Language skill courses in French

The following courses are especially recommended to students interested in acquiring conversational ability or special skills in French:

Fre 230.1(.2)	Fre 330.0
Fre 231.1(.2)	Fre 400.1(.2)
Fre 301.0	Fre 421.0
Fre 321.1(.2)	Fre 430.0
Fre 325.1(.2)	

Students are advised that each professor has the right to institute a lab component as part of the normal course requirements.

These labs may involve practice sessions in the Language Learning Centre and/or time spent in conversation with a designated language monitor.

#### e. Minor in Linguistics

The minor in linguistics offers students the opportunity to gain insight into the functioning of language as a system through an introduction to linguistic theory and training in the methods of linguistic analysis. It also serves as the gateway to the numerous practical applications of linguistics. Linguistics provides the groundwork for the teaching and learning of languages, as well as sign languages and computer languages. It forms the basis for the understanding of bilingualism, for language planning in multilingual countries, for developing tools for increasing literacy, and for enhancing the efficiency of translation services. Linguistics is also useful in the field of special education in the understanding and treatment of language disorders and reading problems.

To minor in linguistics, students must complete the following courses:

The equivalent of three full courses from among the following: Ant 390.0 (Linguistic Anthropology) (strongly recommended); Egl 311.1(.2) (Modern English Language); Egl 312.1(.2) (Modern English Language in Canada); Egl 402.0 (History of the English Language); Fre 340.1(.2) (Linguistic Study of French); Fre 440.1(.2) (Canadian French: Sociolinguistic Perspectives); Phi 401.0 (Philosophy of Language); Psy 346.1(.2) (The Psychology of Language); Soc 339.1(.2) (The Sociology of Language); Soc 338.1(.2) (Language Change and Social Change).

The equivalent of one additional full course selected with the advice of the Program Coordinator, Dr. K. Flikeid, Department of Modern Languages and Classics.

It is up to the individual departments to determine how often each of these courses will be offered. Students are advised to consult with the coordinator as to the availability of courses when planning their minor. Students cannot count the same course for a major in any discipline and for a minor in linguistics.

#### f. Certificate of Proficiency in French for Non-Majors

The Department of Modern Languages and Classics offers a program in French designed to build the students' ability to communicate effectively in the language, both orally and in writing, and directed to the attainment of the Certificate of Proficiency in French. The certificate is granted by the University in recognition that the student has attained a level of comprehension and fluency sufficient to understand most conversation between native speakers and to sustain conversation on most topics.

The program consists of four courses specifically chosen for their direct applicability to this goal. The courses are normally four of the following: Fre 200.0, 230.1(.2), 231.1(.2), 250.0, 301.0, 320.1 / 321.2, 325.1(.2), and Fre 400.1(.2). Students qualified to enter the

program at a higher level will take Fre 250.0, 301.0, two of 320.1(.2), 321.1(.2), 325.1(.2), 400.1(.2), and either Fre 421.0 or 430.0. Students who anticipate making use of their skills in French in the commercial world would be well advised to substitute Fre 330.0 for 320.1(.2) and 321.1(.2) in the sequences detailed above. In special cases, however, exceptions may be made regarding both the number and types of courses taken. After successfully completing the program of study approved by the department, the student will take a comprehensive oral and written examination.

The Certificate of Proficiency in French will be awarded by the University through the office of the Registrar. The student's transcript will bear a separate entry showing that the certificate has been awarded and recording the grade attained in the comprehensive examination.

#### Year Abroad at the Université Catholique d'Angers, France

The department offers a year-abroad program of study at the Université Catholique d'Angers, France. It consists of a month-long intensive French language session in September, followed by two semesters of course work (mid-October through mid-June) in language and in subjects chosen from among a variety of courses including phonetics, linguistics, French civilization, history and literature, music and art history, etc. Normally students who successfully complete the September pre-university session and the two semesters of course work receive five university credits at Saint Mary's. Lodging is arranged with local families in Angers, meals are available at the university restaurant, and a full program of cultural and recreational activities is offered.

A one month program is offered in July, designed specifically for intensive work in spoken and written French and benefitting from the presence of French language monitors selected by the Université d'Angers.

The approval of the Department of Modern Languages and Classics, of the Dean of Arts, and of the Dean of Faculty (if other than Arts) is required for students to participate in this study-abroad program. To be eligible to participate in this program, and in other study programs at other French universities or at other francophone universities, students must have completed at least 1.0 credit in French at Saint Mary's University and must have obtained a minimum grade of B in French at Saint Mary's at the 200-level or above. With the approval of the Department of Modern Languages and Classics, a study year abroad at another French university or a French university in Quebec may be substituted for the one in Angers.

## Latin (Lat)

### 100.0 Introduction to Latin

A course in the essentials of Latin for students who have not completed matriculation Latin.

Text: Goldman, Nyenhuis, *Latin Via Ovid*.

Classes 3 hrs. a week. 2 semesters.

Note: Students who received an advanced standing credit in Latin are not eligible for enrolment in this course.

### 201.0 Intermediate Latin

Prerequisite: Lat 100.0 or equivalent.

This course aims to enhance the development of good techniques of Latin-English translation and of rendering English into idiomatic Classical Latin. A variety of Latin authors and the continued study of Latin grammar will be utilized to achieve those objectives.

Classes 3 hrs. a week. 2 semesters.

**302.0 Latin Prose Writers**

Prerequisite: permission of instructor or Lat 201.0.

Students will be asked to translate and comment upon selections from different periods of Latin prose, e.g., Cicero's Letters, Apuleius' *Metamorphoses*, Latin Vulgate. Also continued study of Latin grammar.

Classes 3 hrs. a week. 2 semesters.

**404.0 Advanced Reading**

Prerequisite: permission of instructor.

A tutorial course, the content of which may be varied according to the needs and interests of the student. Directed readings and research.

**Greek (Gre)****100.0 Introductory Ancient Greek**

An introductory course covering the major grammatical points of the ancient Greek language. This course will be followed in succeeding years by more advanced courses in the reading and interpretation of classical authors.

Classes 3 hrs. a week. 2 semesters.

Note: Students who received an advanced standing credit in ancient Greek are not eligible for enrolment in this course.

**200.0 Second Year Ancient Greek**

Prerequisite: Gre 100.0.

An application of the major grammatical points of the ancient Greek language through the reading of selected works of classical authors:

- i. Homer, *Iliad*
- ii. Xenophon, *Anabasis*
- iii. the dramatists
- iv. lyric poetry

Classes 3 hrs. a week. 2 semesters.

**Ancient Egyptian (Egy)****300.0 Classical Egyptian**

Prerequisite: none but students are advised to consult with instructor before registering.

An intensive study of the language and grammar of Middle Egyptian, the classical language of ancient Egypt. Students will examine the grammatical possibilities of the language and receive intensive exercise in the decipherment and interpretation of the hieroglyphs.

Classes 3 hrs. a week. 2 semesters.

Note: Students who have an advanced standing credit in Ancient Egyptian are not eligible for enrolment in this course.

**400.0 Readings in Middle Egyptian**

Prerequisite: Egy 300.0.

Students will read, analyze and interpret selected texts from Middle Egyptian, e.g., Coffin Texts, *Sinuhe*, *Book of the Dead*, *The Dispute Between a Man and his Ba*, *The Eloquent Peasant*, etc.

Classes 3 hrs. a week. 2 semesters.

**450.0 Readings in Old and Late Egyptian**

Prerequisite: Egy 300.0.

Selected readings from the Pyramid Texts, the Amarna Texts, Horus and Seth, the Mes Inscription, the Deir el-Medineh ostraca,

etc. Students will be introduced to the analytic forms of the Late Egyptian language as opposed to the synthetic forms of Middle Egyptian.

**Classical Literature and Civilization (Cla)****200.0 The Classical Civilizations of Greece and Rome**

A general introduction to the civilizations of ancient Greece and Rome with particular regard to political organization and cultural contribution to modern western society.

Classes 3 hrs. a week. 2 semesters.

**201.1(.2) The Mythology of Greece and Rome, I**

The course deals with the nature of mythology and the subject matter of the principal myths of Greece and Rome, e.g., the stories of Oedipus and his family, the different tales of the underworld, the Greek and Roman gods. Where possible the students are also encouraged to look at later versions and adaptations of the ancient tales.

Classes 3 hrs. a week. 1 semester.

**202.1(.2) The Mythology of Greece and Rome, II**

The course deals with the nature of mythology and the subject matter of some of the principal myths of Greece and Rome; e.g., the myth of Theseus and the Labyrinth, the labors of Hercules, the wanderings of Aeneas.

Classes 3 hrs. a week. 1 semester.

**203.1(.2) Art in Greece and the Ancient Near East**

Aided by slides, films and reproductions of artistic pieces in addition to lectures and readings, the class will examine the origins, developments and particular interests of artists in Mesopotamia, Egypt and Greece to the end of the Hellenistic world.

Classes 3 hrs. a week. 1 semester.

**204.1(.2) Art in Rome and Christian Europe to the 14th Century**

This course takes up the development of ancient art after the Hellenistic Greek world. It will show by readings, slides, films, tapes and lectures how earlier themes and techniques in art were carried on and modified by the Romans and by the Christians whose art grew out of a pagan background.

Classes 3 hrs. a week. 1 semester.

**301.0 Classics in Translation**

The classical literature of Greece and Rome in translation. After some introduction to Homer, students will read several major Greek tragedies, and conclude with a study of Latin poetry, particularly the poems of Horace and Catullus.

Classes 3 hrs. a week. 2 semesters.

**306.0 The Epic (Egl 306.0)**

Prerequisite: Egl 200.0 or equivalent.

A study of various major national epics with a view towards understanding the works themselves, the cultures they represent, and the characteristics of the oral and written epic as art forms. Central to the course will be a detailed analysis of the *Iliad*, *Odyssey*, and *Aeneid*.

Classes 3 hrs. a week. 2 semesters.

**352.1(.2) Women in Antiquity [WMS 352.1(.2)]**

Medea's passion, Andromache's tenderness, Aspasia's intellect and Livia's business acumen are all aspects of women in

antiquity. This course will examine the way in which women were presented in the ancient Near East, Greece, Rome and early Christian Europe. The development of women's roles and relationship between men and women will be considered in the context of classical history, religion, myth, and literature.

Classes 3 hrs. a week. 1 semester.

#### **401.1(.2) Directed Study, I**

A half credit course open to students who wish to pursue a special topic or topics in Classics through tutorials, independent study, and research. The availability of this course depends upon the agreement of a particular faculty member who is prepared to direct the tutorial and study program.

#### **402.1(.2) Directed Study, II**

A half credit course open to students who wish to pursue a special topic or topics in Classics through tutorials, independent study, and research. The availability of this course depends upon the agreement of a particular faculty member who is prepared to direct the tutorial and study program.

## **Ancient History (Cla)**

### **303.0 History of Greece (His 350.0)**

Prerequisite: a university course in classics or history or the permission of instructor.

An intensive study of ancient Greek history from the time of the early Cycladic and Minoan societies to the end of the classical polis about 400 B.C. Students will consider the development of religion, art, literature, and something of social history, as well as study the development of Athenian democratic society. This course may also be used as a history credit.

Classes 3 hrs. a week. 2 semesters.

### **304.0 History of Rome (His 351.0)**

Prerequisite: a university course in classics or history or the permission of instructor.

Ancient Roman and Italian history from the early Palaeolithic and Neolithic finds known to archaeology, a study of the Etruscans, the Republic in glory and decline, and the advent of the Principate under Augustus. Subject matter and emphasis can vary in different years. This course may also be used as a history credit.

Classes 3 hrs. a week. 2 semesters.

### **310.0 History of Israel (Rel 309.0)**

A study of the history of the ancient Hebrew kingdoms of Israel and Judah from the earliest settlements in Palestine to the fall of Jerusalem in 70 A.D.

Classes 3 hrs. a week. 2 semesters.

### **316.0 History of Egypt**

A detailed study of the history and culture of ancient Egypt from the pre-dynastic period (c. 3300 B.C.E.) until the Greek conquest (332 B.C.E.). As well as political history, the course will consider mythology and religion, art and architecture, and selections from the literature of Egypt (e.g., Pyramid Texts, Coffin Texts, Egyptian epic and fiction).

Classes 3 hrs. a week. 2 semesters.

## **Classics: Guided Study**

### **405.0 Advanced Reading and Tutorial**

Prerequisite: permission of instructor.

A course based on directed readings and research. The contents of the course will be determined by the specific interests of the professor and the students involved. Students will have the opportunity to pursue in depth their individual interests in the field of Classics, and will meet regularly with a member of the department to discuss their research. To register in this course students must demonstrate a satisfactory background in Classics or the Ancient World of the Near East and an ability to do independent research.

Classes tutorial 3 hrs. a week. 2 semesters.

## **Modern Languages — French (Fre)**

### **100.0 Introduction to the French Language**

A course for students beginning the study of French. The basic structures of the language will be studied, with special emphasis on spoken French. Students completing this course cannot receive credit for Fre 110.0. Students who have received an advanced standing credit in French are not eligible for enrolment in this course.

Classes 3 hrs. a week plus lab. 2 semesters.

### **110.0 Basic French**

Prerequisite: Placement Test

An introductory course for students who have had some formal training in French but not enough to justify their admission to French 200.0 as demonstrated on the placement test. The aim of the course is to enable the students to progress more rapidly than would be the case if they took Fre 100.0. Students who received an advanced standing credit in French are not eligible for enrolment in this course.

Classes 3 hrs. a week plus lab. 2 semesters.

### **200.0 Intermediate French, I**

Prerequisite: Placement Test

A student enrolling in this course must have an advanced standing credit in French or already possess an equivalent knowledge of French, as demonstrated on the placement test. A general language course for non-majors interested in the continued development of their listening, speaking, reading and writing skills. Emphasis is placed on the student's ability to function orally in realistic contexts. Taught in French. This course cannot be counted for the French major.

Classes 3 hrs. a week plus lab and/or tutorials, as needed. 2 semesters.

### **230.1(.2) French Communication Skills**

Prerequisite: Fre 200.0 or equivalent

This course builds on language skills acquired in other French courses to enhance the student's ability to communicate in French. Oral activities predominate during class time, with written assignments consisting of prepared presentations and dialogues to be corrected, improved, and revised until appropriate for use in class.

Classes 3 hrs. a week. 1 semester.

**231.1(2) French Reading and Writing Skills**

Prerequisite: Fre 200.0 or equivalent.

This course focuses on improving students' ability to understand and produce written texts. It is designed to complement more general French courses by concentrating on the enhancement of reading and writing abilities. The course helps students acquire greater ease of comprehension and expression through study of contemporary texts and application of specific writing techniques.

Classes 3 hrs. a week. 1 semester.

**250.0 Intermediate French, II**

Prerequisite: Placement Test or Fre 200.0 (or its equivalent) with a minimum grade of C.

Oral and written French, including composition, translation, conversation and a review of grammar based on contemporary texts. This is an intensive course designed for students with a strong background in French. Normal requirement and starting point for all majors. Taught in French.

Classes 3 hrs. a week plus lab. 2 semesters.

**300.0 Survey of French Literature**

Prerequisite: Fre 250.0 or permission of department.

A chronological survey of the major periods and most important work in French literature from the Middle Ages to modern times. Other francophone cultures may also be represented. The objective of the course is to increase the student's knowledge of French literature and French literary history, and to provide a foundation for the appreciation of literature and for the development of skills in literary analysis.

N.B. This course is compulsory for all students who intend to major in French.

Classes 3 hrs. a week. 2 semesters.

**301.0 Composition and Conversation**

Prerequisite: Fre 250.0 or permission of department.

A practical course intended to continue the development of the student's ability to speak and write French. Contemporary written texts will provide a basis for discussion and writing on cultural and literary topics. Grammatical points will be detailed as necessary through translation and other exercises. This course is compulsory for all students who intend to major in French.

Classes 3 hrs. a week plus lab. 2 semesters.

**305.1(2) Acadian Language and Culture**

Prerequisite: Fre 250.0 or equivalent.

This course relates the current linguistic situation in the Acadian communities of the Atlantic Provinces to the social and historical situation which has influenced the development of the French language in these areas. The course has a strong practical component intended to help students identify the specific structures of this variety of French. Authentic recordings of Acadian speakers are analyzed, as well as films and literary texts. A general objective of the course is to enhance students' knowledge of the socio-cultural background of the Acadian speech communities.

Classes 3 hrs. a week. 1 semester.

**320.1(2) French Phonetics**

Prerequisite: Fre 250.0 or equivalent, or permission of department.

An introduction to articulatory phonetics with application to French. Standard (International) French will be used as a

reference point. The objective of the course is to increase pronunciation and speaking skills.

Classes 3 hrs. a week plus lab. 1 semester.

**321.1(2) Writing In French**

Prerequisite: Fre 250.0 or equivalent, or permission of department.

A course for students beyond the intermediate level who wish to improve their command of French by means of vocabulary enrichment, reading of non-literary texts and a variety of writing activities. Knowledge of intermediate-level grammar is assumed.

Classes 3 hrs. a week. 1 semester.

**325.1(2) French Speech Strategies: Managing Conversation**

Prerequisite: Fre 250.0 or permission of instructor.

Classroom practice in developing strategies for use in conversations. By means of application activities, students learn how to initiate, maintain and close conversations, how to communicate and respond to needs, feelings, opinions, plans, etc. Recommended for students interested in perfecting their communicative skills in spoken French.

Classes 3 hrs. a week. 1 semester.

**330.0 French for Business**

Prerequisite: permission of instructor.

A course designed to familiarize students with the business vocabulary and commercial correspondence of French-speaking countries.

Classes 3 hrs. a week. 2 semesters.

**340.1(2) Linguistic Study of French**

Prerequisite: Fre 250.0 or permission of department.

The principles of linguistic analysis are introduced through a study of the French language from a broad range of approaches. While becoming aware of the specific structure of French, the student will gain general insight into how a language functions. The course also examines the relationship between language patterns and social and geographic diversity, as illustrated by the French Canadian linguistic situation. The course will be given in English, but presupposes competence in French.

Classes 3 hrs. a week. 1 semester.

**400.1(2) French Speech Strategies: Perfecting Oral Skills**

Prerequisite: Fre 325.1(2) or permission of instructor or department chairperson.

An examination of speech acts and discursive features of language-use found in real situations. Students practice how to structure and manage conversations at an advanced level in order to attain a higher level of oral proficiency. Students will participate in demonstrations, simulations, role-playing and problem-solving activities. Of particular interest to current or prospective teachers of French.

Classes 3 hrs. a week. 1 semester.

**405.1(2) Acadian Literature and Society**

Prerequisite: French credit on 300 level or permission of instructor.

This course traces the evolution of Acadian society through a study of literary genres including novels, short stories, theatre, poetry, chronicles, folklore, oral tradition, as well as artistic modes of expression other than literature. A variety of texts and visual material is used to present the socio-historical background and the contemporary cultural situation.

Classes 3 hrs. a week plus lab. 1 semester.

**412.1(.2) Literature and Society of French Canada**

Prerequisite: Fre 300.0 or Fre 301.0 or permission of department.

This course provides an overview of French Canadian literature, through a study of its major works. Various aspects of the cultural background are presented, including language, religion, music, film and art. The course also examines the historical evolution leading to the particular situation of present-day Quebec and that of French-speaking minority groups throughout Canada, through the analysis of literary works related to these themes.

Classes 3 hrs. a week. 1 semester.

**414.0 Evolution of the French Novel**

Prerequisite: Fre 300.0 or permission of department.

An examination of the principal stages in the development of the French novel. Summer reading is strongly advised.

Classes 3 hrs. a week. 2 semesters.

**415.0 The French Theatre**

Prerequisite: Fre 300.0 or permission of department.

A study of some of the major works of French dramatic literature.

Classes 3 hrs. a week. 2 semesters.

**419.0 French Canadian Novel**

Prerequisite: Fre 300.0 or permission of department.

A study of the origins until 1930. Comparative development of the Canadian novel and popular tradition. The course is also designed to acquaint students with the ideas of writers from 1930 to the present day.

Classes 3 hrs. a week. 2 semesters.

**420.0 20th Century Novel**

Prerequisite: Fre 300.0 or permission of department.

In the 20th century the novel has become the most prominent, if not the most significant, literary genre. What is the secret of its appeal for the modern sensitivity? The novels to be studied in this course, reflecting as they do both the depth and the diversity of the form, may provide an answer to this question.

Classes 3 hrs. a week. 2 semesters.

**421.0 Comparison of English and French Stylistics**

Prerequisite: Fre 301.0 or permission of department.

A course designed to increase the student's knowledge of French beyond vocabulary and grammar and to enable them to grasp the similarities and divergences between French and English. The course involves practice in French/English translation and emphasizes the theoretical aspects of French and English stylistics which aid in establishing a method for translation.

Classes 3 hrs. a week. 2 semesters.

**423.0 Independent Study**

Prerequisite: permission of instructor.

A tutorial course open to students who wish to study a particular subject or author largely through independent reading and research. Registration to this course is made after consultation with a member of the department who will organize the program of studies.

**424.0 Special Author**

Prerequisite: permission of instructor.

A tutorial course open to students who wish to study a particular author largely through independent reading and research. Registration to this course is made after consultation with a

member of the department who will organize the program of studies.

**426.1 Epistolary Literature: Image and Mirror of the "Ancien Regime" in France**

Prerequisite: Fre 300.0 or permission of department.

A selection and study of the form and content of private, official and unofficial letters as vehicles of gossip, rumor and fact reflecting the social, literary and religious aspirations of pre-revolutionary France.

Classes 3 hrs. a week. 1 semester.

**427.2 Epistolary Literature: Image and Mirror of the "Ancien Regime" in France**

Prerequisite: Fre 300.0 or permission of department.

Madame de Sevigne, a study of her thought as reflected in the Letters with a special emphasis on her friend and correspondent, Madame de LaFayette. The theory and practice of "amour-passion" and marriage, viewed as a "problem" to be solved in the 17th century. An emphasis will be placed on the women of this period as both creators and subjects of epistolary literature.

Classes 3 hrs. a week. 1 semester.

**428.1(.2) Literature with a Purpose: The French Renaissance**

Prerequisite: Fre 300.0 or permission of department.

A study of the literary masterpieces of the 16th-century French humanists with special emphasis on the writings of Rabelais and Montaigne. This course includes audio-visual material on French humanism.

Classes 3 hrs. a week. 1 semester.

**429.1(.2) Literature with a Purpose: The French Enlightenment**

This course is designed to acquaint the student with the contributions of the renowned 18th-century French "philosophers", viz. Voltaire, Rousseau, Diderot, and their persuasive, often humorous tactics for the expression of new ideas about people and the world they inhabit. The course includes audio-visual material on the Enlightenment and the French Revolution.

Classes 3 hrs. a week. 1 semester.

**430.0 Advanced French Grammar**

Prerequisite: a 300 level course [*Fre 321.1(.2) is recommended*] or permission of instructor.

A systematic study of French grammar, involving both theory and application. Of particular interest to teachers of French.

Classes 3 hrs. a week. 2 semesters.

**431.1(.2) Directed Study, I**

A half credit course open to students who wish to study a special author or subject through tutorials, independent study and research. The availability of this course depends upon the agreement of a particular faculty member who is prepared to direct the readings and study.

**432.1(.2) Directed Study, II**

A half credit course open to students who wish to study a special author or subject through tutorials, independent study and research. The availability of this course depends upon the agreement of a particular faculty member who is prepared to direct the readings and study.

**440.1(.2) Canadian French: Sociolinguistic Perspectives**

Prerequisite: a 300 level French course or permission of department.

This course will examine the major features which distinguish Canadian French from European French, as well as the characteristics of the different varieties of French spoken in Canada, in particular Acadian and Quebecois French. The relationship between language and society will be studied both as a source of linguistic change and as a determining factor in current speech patterns. Authentic recorded speech samples will be used to illustrate the various aspects studied and will also serve to familiarize students with the French language as spoken in Canada.

Classes 3 hrs. a week. 1 semester.

#### **510.1(2) Computer Assisted Language Learning [Edu 510.1(2)]**

Prerequisite: permission of instructor.

An examination of the ways in which the microcomputer can be used in second language learning with special emphasis on French. Topics covered include: readings on theory and principles of CALL, demonstration of commercial CALL software, concepts of instructional design, assessing performance of courseware creating materials by authoring programs, CALL experiments elsewhere. This course is intended for current or prospective language teachers. No computer or programming experience necessary.

## **Modern Languages — German (Ger)**

### **100.0 Introduction to the German Language**

An introductory language course for those beginning the study of German. Basic linguistic structures will be studied with particular emphasis on the oral aspects.

Classes 3 hrs. a week plus 1 hr. language lab a week. 2 semesters.

Note: Students who received an advanced standing credit in German are not eligible for enrolment in this course.

### **200.0 Intermediate German**

Prerequisite: Ger 100.0 (or equivalent) with a minimum grade of C.

A continuation of elementary German, with emphasis on grammar, conversation, and reading.

Classes 3 hrs. a week plus 1 hr. language lab a week. 2 semesters.

### **304.0 German Culture and Civilization**

Readings, lectures, slide showings and films on the culture and civilization of Germany. The course will move from the early tribal periods to the present, looking at political and social history, literature and art, philosophy and science. This course is offered in English.

Note: This course fulfils the Arts humanities 3-c requirement but does not fulfill the 3-b requirement.

Classes 3 hrs. a week. 2 semesters.

### **305.0 Introduction to German Literature**

Prerequisite: Ger 200.0 or permission of instructor.

A chronological survey of the major periods of German literature from the Baroque Age to modern times. The course will provide the student with an introduction into literary analysis and interpretation and at the same time expand the student's knowledge of the German language.

Classes 3 hrs. a week. 2 semesters.

### **310.0 Modern German Literature**

Prerequisite: Ger 200.0 or permission of instructor.

A study of trends in modern German literature. Poetry, plays and short stories will be read and analyzed.

Classes 3 hrs. a week. 2 semesters.

### **400.0 German Contemporary Literature**

Prerequisite: Ger 200.0 or permission of instructor.

A study of significant prose and dramatic works in German literature from 1945 to the present.

Classes 3 hrs. a week. 2 semesters.

### **405.0 Independent Study**

Prerequisite: consent of instructor.

This course is intended for advanced students who have a good working knowledge of German, a special interest in German literature and who want to study a particular author through directed, independent readings.

Classes 2 hrs. a week. 2 semesters.

## **Modern Languages — Spanish (Spa)**

### **100.0 Introduction to the Spanish Language**

Designed to offer a firm initial competency in speaking and writing Spanish. This course requires regular attendance and a willingness to participate.

Classes 3 hrs. a week and lab 3 1/2 hrs. a week. 2 semesters.

Note: Students who have an advanced standing credit in Spanish are not eligible for enrolment in this course.

### **200.0 Intermediate Spanish**

Prerequisite: Spa 100.0 (or equivalent) with a minimum grade of C.

A continuation of elementary Spanish, with emphasis on comprehension, conversation, reading and writing.

Classes 3 hrs. a week, plus language laboratory. 2 semesters.

### **202.1(2) Aspects of Latin American Culture and Civilization**

This course provides an introduction to selected aspects of cultures and civilizations of this complex and fascinating world area. It focuses on the legacy of native, pre-Columbian civilizations and their Spanish conquerors, particularly as expressed in the literatures of Argentina, Mexico, and Peru. Readings, class discussions, and student participation in English. This course does not satisfy the Arts requirement 3-b, but does satisfy the Arts requirement 3-c as a humanities credit.

Classes 3 hrs. a week. 1 semester.

### **203.1(2) Spanish Culture and Civilization**

This course examines selected aspects of Spanish civilization and cultural activity from the earliest times to the present. Drawing its materials mainly from Spanish literature, but considering as well achievements in the visual arts, music, and architecture, the course offers a survey of the unique contributions of Spain to Western culture. Readings, class discussions, and student participation in English. This course does not satisfy the Arts requirement 3-b but does satisfy Arts requirement 3-c as a humanities credit.

Classes 3 hrs. a week. 2 semesters.

**302.0 Advanced Oral and Written Spanish**

Prerequisite: a sound knowledge of Spanish grammar.

This course offers an opportunity to build upon and refine the student's ability to comprehend and to communicate effectively in Spanish. A variety of aural sources and written texts will be used.

Classes 3 hrs. a week. 2 semesters.

**305.0 Culture and Society of the Dominican Republic**

Prerequisite: Spa 200.0 or equivalent (with a minimum grade of B) and permission of the instructor.

This course, of six weeks' duration, takes place in Santo Domingo, the Dominican Republic (approximate dates: last week of April until the end of May). Lectures, readings, and field work will be conducted in Spanish. Under the supervision of Saint Mary's University faculty and under the direction of Dominican professors as well as professionals working in the respective areas of interest, students will examine four broad aspects of culture and society in the Dominican Republic: Dominican society, politics, and economics; women in development; art and popular culture; and the popular church movement. A final research paper will be submitted at the conclusion of the course.

Classes: 50 hours; seminar: 15 hours.

**402.0 Contemporary Latin-American Literature**

Prerequisite: a 300 level course in Spanish or equivalent. Open to major students only.

The course examines a selection of the principal literary movements and works in 19th and 20th century Spanish American literature. In the first term, attention is directed to Romanticism, gauchesque literature, and the cultivation of the short story and of the novel. The beginnings of Modernism and the poetic activity of the 20th century are explored during the second term.

Texts: Selections from Echeverría, Heredia, Acuña, Palma, Hernández, Güiraldes; Mariano Azuela, *Los de abajo* (F.C.E.), Horacio Quiroga, *A la deriva* (C.E.A.L.), Eduardo Barrios, *El hermano asno* (Las Americas), Ruben Dario, *Cantos de vida y esperanza* (Anaya); selections from Julian del Casal and José Asunción Silva.

Classes 3 hrs. a week. 2 semesters

**403.1(.2) Pre-Cervantine Spanish Prose**

Prerequisite: full-credit at the 300-level in Spanish or equivalent.

A study of representative Spanish prose works from the Middle Ages through 1600, as a background for the major literary innovations of Miguel de Cervantes.

**404.1(.2) Cervantes**

Prerequisite: a full credit at the 300-level in Spanish or equivalent.

A study of a selection of the prose works of Miguel de Cervantes, with emphasis on *Don Quixote*, the first modern novel.

Classes 3 hrs. a week. 1 semester.

**405.0 20th Century Spanish Literature**

Prerequisite: permission of instructor.

An examination of the poetry, drama, and novel of 20th century Spain.

Texts: Readings from Lorca, Laforet, Cela, Arrabal and other writers.

Classes 3 hrs. a week. 2 semesters.

**423.1(.2) Independent Study**

Prerequisite: permission of instructor.

A tutorial course open to students who wish to study a particular topic, subject, or author largely through independent reading and research. Registration in the course is made after consultation with the appropriate member of the department, who will organize the program of studies.

Tutorial 3 hrs. a week. 1 semester.

**424.1(.2) Independent Study**

Prerequisite: permission of instructor.

A tutorial course open to students who wish to study a particular topic, subject, or author largely through independent reading and research. Registration in the course is made after consultation with the appropriate member of the department, who will organize the program of studies.

Tutorial 3 hrs. a week. 1 semester.

**Modern Languages — Chinese (Chi)****100.0 Introductory Modern Chinese**

An introduction to spoken and written modern Chinese (Mandarin). Conversational drill and comprehension exercises in classroom and laboratory provide practice in pronunciation and in the use of the basic patterns of speech. The Chinese ideographs are introduced and studied in combinations. Reading progresses from prepared materials to selections from contemporary writings, including the newspaper.

Classes 3 hrs. a week. 2 semesters.

Note: Students who have received an advanced standing credit in Chinese are not eligible for enrolment in this course.

**200.0 Intermediate Modern Chinese**

Prerequisite: Chi 100.0.

A continuation of Chi 100.0, this course is intended to develop proficiency in both oral and written Chinese with emphasis on comprehension. Textbooks, newspapers, magazines, and modern short stories will be extensively used, especially in the second semester, to help students acquire the ability to read and write. The abbreviated forms used in the People's Republic of China will also be introduced.

Classes 3 hrs. a week. 2 semesters.

**Modern Languages — Greek (Gre)****101.0 Modern Greek**

An introductory level class for those who have little or no background in the language. The class will aim at enabling the student to understand and communicate in Modern Greek at a basic level. Attention will be given to both oral and written work. Films, tapes, slides, magazines and newspapers will be used to enhance student interest.

Classes 3 hrs. a week. 1 semester.

**201.0 Modern Greek**

Prerequisite: Gre 101.0.

An intermediate level class for those students who have passed the introductory level class in Modern Greek or its equivalent, or who have a basic knowledge of the language. The purpose of the class will be to develop a sound working knowledge of Modern

Greek, both oral and written, including mastery of the basic vocabulary and the major grammatical elements.

Classes 3 hrs. a week. 2 semesters.

## Modern Languages — English as a Second Language (ESL)

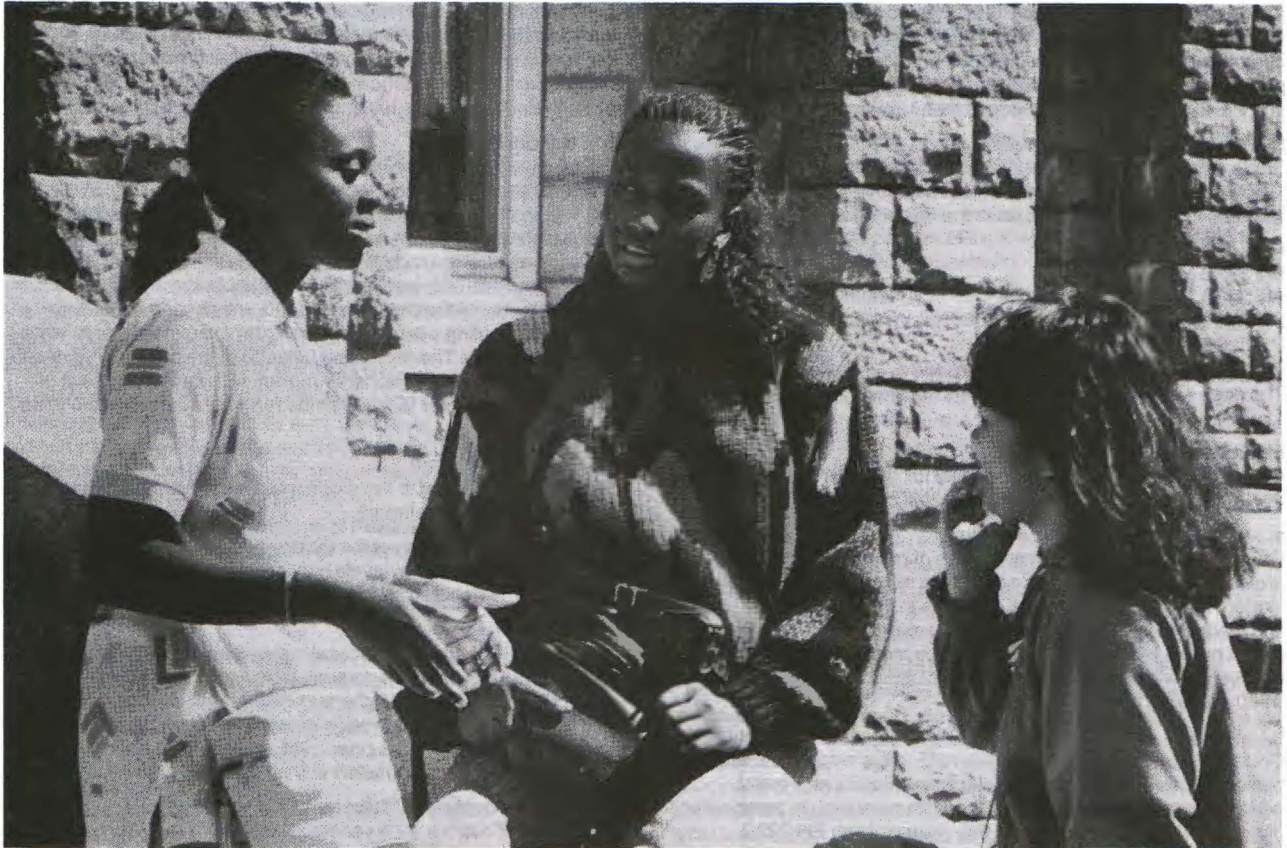
### 100.0 English as a Second Language

Prerequisite: native language other than English; recommendation of the English, Modern Languages and Classics, or other academic department; and consent of instructor.

The aim of the course is to help students to function effectively in university by increasing competence in reading and listening comprehension, fluency in speech, and accuracy in writing.

Classes 3 hrs. a week. 2 semesters.

Note: Before registering for this course, students must pass the Test of English Language Competence. Please see Academic Regulation #23 which pertains to this requirement.





# Philosophy (Phi)

Chairperson, Professor  
Professor  
Associate Professors

R. H. Beis  
A. P. Monahan  
W. Grennan, P. March  
R. C. Marshall  
R. N. Ansell, S. Crooks  
S. Wein

Assistant Professors

## Departmental Policy

1. Philosophers are distinguished by their interest in identifying, assessing and offering rational formulations concerning the most basic assumptions that human beings make. The special knowledge and skills acquired in doing philosophy also have proved to be very important in other activities that rely on the intellect. A background in philosophy will help to prepare students for careers in various professions, especially law, politics, administration, the media and any field where a creative approach and critical judgement are required; and provides, generally, a useful complement to various other branches of learning.

2. Phi 200.0 is the only philosophy course that satisfies regulation 3-b of the B.A. degree requirements.

3. Students who intend to take further logic courses should consult with the chairperson regarding the choice of an appropriate section of Phi 200.0 because of different emphases in different sections.

### 4. Minor Program in Philosophy

After completing Phi 200.0 or Phi 201.0 students majoring in other subjects might consider taking further courses in philosophy or completing a minor in the subject, which requires a total of four philosophy credits. There are courses available beyond Phi 200.0 and Phi 201.0 that will complement many major programs.

### 5. Major Program in Philosophy

Students majoring in philosophy must obtain the equivalent of six full credits, at least four of which must be above the 200-level. Courses must be selected to meet the following requirements:

Four of the following:

Phi 302.0 Ethics  
Phi 306.0 Theory of Knowledge  
Phi 314.0 Intermediate Logic  
Phi 326.0 Philosophy of Mind  
Phi 345.1 and Phi 346.2 Greek Philosophy  
The equivalent of one full credit at the 400-level

Plus:

Phi 200.0 and Phi 201.0 or  
Phi 200.0 and any 300-level (or above) full credit or  
Phi 201.0 and any 300-level (or above) full credit

#### a. Logic and Theory of Knowledge

Courses in logic identify the principles of rational thought and, by providing for practice in their use, aim to refine and develop the student's powers of reasoning. Courses in the theory of knowledge create an awareness of the evidence in everyday life and in particular disciplines that must be met before we can claim to have knowledge. The courses in this category are: Phi 306.0, 314.0, 315.0, 351.0, 401.0, and 416.0.

#### b. Ethics

Courses in ethics deal with the nature of value judgement, with the basic reasons for accepting or rejecting various basic moral positions, and with some major moral issues arising in personal or professional life. The courses in this category are: Phi 302.0, 325.1(2), 333.1(2), 370.0, 471.1(2) and 472.1(2).

#### c. Social Philosophy

Courses in social philosophy analyze political and other social thought, and assess the reasons for accepting or rejecting various fundamental principles of social organization. Whereas an important characteristic of the social sciences is an emphasis on empirical investigation, social philosophy deals exclusively with normative issues and classification of concepts. The courses in this category are: Phi 244.1, 245.2, 310.0, 317.1(2), 324.0, 326.0, 329.0, 360.0, and 453.0.

#### d. History of Philosophy

Courses in the History of Philosophy assess the thought of the most important philosophers and philosophical schools. This enables the student to study systems of thought which deal in a connected way with diverse philosophical problems. The courses in this category are: Phi 300.0, 324.0, 345.1, 346.2, 440.1, 441.2, 442.1, 443.2, 444.1, 445.2, 450.0 (650.0), 455.1, 456.2, 467.1 (667.1), and 468.2 (668.2).

#### e. General

Phi 302.0, 306.0, one from the history group, one from the social philosophy group, and one other.

#### f. Pre-Law

Phi 302.0, 329.0; two of 244.1/333.1(2), 310.0, 314.0, 326.0, or 370.0, plus one from any group.

#### 6. Double Major

A student may major concurrently in philosophy and another Arts subject. Normally this will require completion of at least six courses in each major subject. In certain circumstances the Dean may reduce this requirement (see "Requirements for the Degree of Bachelor of Arts", regulation 9, Section 3 of this Calendar).

#### 7. Honors Program

To qualify for the degree of B.A. (Hons. Philosophy) a student must (a) meet the general Faculty of Arts requirements set out in regulations 11-17 of Section 3 of this Calendar; (b) meet the requirements of 5 above, Major Program in Philosophy; (c) obtain the equivalent of four additional full credits in Philosophy which are (i) above the 300-level and (ii) acceptable to the Department. In the fourth year of the program students will choose either a six half-credit reading plan preparatory to an examination or to write an honors essay. The remaining balance of the courses needed to make up the ten for the honors program will normally consist of courses chosen to fill lacunae in the range of courses taken to that point.

#### 8. Master's Program

Students are referred to the requirements set out in the Faculty of Arts section of this Calendar.

9. Philosophy courses at the 600 level are graduate courses. Certain courses at other levels may be taken for graduate credit and will be designated as follows: e.g., 300.0 (600.0).

#### 200.0 Basic Logic

The aim of the course is practical rather than theoretical: to enable the student, in practice, to do such things as define terms accurately, construct sound arguments, identify fallacious thinking and adopt a scientific approach to problem solving. No special knowledge or abilities are presumed, and students should take the course as early as possible in their program.

#### 201.0 Introduction to Philosophy

Philosophy covers a wide variety of issues and questions with which any educated person will wish to be acquainted such as:

law, morality, justice; the problems of freedom; the nature of what is mental, what physical; death; the nature of knowledge, scepticism, rationality; theism, agnosticism, atheism. Philosophy does, and ought to play an important role in the education of doctors, lawyers, scientists, statesmen, educators, writers, theologians and others. The introductory course is designed to acquaint students with the field of philosophy by covering some of these problems, and to encourage them to develop their own critical intelligence through a study of major past and present contributions toward the solution of these problems.

#### **244.1 Human Freedom**

The traditional problems of free will and political freedom. Different concepts and conceptions of freedom and liberation. An examination of some contemporary thought on freedom and liberation.

#### **245.2 Philosophies of Life**

An examination of the major philosophies of life and an assessment of the reasons for and against their adoption. Consideration will be given to various forms of collectivism and individualism and to various views of what is ultimately worth striving for.

#### **300.0 (600.0) Hegel's Political Philosophy**

Prerequisite: a social science or philosophy course will be helpful but is not required.

A lecture and seminar course examining Hegel's political writings in general and his Philosophy of Right in greater detail. The evolution of his political thought will be traced from his earlier writings to his mature works within the context of his philosophical system. An endeavor will be made to relate the more relevant aspects of his political philosophy to current concepts and problems.

Texts: G. W. F. Hegel, *Philosophy of Right*

#### **302.0 Ethics**

An introduction to moral philosophy designed to lead the student to examine the foundations of their moral positions. To this end historical and contemporary answers by philosophers to questions such as the following will be examined: What ought I to do morally, and why ultimately ought I to do it? Are ethical positions simply relative: (a) to a person? (b) to a society? What is the relation between science and morality? Why be moral?

#### **306.0 Theory of Knowledge**

Prerequisite: one full credit in philosophy.

An attempt to analyze human knowledge and to find its limits. Knowledge is surely offered by such studies as history, mathematics, physics, and by such sources as common sense and perception. But is there enough knowledge in connection with key religious and ethical issues?

#### **310.0 Philosophical Foundations of Politics**

Prerequisite: a philosophy or political science course.

An examination of some philosophical concepts basic to any philosophy of politics: society and social obligations, the common good, the individual and individual rights, law, freedom, tolerance and repression, popular consent, sovereignty. The course will investigate the relationship, if any, between ethics and philosophy of politics and, with reference to contemporary experience of differing state systems, raise the question of whether the expression "making a better world" has any meaning.

#### **314.0 Intermediate Logic**

Prerequisite: Phi 200.0 or 315.0 (which may be taken concurrently).

This course continues and develops the work of Philosophy 200.0. It offers students of all faculties opportunities for further growth in reasoning skills, in part through supervised practice in the logical appraisal of extracts from a variety of important writings. Some branches of logic are developed beyond the level of Philosophy 200.0. The complete predicate calculus (with identity) is applied to arguments of ordinary English. Inductive logic, and practically significant areas of logical theory are developed considerably. Scientific method and the general methods of some other disciplines are analyzed in some depth.

#### **315.0 Mathematical Logic**

Prerequisite: one of Phi 200.0, a course in mathematics, or a course in computer science.

A systematic introduction for students of philosophy, mathematics or computer science to the most fundamental topics of mathematical logic, proceeding from the propositional calculus, through the predicate calculus, and Boolean algebra, to set theory (as a 'foundation' for mathematics). Emphasis is placed on the development of facility and rigour in the use of natural deductive and axiomatic methods, and in the use of semantic tableaux and trees. There is an examination of such metalogical topics as consistency, completeness and decidability. Some attention is also paid to practical applications, such as circuit simplification, computerization of problem solving and formalization of theory.

#### **317.1 (.2) Philosophy of Economics**

This course examines the basic assumptions on which economic theory rests, asks whether economics is a science, and explores the extent to which economic analysis can be used in other areas (for example, in medicine and the law). No knowledge of economics is presupposed or required.

#### **320.0 Aesthetics: The Philosophy of Art**

Prerequisite: a course in philosophy or permission of instructor.

Humans respond to objects of art; they react as creator, performer, spectator, they think about their responses. The interrelations of art, artist, and spectator in their social and cultural context are focal points for this course. In particular, philosophic inquiry will be directed towards expanding critical awareness about art form and artistic expression.

#### **324.0 Marxist Philosophy**

Prerequisite: courses in philosophy, sociology and/or economics would be helpful.

Marxist philosophy has at present more followers than any other systematic philosophy. The emphasis in this course is on the scientific naturalism of the later Marx and contemporary Marxists. The early, "humanistic" Marx will also be considered. Marx's theory of knowledge, which claims to replace ideology with science and supplement synchronic with diachronic analysis, will be analyzed in detail. Historical materialism is examined as a scientific theory and as an alternative to various other social and political theories. Such misunderstood Marxian concepts as 'dialectic', 'necessity', and 'contradiction' will be shown to refer to underlying, basic economic laws. Evidence for and against Marxism will be investigated.

#### **325.1 (.2) Ethical Issues in International Development**

This course will examine the ethical problems raised by international development. Among the issues addressed will be the extent to which those who are well off have a duty to aid those in need, the limits to which it is morally acceptable to place conditions on the receipt of aid, the rights of those receiving development assistance to preserve and protect their culture, and what justification can be found for the various schools of thought on how to organize development programs.

**326.0 Philosophy of Mind**

Prerequisite: an introductory course in philosophy and/or psychology would be helpful.

This course will examine what, if anything, is unique about a human. Are they just an animal or a little lower than the angels? The most complex machine of all or an integrated unity of mind and body? A self-organizing system developed through a long process of evolution or a unique product of special creation? Various philosophical and psychological theories will be discussed, but special emphasis will be given to those of S. Freud and B. F. Skinner.

**329.0 Philosophy of Law**

Prerequisite: Students must have completed a minimum of 5.0 university credits.

Theories of the nature of law. Analysis of the concepts of law, international law, right, justice, motive, reason and cause. The logic of judicial reasoning. Theories of property. Liberty, morality, justice and the law. Free will, sanity and responsibility in relation to fitness to plead. Permissiveness, authoritarianism and theories of punishment.

**331.1(.2) The Ethics of Business and Public Administration**

Prerequisite: open to majors in philosophy, economics, political science, and sociology, as well as students in the Faculty of Commerce.

An examination of the extent to which business and bureaucratic objectives can, must or do conflict with moral objectives, and of the extent to which such organizations as business and the civil service can be brought into harmony with moral objectives. An examination of the aspects of ethical theory relevant to the above issues, and how theory needs to be developed to address them adequately.

**345.1 Greek Philosophy: The Presocratics and Plato**

A brief examination of the origins of ancient Greek Philosophy in the works of speculative cosmologists and the subsequent shift in interest from nature to humanity as initiated by Socrates and developed in the works of Plato. Most of the course will consist of reading Plato's major dialogues, including his Republic.

**346.2 Greek Philosophy: Aristotle, The Hellenists**

A brief-examination of Aristotle's views on drama, psychology, knowledge, ethics, and politics, to be followed by a brief study of Stoicism, Epicureanism, and Plotinus.

**348.1 Aesthetics: The Work of Art, The Artist**

This course considers works of art as the product of creative artists, and problems about the interpretation and criticism of works of arts.

**349.2 Aesthetics: The Aesthetic Experience**

This course analyzes the concept of aesthetic experience and its relations to the appreciation and understanding of works of art.

**351.0 (651.0) Philosophy of Science**

Prerequisite: Phi 200.0.

An introduction to the main problems of the philosophy of science designed to familiarize students with some of the contemporary analyses of scientific concepts and methods.

**360.0 Philosophy of Literature**

This course involves making a critical assessment of philosophical positions found in selected contemporary stories, plays and novels. It should interest students who are intrigued by the philosophical significance of some literature.

Texts: Readings in selected literature reflecting contemporary issues, e.g., Dostoevsky, Camus, Orwell, Hemingway, Iris Murdoch, Margaret Atwood, Virginia Woolf, Margaret Laurence.

**370.0 Ethical Issues in Medicine**

Advancing medical technology has created moral issues that cannot be settled simply on the basis of medical facts. Both the medical profession and society as a whole must make value decisions before life and death issues such as abortion, euthanasia, and treatment of the insane can be settled. This course is intended to help the student reach reasoned conclusions on these issues through clarification and appraisal of arguments.

**380.0 Philosophical Issues in Feminism (WMS 380.0)**

The course will examine the nature of the contemporary movement of feminism, and examine and evaluate arguments for and against this movement within the major traditions of political and social philosophy. To this end it will examine such basic concepts as justice, equality, freedom, rights, power and happiness, and discuss some of the practical questions raised by feminists.

**390.0-395.0 Reading Courses in Philosophy**

Prerequisite: permission of instructor.

These courses are organized by the faculty member(s) involved, and are designed to supplement and/or provide an alternative to regular courses in philosophy according to the special needs and interests of students. Each course may be on a particular subject and/or author(s) and could include, if desired, philosophical texts in a language other than English.

**402.1(.2) [602.1(.2)] Philosophy of Language I: Linguistic Meaning**

Prerequisite: one full credit in philosophy at the 300 level.

A critical examination of the major theories of linguistic meaning, including the sentence-meaning/speaker's meaning distinction, and related topics such as the relation of language to thought.

**403.1(.2) [603.1(.2)] Philosophy of Language II: Speech-Act Theory**

Prerequisite: one full credit at the 300 level.

A detailed study of the speech-act theory of language use with additional attention given to such notions as reference and predication.

**416.0 Advanced Logic and Methodology**

Prerequisite: Phi 314.0 or 315.0.

This largely tutorial course continues and develops the work of Phi 314.0 or 315.0. Depending on their academic orientation, participating students select one or two of the following groups of disciplines: natural sciences, social sciences, humanities, business administration, or logic and mathematics. Works, or portions of works, from the selected disciplines are subjected to detailed, rigorous logical analysis. More general methodological issues arising in the selected disciplines are also investigated. These issues include the nature, soundness and value of various methods and approaches.

**425.0 Philosophy in a Canadian Key**

The present search for, and struggle to achieve, a Canadian identity and unity has a philosophical background, knowledge of which is fundamental in achieving an understanding of the country which is Canada. Insofar as the development of philosophy historically in some sense reflects the culture in which

it functions, this course aims at an examination and understanding of the way philosophy has developed in the two cultures of English and French Canada. The different characteristics of philosophy in English and French Canada in the 19th and 20th centuries will be examined in terms of the differing philosophical traditions from which they derived, with particular emphasis on social and political philosophy.

#### **440.1 Medieval Philosophy: Early Period to 12th Century**

Prerequisite: a course in philosophy or consent of instructor.

An examination of the major philosophical doctrines and currents in Western Europe from the period of Augustine to the end of the 12th century.

#### **441.2 Medieval Philosophy: 13th, 14th Centuries**

Prerequisite: a course in philosophy or consent of instructor.

An examination of the major philosophical doctrines and currents in Western Europe in the 13th and 14th centuries.

#### **442.1 Early Modern Philosophy: The Rationalists**

Prerequisite: a course in philosophy or consent of instructor.

A critical examination of works by Descartes, Spinoza and Leibniz with attention focused on their theories of knowledge and metaphysics.

#### **443.2 Early Modern Philosophy: The Empiricists**

Prerequisite: a course in philosophy or consent of instructor.

A critical examination of works by Locke, Berkeley and Hume with attention focused mainly on their theories of knowledge, meaning, and perception.

#### **444.1 Later Modern Philosophy: Kant**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course dealing with Kant's epistemological and moral philosophy.

#### **445.2 Later Modern Philosophy: The German Idealists**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course dealing with the works of some of the German philosophers characterized as "Idealists" in virtue of their similar reactions to Kant. Fichte and Hegel will receive special attention.

#### **450.0 (650.0) Phenomenology**

Prerequisite: a course in philosophy or consent of instructor.

The origins, development, concepts, method and influence of the phenomenological movement in contemporary philosophy.

Texts: Selections from Husserl, Heidegger, Sartre, Merleau-Ponty.

#### **453.0 Philosophy of History**

Prerequisite: a course in philosophy or consent of instructor.

A critical study of the philosophical views on the course of human history (its pattern, purpose and value) and an examination of the aim, nature and validity of historical knowledge.

#### **455.1 Existentialism: The 19th Century: Kierkegaard, Nietzsche**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course examining the 19th century origins of the existentialist movement in contemporary philosophy, with specific investigation of the writings of Kierkegaard and Nietzsche.

#### **456.2 Existentialism: The 20th Century: Jaspers, Marcel, Camus, Sartre**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course examining the 20th century expression of the existentialist movement in philosophy through study of the writings of Jaspers, Sartre, Marcel and Camus.

#### **467.1 (667.1) Augustine on Philosophy**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course which explores the meaning of philosophy and its relation to theology in the writings of the early great Christian thinker, Augustine of Hippo.

#### **468.2 (668.2) Aquinas on Philosophy**

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course which explores the meaning of philosophy and its relation to theology in the writings of the dominant Christian thinker of the high medieval period, Thomas Aquinas.

#### **471.1(.2) [671.1(.2)] Advanced Ethical Theory I**

Prerequisite: one full credit in philosophy at the 300 level.

The course will involve the analysis of, among others, the following concepts: 'morality', 'moral value', 'virtue', 'vice', 'moral right', and 'moral obligation'.

#### **472.1(.2) [672.1(.2)] Advanced Ethical Theory II**

Prerequisite: one full credit in philosophy at the 300 level.

The course will involve the study of the nature of moral judgements and the logic of moral reasoning.

#### **491.0-493.0; 494.1(.2)-496.1(.2) and 497.1(.2)-499.1(.2) Reading Courses in Philosophy**

Prerequisite: consent of instructor.

These courses are organized by the faculty member(s) involved and are designed to supplement and/or provide an alternative to regular courses in philosophy according to the special needs and interests of students. Each course may be on a particular subject and/or author(s) and could include, if desired, philosophical texts in a language other than English.

#### **690.0-695.0 Reading Courses in Philosophy**

Prerequisite: consent of instructor.

These courses are organized by the faculty member(s) involved and are designed to supplement and/or provide an alternative to regular courses in philosophy according to the special needs and interests of students. Each course may be on a particular subject and/or author(s) and could include, if desired, philosophical texts in a language other than English.

#### **696.0-697.0 Master's Thesis**

These course numbers accommodate the thesis research and writing as required by the Department of Philosophy for any student proceeding to the Master of Arts degree in Philosophy.

# Physics (Phy)

Chairperson, Professor  
Professor  
Associate Professors

D. S. Murty  
W. Lonc  
K. Fillmore, B. C. Reed  
F. V. Tomscha

Considered to be the most fundamental of the natural sciences, physics deals with the observation and modelling of phenomena on scales from the subatomic to the cosmological. In the broadest sense, physicists seek to enunciate physical laws and propose mathematical models of natural phenomena consistent with experimental evidence.

With their training in identifying underlying phenomena, in the application of analytic and computational skills, and especially in critically analyzing problems, students of physics are uniquely qualified to pursue careers or postgraduate studies in a wide variety of fields — particularly in a high-technology society where basic and applied science touch every aspect of human life. The aerospace, communications, energy and health care fields are all areas of employment for physics graduates at all degree levels.

Contingent on General Science degree requirements, students may choose to follow one of the core programs listed below. Any departures from the program schemes must receive departmental approval. All prerequisites are strictly enforced, except that students not majoring or concentrating in physics may substitute alternative prerequisites for courses at the 300-level or higher, at the discretion of the Physics Department. Students who fail the laboratory component of a course will fail the course.

## a. Physics Concentration

### First Year

Phy 111.0                      Mat 100.0

### Second Year

Phy 221.0                      Mat 200.0

### Third & Fourth Years

Any eight half-courses in physics (in accordance with Science degree requirements) from:

Phy 311.1(2)	Phy 431.1(2)
Phy 321.1(2)	Phy 432.1(2)
Phy 322.1(2)	Phy 438.1(2)
Phy 331.1(2)	Phy 439.1(2)
Phy 332.1(2)	Phy 451.1(2)
Phy 353.1(2)	Phy 471.1(2)

An elective in physics, or mathematics, or astronomy

## b. Physics Major

### First Year

Phy 111.0                      Mat 100.0

### Second Year

Phy 221.0                      Mat 200.0

### Third Year

Phy 311.1(2)	Phy 332.1(2)
Phy 321.1(2)	Phy 353.1(2)
Phy 322.1(2)	Mat 300.0
Phy 331.1(2)	

### Fourth Year

Phy 431.1(2)	Phy 439.1(2)
Phy 432.1(2)	Phy 451.1(2)
Phy 438.1(2)	Phy 471.1(2)

## c. Honors Physics Program

The honors program in physics consists of the above major courses plus sufficient additional courses approved by the department and satisfying the general requirements for an honors degree.

## Astrophysics Program

An Astrophysics program is offered jointly with the Department of Astronomy. The program demands a minimum grade of C in all physics and astronomy courses taken. The program of study must be approved by the Department of Astronomy and the Department of Physics.

This program is subject to the approval of the Maritime Provinces Higher Education Commission.

## d. Astrophysics Major

### First Year

Phy 111.0                      Mat 100.0

### Second Year

Ast 202.0	Mat 200.0
Phy 221.0	Egl 201.1(2)/202.1(2)

A Science elective, normally Che 201.0

### Third Year

Ast 301.1(2)*	Phy 331.1(2)
Ast 302.1(2)*	Phy 332.1(2)
Phy 321.1(2)	Mat 300.0
Phy 322.1(2)	

A humanities elective

### Fourth Year

Ast 401.1(2)*	Phy 431.1(2)
Ast 402.1(2)*	Phy 432.1(2)
Phy 353.1(2)	Phy 438.1(2)
Phy 451.1(2)	Phy 439.1(2)

A science elective, normally physics or mathematics, or a humanities elective (if required for graduation)

\*Upper year courses in astronomy are cycled. The order of taking Ast 301/302 and Ast 401/402 may be reversed without loss of continuity.

## e. Honors Astrophysics Program

First, second, third and fourth years are identical to the Astrophysics Major Program.

### Fifth (Honors) Year

Phy 500.0\*\*

2 additional full courses (or 4 half courses) in physics not taken previously, chosen in consultation with the chairperson of the Department of Physics

2 science electives, chosen in consultation with the chairperson of the Department of Astronomy

\*\*Thesis topic should be in the area of astrophysics.

**111.0 General Physics**

Prerequisite: Mat 100.0 (concurrently).

Introduction to mechanics, sound, heat, electricity and light.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**221.0 University Physics**

Prerequisite: Phy 111.0 or Grade XII Physics; Mat 200.0 (concurrently).

Topics will include mechanics, heat, sound, light, electricity, radioactivity and nuclear energy.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**230.0 Medical Physics**

Prerequisite: sophomore standing, Mat 100.0.

This course is designed for pre-medical, pre-dental and other life science students. Topics will include: mechanics, temperature and heat, kinetic theory of gases, optics, electricity, radio-activity, electronics, the nucleus. Principles will be applied to such areas as bones, lungs and breathing, eye and vision, diagnostic use of x-rays and radio-therapy.

Note: Credit will not be given for both Phy 230.0 and Phy 111.0. Phy 230.0 may be used as a prerequisite to Phy 221.0.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**261.1(.2) Digital Electronics**

Prerequisite: Phy 111.0 or Grade XII Physics, Mat 100.0 or Senior Matriculation Mathematics.

Introduction, including theory and experimentation, to digital circuits, including microprocessors. In general, the course introduces the student to digital electronics as part of contemporary scientific activity.

Classes 2 hrs. and lab 2 hrs. twice a week in evenings. 1 semester.

**263.1(.2) Digital and Microprocessor Electronics**

Prerequisite: Phy 261.1(.2).

An introduction to the microprocessor as an instrument in scientific activity, in which data is acquired, processed, and then utilized. Control of the microprocessor will be in both machine language and BASIC. The electronics associated with connecting peripheral devices to the microprocessor will be emphasized.

Classes 2 hrs. and lab 2 hrs. twice a week in evenings. 1 semester.

**311.1(.2) Experimental Physics**

Prerequisite: Phy 221.0 and Mat 300.0 (concurrently).

Measurement techniques and data analysis applied to the general field of physics. Topics will include Fast Fourier transform (FFT), signal averaging, correlation, and synchronous detection.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**321.1(.2) Optics**

Prerequisite: Phy 221.0; Mat 300.0 concurrently.

Geometrical Optics: image formation by spherical surfaces, thin and thick lenses; lens aberrations, telescopes, microscopes. Physical optics: speed of light, dispersion, interference, diffraction, resolving power of optical instruments, polarization.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**322.1(.2) Electricity and Magnetism**

Prerequisite: Phy 221.0; Mat 300.0 concurrently.

Electric and magnetic fields, and their corresponding potentials, properties of conductors and insulators, Lorentz force and

applications, resistance, capacitance and inductance in AC circuits. The lab will introduce the student to the use of a variety of electric and electronic measuring instruments.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**331.1(.2) Classical Mechanics I**

Prerequisite: Phy 221.0; Mat 300.0 concurrently.

Introduction to vector analysis, work, potential energy, principle of virtual work, the damped harmonic oscillator, the forced harmonic oscillator.

Classes 3 hrs. a week. 1 semester.

**332.1(.2) Classical Mechanics II**

Prerequisite: Phy 331.1(.2).

Motion of a particle under the action of a central force, deduction of the law of force from Kepler's Laws, the two-body problem, motion of a system of particles, motion of a particle in an accelerated reference system, generalized coordinates, holonomic and non-holonomic constraints, degrees of freedom. Lagrange equations.

Classes 3 hrs. a week. 1 semester.

**353.1(.2) Thermophysics**

Prerequisite: Phy 221.0; Mat 300.0 (concurrently).

Temperature, internal energy, first and second laws of thermodynamics, entropy, state functions and the resulting Maxwell relations, kinetic theory, Maxwell distribution, transport phenomena.

Classes 3 hrs. a week. 1 semester.

**431.1(.2) Electromagnetic Theory I**

Prerequisite: Phy 322.1(.2) and Mat 300.0.

Development of the theory of electric and magnetic fields and Maxwell's equations in non-polarized media, leading to applications such as waveguides.

Classes 3 hrs. a week. 1 semester.

**432.1(.2) Electromagnetic Theory II**

Prerequisite: Phy 431.1(.2).

Development of the theory of electric and magnetic fields and Maxwell's equations in polarizable media, including an introduction to a relativistic formulation of the Maxwell equations.

Classes 3 hrs. a week. 1 semester.

**438.1(.2) Atomic Physics**

Prerequisite: Phy 321.1(.2), 322.1(.2) and Mat 300.0.

Atoms, electrons, radiations, the nuclear atom, x-rays, and atomic structure, quantum theory of radiation, special theory of relativity, group velocity, and wave velocity. Mass spectrometers, atomic spectra and atomic structure, the nucleus and isotopes.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**439.1(.2) Nuclear Physics**

Prerequisite: Phy 438.1(.2).

Natural radioactivity and the radioactive laws, artificial nuclear disintegration, artificial radioactivity, alpha-decay, beta-decay, and gamma-decay, nuclear reactions, nuclear forces, nuclear fission, nuclear energy sources, particle accelerators.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**451.1(.2) Mathematical Physics**

Prerequisite: Phy 332.1(.2) and Mat 300.0.

Introduction to mathematical techniques, from a physics point of view. Relevant to problems in classical mechanics, quantum mechanics and electromagnetic theory. Topics to be drawn from vector analysis, differential equation, complex analysis, Fourier analysis, transform theory and elementary statistics.

Classes 3 hrs. a week. 1 semester.

**471.1(.2) Introduction to Quantum Mechanics**

Prerequisite: Phy 438.1(.2) and Phy 451.1(.2) concurrently.

Historical background, necessity for wave mechanics, Schroedinger's equation, potential wells and barriers, scattering, energy eigenfunctions, linear operators and expectation values, Harmonic oscillator, WKB approximation, Hydrogen atom, transition rules, perturbation theory.

Classes 3 hrs. a week. 1 semester.

Note: All 500 level courses will be offered after consultation with the department.

**500.0 Research Thesis**

Prerequisite: honors standing, fifth year.

Research project carried out by the student under supervision of a member of the department. The project may be in the area of astrophysics, in which case the student may be supervised by a member of the Astronomy Department. The student will submit a thesis and defend it orally.

Directed study: 6 hrs. a week. 2 semesters.

**540.1(.2) Topics in Theoretical Physics I**

Prerequisite: Phy 451.1(.2).

Topics include fluid dynamics, elasticity, tensor calculus, and the theory of relativity.

Classes 3 hrs. a week. 1 semester.

**541.1(.2) Topics in Theoretical Physics II**

Prerequisite: Phy 540.1(.2).

Advanced topics in theoretical physics to be selected upon consultation with the students.

Classes 3 hrs. a week. 1 semester.

**542.1(.2) Thermodynamics**

Prerequisite: Phy 353.1(.2) and Phy 451.1(.2).

Fundamental principles of thermodynamics and their application to equilibrium and non-equilibrium systems.

Classes 3 hrs. a week. 1 semester.

**543.1(.2) Statistical Mechanics**

Prerequisite: Phy 353.1(.2) and Phy 451.1(.2).

The macro and grand canonical ensembles, Bose-Einstein and Fermi-Dirac Statistics, applications to real gases, electrons in metals and cryogenic systems.

Classes 3 hrs. a week. 1 semester.

**544.1(.2) Intermediate Quantum Mechanics**

Prerequisite: Phy 471.1(.2).

Interpretive postulates of quantum mechanics, operators with continuous spectra, uncertainty principle, equation of motion, Dirac notation.

Classes 3 hrs. a week. 1 semester.

**545.1(.2) Advanced Quantum Mechanics**

Prerequisite: Phy 544.1(.2).

Angular momentum, spin, Pauli principle, perturbation theory, Born approximation, elastic and inelastic scattering, Dirac relativistic equation.

Classes 3 hrs. a week. 1 semester.

**553.1(.2) Upper Atmosphere**

Prerequisite: Phy 432.1(.2) and Phy 451.1(.2).

Meteorological conditions in the lower stratosphere, structure and circulation of the upper stratosphere and mesosphere, the sun's radiation and the upper atmosphere, composition of the stratosphere and mesosphere, composition and structure of the thermosphere, heat transfer and radiative processes, atmospheric tides and winds in the lower thermosphere, introduction to some other aeronomic problems, transport properties in the upper atmosphere.

Classes 3 hrs. a week. 1 semester.

**554.1(.2) Introduction to Solid State Physics**

Prerequisite: Phy 471.1(.2).

Crystal structure, lattice vibrations, free electron Fermi gas, band structure, properties of simple metals, semiconductors and insulators, superconductivity.

Text: Blakemore, *Solid State Physics*.

Classes 3 hrs. a week. 1 semester.

**555.1(.2) Topics in Advanced Nuclear Physics**

Prerequisite: Phy 439.1(.2) and Phy 451.1(.2).

Some selected topics in Nuclear Physics will be discussed. Topics will be oriented towards research problems.

Reference: K. Siegbahn, *Alpha-Beta-Gamma Ray Spectroscopy*, Vol. 1 and 2, (North-Holland).

Classes 3 hrs. a week. 1 semester.

# Political Science (Pol)

Chairperson, Professor  
Professor  
Assistant Professors

R. G. Landes  
E. J. McBride  
T. Arseneau, G. Chauvin  
D. Nauills, M. Royal

## Departmental Policy for Majors

Students who intend to complete a major concentration in political science must take a minimum of six courses in political science. (With the permission of the department, students may be permitted to take another course in lieu of political science.) There are two required courses: Pol 200.0 and 304.0. The department also strongly recommends (but does not require) that a student take Pol 401.0 and at least one seminar at the 500 level in one or more subfields of the discipline as listed in the department's *Notes and Guidelines for Students in Political Science*.

## Departmental Policy for Honors

Applications for admission to the political science honors program must be submitted to the Honors Program Committee which has the following objectives: (a) evaluate applications for admission to the honors program in political science; (b) seek out potential candidates and encourage them to apply for admission to the honors program in political science; (c) assist political science honors students in selecting their supervisors from the department

Candidates should normally complete the formalities for admission to the political science honors program not later than Christmas of their senior year as a regular political science major.

A student, in order to be admitted to, and remain in, the political science honors program must have and maintain an overall average of B, with no grade below C.

A student also must enrol in and complete at least two seminars at the 500 level.

Honors students must take a number of courses, approved in consultation with their supervisor, in cognate disciplines over and beyond the B.A. prerequisites. Pol 401.0 (Scope and Methods) is strongly recommended to all honors students.

Honors students must pass a general oral examination before a departmental board consisting of a minimum of two departmental members. (The scope of the general oral examination will be determined by the department, in consultation with the student's supervisor.)

Students are reminded that the requirements mentioned above for both the major and/or honors programs constitute a minimum. If graduate work is contemplated, additional courses in political science and in cognate disciplines will be required. For more complete information, the student is advised to consult *Notes and Guidelines for Students in Political Science*, issued by the department.

## 200.0 Introductory Political Science

An introduction to the scope and methods of political science. The nature of the state will be examined, as well as the various purposes advanced for its existence. The student will be introduced to various aspects of government, political parties, international relations and political philosophies.

Classes 3 hrs. a week. 2 semesters.

## 302.0 Democratic Government

Prerequisite: Pol 200.0 or permission of instructor.

An examination of fundamental concepts in democratic theory. Special emphasis is placed on the relationship between theory and practice. Great Britain, the United States and Canada serve as the source of examples of the practice of politics in Western democracies.

Classes 3 hrs. a week. 2 semesters.

## 303.0 Government and Politics in the Soviet Union

Prerequisite: Pol 200.0 or permission of instructor.

A study of the institutions and processes of the Soviet political system. Special consideration will be given to the tensions generated by the Soviet system, as well as the progress of and prospects for reform.

Classes 3 hrs. a week. 2 semesters.

## 304.0 Canadian Government and Politics

Prerequisite: Pol 200.0 or permission of instructor.

A study of Canadian constitutional democracy, encompassing an analysis of both political institutions and political behavior.

Classes 3 hrs. a week. 2 semesters.

## 305.0 International Relations

Prerequisite: Pol 200.0 or permission of instructor.

A survey of and introduction to the study of international relations. The first term will concentrate on the following topics: nationalism and the rise of the nation-state; elements and evaluation of a nation's power; the balance-of-power system in the classical and nuclear age; international law; and the United Nations. The second term will concentrate on foreign policy decision-making and current foreign policy problems of the major powers.

Classes 3 hrs. a week. 2 semesters.

## 306.0 Government and Politics in Western Europe

Prerequisite: Pol 200.0 or permission of instructor.

A study of the institutions and politics of the major national political systems of Western Europe (the United Kingdom, France, West Germany and Italy) as well as a consideration of the progress and problems of European integration.

Classes 3 hrs. a week. 2 semesters.

## 307.0 Provincial Government and Politics

Prerequisite: Pol 200.0 or permission of instructor.

An analysis of the dynamics and structures of provincial government in Canada, with special reference to Nova Scotia. Provincial political parties, voting behavior, legislatures, bureaucracies and policy formulation constitute the core of this course. Inter-provincial and federal-provincial relations are examined, with particular reference to Maritime Union, Quebec, and the Western provinces.

Classes 3 hrs. a week. 2 semesters.

## 309.0 Law and Politics: The Political Dimensions of the Legal Process

Prerequisite: Pol 200.0 or permission of instructor.

An examination of the practical and theoretical connections between law and politics. The course will concentrate on the



contemporary public law issues in the United States, Britain and Canada.

Classes 3 hrs. a week. 2 semesters.

### **310.0 Government and the Media**

Prerequisite: Pol 200.0 or permission of instructor.

An examination of the influence of government policy, especially as set out in federal and provincial legislation, on the growth and operation of the mass media in Canada. Particular attention will be given to the continuing debate over television and radio regulation and ownership, restraints on film and the press, and problems raised by new technology, e.g., pay-TV, cable channels and communication satellites.

Classes 3 hrs. a week. 2 semesters.

### **312.0 Government and Politics in the United States**

Prerequisite: Pol 200.0 or permission of instructor.

An analysis of the American political system in terms of the interrelationship of characteristics salient in the political culture, the social base, the constitutional order, the governmental structure and the policy process, with special emphasis on the political party system, voting behavior, and the Presidency.

Classes 3 hrs. a week. 2 semesters.

### **315.0 Canadian Foreign Policy**

Prerequisite: Pol 200.0 or permission of instructor.

An examination of Canadian foreign policy, with a focus on the content of that policy and on the nature of the decision-making process itself.

Classes 3 hrs. a week. 2 semesters.

### **317.0 Constitutional Theory**

Prerequisite: Pol 200.0 or permission of instructor.

A comparative examination of selected sources and authorities respecting fundamental law in the American, British and Canadian traditions. The course will provide students of constitutional law with a theoretical basis for the analysis of constitutions and relevant judicial decisions.

Classes 3 hrs. a week. 2 semesters.

### **320.0 Local and Urban Government and Politics**

Prerequisite: Pol 200.0 or permission of instructor.

An analysis of political ramifications of urbanization, focusing on Canada. Using historical, comparative, and structural approaches, analysis in the first semester is concerned largely with municipal government — its development in Canada, intergovernmental relations, the concept of autonomy, and structures of decision-making. The second semester is devoted to an examination of urbanization and the political problems to which it gives rise — problems of structural adequacy and development and renewal, urban transportation, and the urban physical environment.

Classes 3 hrs. a week. 2 semesters.

### **321.1(2) International Organization**

Prerequisite: Pol 200.0 or permission of instructor.

A survey of the early designs for, and primary forms of, institutionalized international cooperation; a study of the structures and the processes of cooperation and conflict within the United Nations, the Commonwealth and other international organizations, both intergovernmental and non-governmental. Attention will be given to the growth and role of the international civil service.

Classes 3 hrs. a week. 1 semester.

### **322.1(2) Politics of International Trade**

Prerequisite: Pol 200.0 or permission of instructor.

An examination of the domestic and external political factors influencing foreign trade policies of major industrialized democracies; bilateral and multilateral interactions on trade issues within and outside GATT, trade questions and proposals for a New International Economic Order.

Classes 3 hrs. a week. 1 semester.

### **327.0 Government and Politics in the Middle East**

Prerequisite: Pol 200.0 or permission of instructor.

A comparative study of the governments and politics of Middle Eastern countries, with an emphasis on the analysis of the fundamental political and socio-economic changes that are occurring in the area and attempting to shape its modernizing pace.

Classes 3 hrs. a week. 2 semesters.

### **330.0 Introduction to Public Administration**

Prerequisite: Pol 200.0 or permission of instructor.

A study of the structure and operation of the administrative branch of government, both in theory and practice. Included will be an examination of the evolution of the Canadian federal public administration and public service, with some attention for comparative purposes to related experience in other nations. The administrative responsibilities and powers of the modern state will be assessed and a sampling of recent organization theories will be undertaken.

Classes 3 hrs. a week. 2 semesters.

### **340.0 The Politics of the Developing Areas**

Prerequisite: Pol 200.0 or permission of instructor.

An examination of problems of political development in Asian and African states, in the context of their modernization processes, with special reference to factors responsible for the emergence of authoritarian governments.

Classes 3 hrs. a week. 2 semesters.

### **341.0 Government and Politics in East Asia**

Prerequisite: Pol 200.0 or permission of instructor.

A study of government structures and political dynamics in mainland China, Southeast Asia and Japan, with emphasis on current trends in the Chinese system.

Classes 3 hrs. a week. 2 semesters.

### **348.0 Comparative Voting Behavior**

Prerequisite: Pol 200.0 or permission of instructor.

From a comparative perspective, a study of the nature of voting and electoral behavior in Canada, the United States, Britain, and selected other countries.

Classes 3 hrs. a week. 2 semesters.

### **401.0 Scope and Methods of Political Science**

Prerequisite: Pol 200.0 or permission of instructor.

An introduction to the concerns and methodologies of modern political science. Included will be a discussion of theories and approaches developed by the empirical school of political scientists.

Classes 3 hrs. a week. 2 semesters.

**418.0 International Law**

Prerequisite: Pol 200.0 or permission of instructor.

A study of the features of public international law as they have developed and have been invoked in diplomatic practice, international law adjudication, and national courts.

Classes 3 hrs. a week. 2 semesters.

**419.0 Comparative Constitutional Law**

Prerequisite: Pol 200.0 or permission of instructor.

A comparative analysis of constitutional systems, this course focuses upon the theory and exercise of judicial review, in the context of either Canadian and American constitutional law, or European constitutional practice. It combines lectures, collateral readings, and the case method.

Classes 3 hrs. a week. 2 semesters.

**435.0 Political Thought to the French Revolution**

Prerequisite: Pol 200.0 or permission of instructor.

An historical treatment of the most important political ideas from the earliest writings on politics to the immediate precursors of the French Revolution. Some attention is paid to the mutual interaction of social conditions and ideas.

Classes 3 hrs. a week. 2 semesters.

**436.0 Modern Political Thought**

Prerequisite: Pol 200.0 or permission of instructor.

An examination of the major currents in political thought from the era of the French Revolution to the 20th Century. The major emphasis is on the liberal and the socialist traditions.

Classes 3 hrs. a week. 2 semesters.

**445.0 Introduction to Public Policy**

Prerequisite: Pol 200.0 or permission of instructor.

A critical analysis of public policy formation, the content of public policies, and impact upon society.

Classes 3 hrs. a week. 2 semesters.

**446.0 Comparative Political Parties**

Prerequisite: Pol 200.0 or permission of instructor.

An analysis of the structures and functions of individual parties and party systems, with an emphasis on Canada, Western Europe, and the one-party states of the developing areas.

Classes 3 hrs. a week. 2 semesters.

**551.0 Canadian Government Seminar**

Prerequisite: Pol 304.0 or permission of instructor.

An analysis of selected aspects of Canadian politics and government, using a comparative approach. Topics include: political culture, interest groups, political parties, voting behavior, Parliamentarians, and bureaucracy. This seminar emphasizes student presentation and group discussions.

Classes 2 hrs. a week. 2 semesters.

**552.0 Seminar in Comparative Government**

Prerequisite: permission of instructor.

Conceived as a work-study group, this seminar is designed for students interested in the use of the comparative method in the analysis of contemporary national political systems.

Classes 2 hrs. a week. 2 semesters.

**553.0 International Studies Seminar**

Prerequisite: permission of instructor.

A seminar on the contemporary interaction of the major powers, with special consideration of selected world problems, tensions, trends and developments.

Classes 2 hrs. a week. 2 semesters.

**554.0 Seminar in Political Behavior**

Prerequisite: permission of instructor.

An analysis of the behavioral movement in political science, with a focus on its methods of inquiry and its impact on the discipline of political science. Several types of political behavior will be selected each year for special attention.

Classes 2 hrs. a week. 2 semesters.

**555.0 Seminar in Public Law**

Prerequisite: Pol 418.0 or 419.0 or permission of instructor.

An advanced study of public law. This seminar will involve students in an examination of various aspects of public law, with special emphasis on the role of judges in the process of law development.

Classes 2 hrs. a week. 2 semesters.

# Psychology (Psy)

Chairperson, Associate Professor  
Professors

B. Vulcano  
V. Catano  
J. Chadwick-Jones  
J. Darley, K. Hill  
R. Konopasky, I. Lenzer  
P. Street  
G. Pretty  
C. Hayes, H. Vincent  
R. O'Day

Associate Professor  
Assistant Professor  
Adjunct Professors

General/Experimental — 401.1(2), 402.0, 406.0, 412.0,  
421.1(2)  
Physiological — 404.0, 405.0  
Developmental — 415.0, 431.2, 450.1(2), 460.1(2)  
Social/ Personality — 416.1(2), 417.1(2), 433.0, 498.0  
Applied — 411.0, 418.1, 419.2, 435.0, 440.0, 485.1, 486.2.

Honors students should consult with the department chairperson, or their thesis advisor, to determine a program of study that is appropriate to their future plans.

The Psychology Department offers a broad range of courses and programs that are designed to meet the needs of students from a variety of backgrounds with varying degrees of interest in psychology. Psychology is normally begun at the sophomore level. Introduction to Psychology (201.0) is a broad survey of the discipline and is a prerequisite for all other psychology courses. The department offers major and honors programs leading to both the B.Sc. and B.A. degrees as well as a M.Sc. program in Applied Psychology.

## Psychology as an Elective Subject

Students who are not intending to major in psychology normally register in 200-level and 300-level courses. However, students who meet course prerequisites, or obtain permission of the course instructor may also register in 400-level courses. Arts students who wish to minor in psychology, commerce students, seeking to fulfill degree requirement 4-c, and science students seeking to fulfill degree requirements 4-b, 6-b, or 10-c should contact the Psychology chairperson to arrange a program of study relevant to their individual needs.

## Psychology as a Major Program

Psychology is both a natural and a social science. Consequently, students may pursue a program of studies leading to either a B.Sc. or a B.A. degree while majoring in psychology. In addition to the general degree requirements specified in the Faculties of Arts and Science sections of this Calendar for the B.Sc. and B.A. degrees, the department requires a compulsory core program consisting of seven full course credits including the introductory course (201.0), Learning (301.0), Psychological Statistics and Experimental Design (305.0), [a final grade of C (2.00) is mandatory for each of these courses for majors], and at least two full 400-level course credits. An average grade of C (2.00) in psychology courses is required for psychology majors. Students who intend to declare a major in psychology should consult the Psychology chairperson to determine which program, B.Sc. or B.A., is best suited to their career goals.

## Psychology as an Honors Program

The Psychology Department offers programs leading to either a B.Sc. Honors or a B.A. Honors degree. Both programs are designed for students of above-average ability who wish to proceed to graduate work in psychology, or related areas, or intend to pursue careers in psychology. These honors programs follow the general regulations of the Science and Arts Faculties, respectively, as stated in this Calendar. Two departmental regulations, in addition to those specified under Psychology as a Major Program, are that honors students take 549.0 (Honors Seminar) and that of the minimal 10 full psychology course credits required to graduate, at least six be at the 400-level.

It is recommended that those students who wish to proceed to graduate work take at least one course at the 400-level from each of the following five areas:

## Psychology as a Graduate Program

The department offers a Master of Science degree in Applied Psychology with concentrations in clinical and industrial/organizational psychology. Requirements for the M.Sc. program are detailed elsewhere in this Calendar. Undergraduate students who wish to gain admittance to the M.Sc. program should note that a normal entrance requirement is an honors degree, or its equivalent. Undergraduates should also be aware that there are a limited number of placements available in the program and that competition for these positions is extremely high. Additional information on the program may be obtained by contacting the Graduate Program Coordinator in the Psychology Department.

### 201.0 Introduction to Psychology

Prerequisite: sophomore standing.

The science of behavior and mental processes, methods and measurement, psychological basis of behavior, maturation and development, individual differences and intelligence, personality, sensory processes and perception, learning, memory and thinking, motivation and emotion, social and clinical psychology, applications of psychology.

Each person taking this course may act as a subject for psychological experiments for a certain number of hours. A final grade of C is required for psychology majors.

Classes 3 hrs. a week. 2 semesters.

### 301.0 Psychology of Learning

Prerequisite: Psy 201.0. The student is advised to take Psy 305.0 concurrently.

Classical and instrumental conditioning will be studied as examples of the learning process in animals and humans. Topics will include acquisition, reinforcement, punishment, extinction, aversive conditioning, stimulus control of behavior, discrimination, and complex problem solving. Different theoretical approaches to learning will be discussed. Students are given an opportunity to examine various learning principles in laboratory experiments involving human and animal subjects. A final grade of C is mandatory for majors.

Classes 3 hrs. and lab 1 1/2 hrs. a week. 2 semesters.

### 303.0 Motivation and Emotion

Prerequisite: Psy 201.0.

An analysis of the factors underlying and directing behavior, starting with basic biological drives (thirst, hunger, sex, etc.) and proceeding to more complex motivational and emotional states. The study of emotions will include a description of how different emotions are experienced, an analysis of bodily changes accompanying different emotional states, and a look into how these states are expressed in verbal and non-verbal behavior.

Classes 3 hrs. a week. 2 semesters.

**305.0 Psychological Statistics and Experimental Design**

Prerequisite: Psy 201.0 and a 100 level mathematics course or equivalent. The student is advised to take Psy 301.0 concurrently.

Importance of statistics in psychology, probability and probability distributions, binomial and normal distributions, characteristics of distributions, measures of central tendency and variability, sampling and hypothesis testing, and non-parametric statistics. The designing of experiments in psychology in the light of the above, the variation of factors and observation of changes in responses, interpretation of results based on experimental design and application of the relevant statistics. A final grade of C is mandatory for majors.

Classes 3 hrs. and lab 1 1/2 hrs. a week. 2 semesters.

**306.0 Psychobiology**

Prerequisite: Psy 201.0.

An examination of how biological events shape human behavior. Topics include evolution, the genetic properties of behavior, the parent-child relationship, origins of language, emotions and motivation, sexual, and aggressive behavior.

Classes 3 hrs. a week. 2 semesters.

**310.1(.2) Introductory Social Psychology I**

Prerequisite: Psy 201.0.

The history of this major branch of psychology is outlined showing how the scientific study of interpersonal behavior has progressed, up to the present, in theory and methodology. The aim of this course is to give an understanding of basic concepts, assumptions and contemporary theories in social psychology and to give a sound acquaintance with the logic and procedures for formally testing these theories.

Classes 3 hrs. a week. 1 semester.

**311.1(.2) Introductory Social Psychology II**

Prerequisite: Psy 201.0.

This second course in social psychology introduces the student to the research methods and paradigms which have been developed over fifty years of work in this major branch of academic psychology. Some of these methods are now applied to current Canadian problems such as bilingualism, language, and group relations. Discussion of these special issues is intended to exemplify research models and to throw light on the general questions and controversies of the discipline.

Classes 3 hrs. a week. 1 semester.

**320.0 Engineering Psychology**

Prerequisite: Psy 201.0.

Principles of human behavior as applied to the optimal design of equipment, tasks, work environments, and systems. Topics will include: person-machine systems, information systems, control systems, human performance. The application of engineering psychology methods to contemporary social problems, e.g., education, medicine, law enforcement, city planning, highway and transport design.

Classes 3 hrs. a week. 2 semesters.

**326.0 Introduction to Industrial Organizational Psychology**

Prerequisite: Psy 201.0.

An introduction to the methods and problems in Industrial/Organizational Psychology. Representative topics will be drawn from the areas of organizational behavior, personnel psychology, human factors, and consumer behavior.

Classes 3 hrs. a week. 2 semesters.

**331.1(.2) Child Psychology I**

Prerequisite: Psy 201.0.

An introduction to child psychology including a consideration of genetic and prenatal factors in development, early socialization, sexual differentiation, cognitive and intellectual development.

Classes 3 hrs. lecture and lab 3 hrs. a week. 1 semester.

**332.1(.2) Cognitive Development**

Prerequisite: Psy 201.0, and 331.1(.2) which may be taken concurrently.

A survey of contemporary theory and research in the development of intelligence, memory, perception, and communication. Piaget's views and their application in education will be considered.

Classes 3 hrs. a week. 1 semester.

**333.0 Abnormal Psychology**

Prerequisite: Psy 201.0.

Examination of theoretical, research, and applied aspects of abnormal psychology. Consideration will be given to the description, origin, and planned change of maladaptive functioning. Topics may include the role of social, economic, and political factors in disorder, the history of the area, professional roles.

Classes 3 hrs. a week. 2 semesters.

**347.1(.2) The Psychology of Longevity and Aging**

Prerequisite: Psy 201.0.

This course is an overview of the neuropsychological, physiological, clinical and personological aspects of the later phases of life. Normal and abnormal patterns of aging are examined. Topics include research from neuropsychology, neuroanatomy, personality, clinical psychology, gerontology and geriatrics.

Classes 3 hrs. a week. 1 semester.

**348.1(.2) Psychology of Sex Roles**

[WMS 348.1(.2)]

Prerequisite: Psy 201.0.

An examination of the psychology of sex role differences; sex role identity as determined by biological and environmental factors; discussion of sex role behavior among animals; theories as they relate to sex role differentiation, e.g., the psychoanalytic and social learning theory.

Classes 3 hrs. a week. 1 semester.

**349.1(.2) Drugs and Behavior**

Prerequisite: Psy 201.0.

Effects of psychoactive drugs on normal and abnormal behavior and on consciousness. Explanations are in terms of brain functioning. Discussion of methods used in the study of drug effects on animals and humans.

Classes 3 hrs. a week. 1 semester.

**393.0 The Psychology of Adjustment and Well-Being**

Prerequisite: Psy 201.0.

This course focuses on a framework for studying adult development and on understanding how life challenges threaten effective functioning and covers issues concerning human adjustment. An aim is to examine the life course or the engagement of self with the world. To be examined are the likely

encounters in life progression over a span of years and how to effectively cope with these.

Classes 3 hrs. a week. 2 semesters.

#### **401.1(2) Analytic Techniques for Applied and Experimental Psychology**

Prerequisite: Psy 305.0.

Extended coverage of material introduced in Psy 305.0. Topics will include multi-factor, between-subject and within-subject experimental designs, and observational or correlational designs. The analysis of data from these designs will be considered in relation to measurement problems encountered in applied and experimental psychology. Both empirical and simulated experiments will provide examples for practice and discussion.

Classes 3 hrs. a week. 1 semester.

#### **402.0 Psychology of Sensation and Perception**

Prerequisite: Psy 305.0.

An examination of how sensory systems (e.g., vision, audition) abstract and process information from the physical world and the resultant effect on awareness and attention. Topics include neural communication and organization, receptor and cortical processes, coding mechanisms, specification of the stimulus, perception of brightness and color, perceptual memory, form perception and recognition, perception of space, time and motion, extra-sensory perception, perceptual illusions.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

#### **404.0 Introduction to Physiological Psychology**

Prerequisite: Psy 301.0 and 305.0.

Introduction to neuroanatomy of the brain. Neural mechanisms of sleep, arousal and attention; physiological basis of learning, language and motivation. Physical control of the mind through electrical stimulation of the brain and through drugs.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

#### **405.0 Human Neuropsychology**

Prerequisite: psychology majors with senior standing.

Conceptions of human brain-behavior relationships. The effects of various types of brain lesions on human behavior. Implications for theories of higher mental functions. Study of neuropsychological assessment techniques.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

#### **406.0 Ethology**

Prerequisite: Psy 301.0 or 305.0 or 306.0.

An examination of human and animal behavior: comparative development of social and emotional behavior, evolution, reflexive behavior, courtship, mating, and parental behavior.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

#### **411.0 Industrial/Organizational Psychology**

Prerequisite: Psy 326.0.

Extended coverage of material introduced in Psy 326.0. Lectures are designed to explore the application of psychological concepts to problems encountered in work environments. Topics may include organizational environments, leadership, communication, motivation, decision-making, personnel selection, training and performance, industrial relations and occupational health and safety.

Classes 3 hrs. a week. 2 semesters.

#### **412.0 Human Information Processing**

Prerequisite: Psy 301.0 and 305.0.

An examination of the processes by which sensory inputs are transformed, reduced, elaborated, stored, recovered and used. The course may include topics such as contemporary theories of perception and memory, psycholinguistics, computer simulation of cognitive processes, models of information processing, concept learning and formation, and decision making processes.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

#### **414.1(2) Social Psychology of Nonhuman Primates**

Prerequisite: Psy 201.0 and 310.1(2) or 311.1(2).

Increasing interest in the sociobiology of nonhuman primate social behavior has led to a vast increase in the number of empirical studies carried out since the 1960s. The course considers major areas of social behavior such as: (1) mother-infant relationships and play, (2) pro-social activities, e.g., social grooming, pair formation, coalitions and alliances, (3) communication and social signals, and (4) dominance and hierarchies. Methods and theories to explain primate social behavior are examined in relation to existing methods and theories in social psychology. The comparison with and relevance for human behavior is a central issue for study.

Classes 3 hrs. a week. 1 semester.

#### **415.0 Developmental Clinical Neuropsychology**

Prerequisite: Psy 301.0 and 305.0.

Study of neuropsychological disorders in children. Topics include the hyperactive syndrome, disorders in language, in auditory and visual processing, and in attention. Study of tests for the assessment of the various disorders.

Classes 3 hrs. a week. 2 semesters.

#### **416.1(2) Experimental Social Psychology I**

Prerequisite: Psy 301.0, 305.0, and either 310.1(2) or 311.1(2).

Theories, research methods and applications in social psychology are covered in the lecture course together with laboratory experiments designed to investigate social interactions and communication in dyads.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note: Students who have received credit for Psy 410.0 may not enrol in this course.

#### **417.1(2) Experimental Social Psychology II**

Prerequisite: Psy 301.0, 305.0, and either 310.1(2) or 311.1(2).

Current social issues and such topics as social conformity, aggression, cooperation and exchange are covered in lectures together with laboratory experiments on these topics and on social communication in groups.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note: Students who have received credit for Psy 410.0 may not enrol in this course.

#### **418.1(2) Environmental Psychology I**

Prerequisite: Psy 301.0 or 305.0.

An examination of the evolutionary and biological background of humans relative to present urban environment. Territoriality, space and human movements, privacy and crowding.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note: Students who have received credit for Psy 413.0 may not enrol in this course.

**419.1(2) Environmental Psychology II**

Prerequisite: Psy 418.1(2).

Architectural design of housing, offices, and hospitals. Perception of the city, cognitive maps, the sonic environment, the street and its social functions. Stress in the urban environment.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note: Students who have received credit for Psy 413.0 may not enrol in this course.

**420.1(2) Social Psychology of Nonhuman Primates II**

Prerequisite: Psy 201.0; 310.1(2) or 311.1(2).

The cognitive capacities of nonhuman primates are examined in relation to international social behavior and strategies documented in current literature. The general areas of play, aggression, consortship studies are described for rhesus monkeys, baboons, chimpanzees and gorillas: all of which highlight general principles which are appropriate for the understanding of human behavior.

Classes 3 hrs. a week. 1 semester.

**421.1(2) History and Systems of Psychology**

Prerequisite: Psy 301.0.

The development of the science of psychology from the ancient Greek philosophers to contemporary behaviorism. Recurrent themes and controversies in psychological theory and method will be examined in the major sub-disciplines, e.g., learning, perception, developmental and abnormal.

Classes 3 hrs. a week. 1 semester.

**431.1(2) Child Psychology II**

Prerequisite: Psy 301.0 and 331.1(2) which may be taken concurrently.

An examination of socialization and the development of individual differences in children and adolescents. There will be an emphasis on the development of prosocial behavior and attitudes, such as cooperation, altruism, and moral development. Other probable topics include aggression, egocentrism, television and the child, and child-rearing influences on development.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**432.0 Psychology and Religion**

[Rel 360.0 (460.0)]

Prerequisite: psychology majors with senior standing.

A study of various aspects of common interest to religion and psychology: values, images of humanity, the psychological functions of religion. Discussion of phenomena such as faith healing, glossolalia, transcendental experiences, conversion, meditation, and issues such as freedom and responsibility, attitudes towards the body, the role of sin and guilt in personal distress. Prior religious knowledge and experience are advantageous.

Classes 3 hrs. a week. 2 semesters.

**433.0 Personality Theory and Research**

Prerequisite: psychology majors with senior standing.

A review of contemporary theories of personality through intuitive, rational, historical, and empirical methods.

Classes 3 hrs. a week. 2 semesters.

**435.0 Clinical Psychology**

Prerequisite: Psy 333.0 and psychology majors with senior standing.

A review of the origins, development, organization, practice and future of clinical psychology with an emphasis on theory and research in counselling and psychotherapy. Also included will be an examination of the design and implementation of improvement programs, consultation, diagnostics, reporting methods, professional training, organization and ethics, relations to other professions.

Classes 3 hrs. a week. 2 semesters.

**436.1(2) Psychology of Art I**

Prerequisite: psychology majors with senior standing.

A study of theories and research on the psychological principles underlying the perception of the arts of painting and sculpture. The review will include a psychological interpretation of creative processes and art as emotional communication.

Classes 3 hrs. a week. 1 semester.

**437.1(2) Psychology of Art II**

Prerequisite: psychology majors with senior standing.

A study of theories and research on the psychological principles underlying the perception of the arts of literature and music. Both contemporary perspectives and major traditions within psychology will be emphasized. The reviews will also include a psychological interpretation of creative processes, of art as emotional communication, and of the role of art in the broader context of personality and society.

Classes 3 hrs. a week. 1 semester.

**440.0 Psychological Tests and Measurements**

Prerequisite: Psy 201.0, 305.0, 333.0, and 433.0 (which may be taken concurrently).

This course examines psychological measurement and the construction of scales and tests. Tests in common use, for example, intelligence, aptitude, ability, personality and pathology tests, are reviewed. These tests are also evaluated in terms of reliability and validity. The ethics of testing is also considered.

Classes 3 hrs. and lab 1 1/2 hrs. a week. 2 semesters.

**445.0 The Psychology of the Unconscious**

Prerequisite: Psy 333.0 or 440.0.

An introduction to the psychological unconscious and its status in contemporary psychology. The course will include the study of the processes and products of imagination as a means of understanding the psychological experience of the person. Materials drawn from dreams, visions, fairy-tales, stories, drama and other literary texts, expressive movement, the visual arts, hypnotic and other altered states, and projective techniques will be examined in the context of research and theory on symbol and image. The use of fantasy in diagnosis and therapy is also examined.

Classes 3 hrs. a week. 2 semesters.

**449.0 Senior Seminar**

Prerequisite: senior standing and permission of the department. Applications for this course must be made in March of the junior year to the chairperson of the Department of Psychology.

An individual research and/or readings course in psychology.

Classes and lab 6 hrs. a week. 2 semesters.

**450.1(2) Behavior Problems of Children**

Prerequisite: Psy 301.0 and a minimum grade of C in Psy 331.1(2).

A review of problems exhibited by children in home and educational settings (e.g., autism, depression, hyperactivity,

learning disabilities). Approaches to treatment will also be discussed.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

#### **460.1(2) Development in Human Infancy**

Prerequisite: Psy 331.1(2) or permission of instructor.

An examination of the development of behavioral processes of the human infant. Surveys of recent research in infant learning, visual and auditory perception, social and cognitive development.

Classes 3 hrs. a week. 1 semester.

#### **485.1(2) Behavioral Analysis and Change**

Prerequisite: Psy 301.0.

A review of learning theory as it applies to behavior therapy. Survey of behavior modification techniques including relaxation training, counter conditioning, assertive training, token economies, modelling, shaping and aversive techniques. Comparison with traditional, dynamic theories and applications.

Classes 3 hrs. and lab 1 1/2 hrs. a week. 1 semester.

#### **486.1(2) Advanced Behavioral Analysis and Change**

Prerequisite: Psy 301.0 and 485.1(2).

Cognitive behavior therapy. Self-directed behavior therapy. Biofeedback and special topics: hypnosis, smoking, alcoholism, stress reduction, obesity, and mood change.

Classes 3 hrs. and lab 1 1/2 hrs. a week. 1 semester.

#### **490.1(2) Introduction to Health Psychology**

Prerequisite: Psy 201.0 and 305.0.

This course focuses on understanding how psychological factors contribute to the promotion and maintenance of good physical health, to the prevention and treatment of physical illness, and to the development of psychological well-being.

Classes 3 hrs. a week. 1 semester.

#### **498.0 Community Psychology**

Prerequisite: Psy 305.0.

Delivery systems of psychological services: social services, agencies, institutions and private practicing professionals. Epidemiological surveys. Preventative psychiatry. Community psychology. Interventions: individual-social-systems interventions and intersystem relationships.

Classes 3 hrs. a week. 2 semesters.

#### **549.0 Honors Seminar**

Prerequisite: fifth year honors standing.

A research course in psychology. It is expected that the student will produce an honors thesis based on work in this course. The course is required for fifth year honors students.

Classes and lab 6 hrs. a week. 2 semesters.

#### **601.0 Advanced Psychological Statistics and Research Design**

Prerequisite: graduate standing.

Statistics applied to psychological research: statistical inference, hypothesis testing, analysis of variance including simple and advanced experimental designs, correlation, and an introduction to regression along with other multi-variate methods. Also to be presented will be the logic of experimental and quasi-experimental methods including naturalistic approaches to hypothesis testing.

#### **603.1(2) Advanced Assessment**

Prerequisite: graduate standing.

Study of the principles of psychological testing: reliability, validity, and interpretation of test scores. Analysis of these principles with respect to selected tests most frequently encountered in practical settings. Students are expected to become proficient in the use of these tests.

#### **604.1(2) Clinical Assessment**

Prerequisite: graduate standing.

A study of assessment procedures commonly used in clinical and counselling settings for planning and evaluating case management. Students will acquire skills in the administration and interpretation of selected instruments, and will practice integrating results in the form of psychological report writing.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

#### **605.1(2) Assessment of Work Behavior**

Prerequisite: graduate standing.

A study of the assessment techniques used to select, place, evaluate, and counsel personnel. Procedures used to measure job satisfaction, motivation, and leadership are also discussed. Students are expected to become proficient in the use of the selected test instruments.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

#### **606.1(2) Neuropsychological Assessment**

Prerequisite: graduate standing.

Study of the most frequently used tests in the assessment of brain damage. Discussion of the validity of these tests for the different diagnoses of functional and organic disorders of patients encountered in neuropsychiatric settings.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

#### **610.1(2) Applied Multivariate Analysis**

Prerequisite: graduate standing.

This course assumes a working knowledge of the primary univariate statistical techniques, specifically point estimators, univariate inferential tests, correlation, and analysis of enumerative data. From that base, this course examines the purposes, uses, analysis and inter-relatedness of a sample of the following multivariate techniques: Hotelling's  $T^2$ , multivariate analysis of variance and post-hoc procedures, factor analysis, discriminant analysis, and canonical correlation. Considerable use will be made of at least one of the major computerized statistical packages.

#### **615.1(2) Social Skills and Mental Health**

Prerequisite: graduate standing.

The social skills training approach. The analysis of social behavior. Development and deficiency in social skills: a review of the evidence. Changing social behavior. Outcome studies of skills training: a review. Assessment and training. The training manual.

#### **620.1(2) Topics in Engineering Psychology**

Prerequisite: graduate standing.

Selected topics related to the application of experimental psychology to the study of human factors involved in work, e.g., the description, evaluation and/or design of jobs and equipment; the psychophysiology of human performance; system development; person-machine interactions; accidents and safety.

**625.1(.2) Topics in Industrial Psychology**

Prerequisite: graduate standing.

An intensive study of current theories and research on a topic selected from the following: employee selection, placement, and evaluation; applied motivation; leadership; communication; decision-making; training in industry.

**630.1(.2) Topics in Environmental and Architectural Psychology**

Prerequisite: graduate standing.

Topics include: human behavior related to the design and function of the built environment, personal space, territorial behavior, crowding, environmental-design guidelines, social institutions and environmental design, methods in environmental research and individual needs in the organization of environment, highrise and vandalism.

**640.1(.2) Field Research Methods**

Prerequisite: graduate standing.

Research methods as currently applied to a variety of clinical and organizational problems. These methods consist of such special techniques as interviewing programs, their design and concentration, the analysis of interview material, questionnaire construction and administration, attitude surveys; non-participant and participant observational studies, naturalistic observations and field experiments.

**650.1(.2) Community Psychology**

Prerequisite: graduate standing.

A survey of the function of professional psychology in the community. Study of the design, implementation, and evaluation of programs; review of epidemiological research; study of social service agencies and clinical settings, institutions, alternative delivery systems. The ethics and politics of the mental health enterprise.

**655.1(.2) Counselling and Psychotherapy**

Prerequisite: graduate standing.

A study of short-term counselling and psychotherapy techniques. Emphasis will be placed on what the counsellor actually does. Single case methods for evaluating process and outcome will be reviewed. Consideration will be given to contemporary issues concerning values and ethics.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**660.1(.2) Behavior Therapies**

Prerequisite: graduate standing.

Study and training in the application of the principles and technology of behavior modification to a variety of human problems. Consideration will be given to biofeedback, modelling, contingency contracting, and token economies. Students will be expected to identify target behaviors and carry out modification procedures. The results of projects will be reported in suitable form for class presentation and discussion.

**665.1(.2) Topics in Applied Child Psychology**

Prerequisite: graduate standing.

Principles of development applied to children's behavior in community settings. Possible topics include methods of assessment and observation of children, psychological and educational counselling, behavior modification, and special problems in conducting research with children. Course content will vary from year to year and will be guided by student needs and interests. May be repeated once for course credit.

**670.1(.2) Special Seminar: Topics**

Prerequisite: graduate standing.

Presentation of topics not covered in the regular graduate curriculum, offered according to student interest and the availability of qualified faculty. May be repeated for credit once.

**675.1(.2) Family Therapy**

Prerequisite: graduate standing.

A general introduction to family therapy, including theory, application, and evaluation. Examples of topics to be covered include normal family processes, family structure, and strategic approaches to intervention.

**676.1(.2) Geroneuropsychology**

Prerequisite: graduate standing.

Neuropsychology spans the growing fields of gerontology and geriatrics. This course focuses on recent developments in the neuropsychology of aging and the dementias, as well as on normal and pathological aging of the central nervous system.

**680.1(.2) Psychological Disorders**

Prerequisite: graduate standing.

Intensive study of theory and research addressed to the description, classification, etiology and development of psychopathology.

**690.0 Practicum and Directed Readings**

Prerequisite: graduate standing.

Supervised training in the application of psychological principles, techniques, and instruments, in various practical settings. Students are expected to accumulate at least 500 hours of practicum training coordinated with relevant readings.

**695.0 Thesis**

Prerequisite: graduate standing.

Experimental research or field study conducted under the supervision of an advisory committee.



**322.1(2) [422.1(2)] Intimacy in Marriage: Religious Dimensions**  
Not all good marriages are equally intimate, or intimate in the same ways. This course studies the many facets of intimacy, the barriers to it and the communication skills that promote it. Throughout, the rich meanings of marital intimacy are sought principally in biblical religion.

Classes 3 hrs. a week. 1 semester.

**323.1(2) [423.1(2)] The Islamic Religious Tradition**  
Islam is one of the most rapidly expanding religious traditions in the world. This course will examine the origins of Islam, its fundamental teachings in the Qu'ran and in the works of some of its major teachers. In addition, the course will survey the history of Islam and contemporary developments in selected areas.

**324.0 (424.0) Religions of China**

What did Confucius say? How does a Taoist and a Buddhist conceive of the world and his place in it? How have Chinese religious traditions shaped the character of Chinese culture? These questions will be examined through the reading in translation of selected Chinese classics such as: Confucius' Analects, Lao Tzu's Tao te Ching, The Buddhist Platform Scripture and selected writings of Chairman Mao.

Classes 3 hrs. a week. 2 semesters.

**325.1(2) [425.1(2)] Myth and Story**

The telling of stories and the recounting of myths in ritual settings are two major characteristics of religious traditions. The course will examine in translation a variety of stories and myths from the literature of major world traditions. Critical examination of the myths and stories will involve both locating the myth or story in the religious context of a particular faith and the comparative analysis of major themes. Literary sources will be drawn primarily from Hinduism, Buddhism, Islam and the biblical traditions.

Classes 3 hrs. a week. 1 semester.

**326.1(2) [426.1(2)] The Hindu Religious Tradition**

"Hinduism" is the name westerners give to the religious tradition of South Asia. The course will examine the historical development and literary monuments, such as the "Bhagavadgita", that express the religious life of South Asian peoples.

Classes 3 hrs. a week. 1 semester.

**327.1(2) [427.1(2)] The Buddhist Religious Tradition**

The Buddhist religious tradition was founded in South Asia, and moved to China, Japan and Southeast Asia. The founding of Buddhism will be examined through the teachings concerning the life of Siddhartha. Ch'an or Zen Buddhism will provide an insight into Chinese and Japanese Buddhism.

Classes 3 hrs. a week. 1 semester.

**328.1(2) [428.1(2)] The Catholic Church Today**

The Catholic Church has radically changed. What does it teach today about God, salvation, Jesus Christ, faith, Church, Sacraments, and human destiny? Students will be introduced to different interpretations given by some Christian Churches to these beliefs.

Classes 3 hrs. a week. 1 semester.

**329.1(2) [429.1(2)] Catholicism and Contemporary Issues**

What does the Catholic Church say to the world today about human dignity, atheism, community, work, labour, communism and capitalism, nuclear weapons, abortion, birth control, population? Students will be introduced to other views of these questions.

Classes 3 hrs. a week. 1 semester.

**331.0 (431.0) Key Concepts of Christianity**

Stressing biblical sources, this comprehensive overview traces the development of the dominant themes in Christianity and studies their relevance to present day moral questions. The course asks how a contemporary Christian conceives of God, of the origins of nature and man, and a human destiny here and hereafter.

Classes 3 hrs. a week. 2 semesters.

**333.1(2) [433.1(2)] Grace and Freedom**

A study of basic Christian beliefs about human freedom, the quest for salvation, God's grace in Christ, sin and Christian life. How does a contemporary Christian conceive of human evil, human community, redemption in Christ, and religious institutions?

Classes 3 hrs. a week. 1 semester.

**334.1(2) [434.1(2)] Christian Spirituality Today**

A study of the Christian religion as experienced and expressed today by outstanding writers of different traditions. It focuses on the universal themes contained in the spiritual writings of Christianity, including the Catholic, Protestant, and Greco-Russian traditions. Topics studied include: monasticism, prayer, charismatic renewal, community, building the world, justice and charity.

Classes 3 hrs. a week. 1 semester.

**336.1(2) [436.1(2)] Creation and Evolution: The Religious Issues**

The theory of evolution is a powerful tool for answering scientific questions about life in this world. The success of the scientific enterprise has led many people to seek answers to their religious questions in "evolutionary" ideas. On the other hand, the Biblical account of creation is a fruitful source of insight into religious questions about why the world is as we find it. The central importance of Biblical truth for Christians and Jews had led many of them to seek answers to scientific questions in the creation story. What are the relevant religious questions?

Classes 3 hrs. a week. 1 semester.

**337.1(2) [437.1(2)] Religion and Art in South Asia**

Art and architecture have given concrete expression to religious ideas and ideals in South Asia. The course will examine historically both Buddhist and Hindu art and architecture in association with the religious conceptions fundamental to these traditions.

Classes 3 hrs. a week. 1 semester.

**338.1(2) [438.1(2)] Religion and Art: The West**

In what ways may art be religious? Through a rapid thematic survey of the visual arts in Western civilization and an enquiry into the relationship between religious experience and the arts, the student is led to recognize various levels of religiousness in works of art.

Classes 3 hrs. a week. 1 semester.

**341.1(2) [441.1(2)] Political Theology: East and West**

How women and men are to live well in society has been one of the most important subjects of religious thought, both in eastern and western traditions. The course will examine the political theology of such writers as Confucius, Augustine, Gandhi, and others with a view to understanding the relationship of political life and religious conviction.

Classes 3 hrs. a week. 1 semester.

**342.1(.2) [442.1(.2)] Religion and War**

Religious attitudes toward war have ranged from pacifism, through vigorous efforts to enforce limits on war's destructiveness, to outright support for specific wars. The course will examine comparatively the views of major religious traditions on war; the use of war and the warrior as religious symbols; the crisis of religious views on war in the nuclear age.

Classes 3 hrs. a week. 1 semester.

**346.1(.2) [446.1(.2)] Religion and the Social Order**

Employment opportunities frequently lead university graduates into business, into science and technology, or into careers associated with government — activities which society has traditionally linked to religion only in weak, external ways. In this course, the student is led to work out an understanding of the relationship between these specific activities and ultimate human well-being. Two issues are studied: In what ways does religion influence one's attitudes to work? And, how does religion, which preserves society, become for some the force which must overturn the social order?

Classes 3 hrs. a week. 1 semester.

**347.1(.2) [447.1(.2)] Ecology and Religion**

The course reviews the phenomenon of human ecology in order to advance to further questions: In man's relationship to nature, does nature have rights? To reduce pollution, may the rich deprive the poor of advanced technology? Is a low-consumption life-style desirable in itself? Should we leave development and progress to the experts? Such questions prepare the ground for a theology that finds religious meaning in the worldly realities of science, commerce, and government.

Classes 3 hrs. a week. 1 semester.

**351.1(.2) [451.1(.2)] Love**

Our culture has represented love, variously, as effecting self-fulfillment, the affirmation of another personality, union with deity, merit for a future life; or, as sex, a passing neurosis, an unreasoned self-annihilation, or a social contrivance. This course explores the assumptions and implications of these views, particularly as they involve ultimate human concerns, that is, religion. The course can be continued into Rel 352.2 where a coordinate theme is studied in a similar manner.

Classes 3 hrs. a week. 1 semester.

**352.1(.2) [452.1(.2)] Death**

The student considers such questions as what dying is really like, whether dying provides a valuable point of view of living, whether people continue in some form of existence after dying, how one is to understand the symbols in religious talk about death, and why mythologies deal so heavily in death.

Classes 3 hrs. a week. 1 semester.

**360.0(460.0) Cross-listed as Psy 432.0****365.0(465.0) Cross-listed as His 365.0(665.0)****490.0-495.0, 496.1(.2)-497.1(.2) Directed Reading in Religious Studies**

Prerequisite: permission of department.

These courses are organized by individual faculty members in agreement with the department as a whole; they are designed to supplement or provide an alternative to regular courses in religious studies according to the special needs and interests of students. Course content can be proposed by the student.

**590.0-595.0 Honors Seminars in Religious Studies**

Prerequisite: fourth-year honors status and permission of department.

The three general areas in which the department offers courses are noted below, together with the courses which fall into each area:

**1. Comparative Religion**

202.0	326.1(.2) [426.1(.2)]
324.0 (424.0)	327.1(.2) [427.1(.2)]
325.1(.2) [425.1(.2)]	337.1(.2) [437.1(.2)]

**2. Themes in Religious Studies**

201.0	336.1(.2) [436.1(.2)]
301.1(.2) [401.1(.2)]	341.1(.2) [441.1(.2)]
302.1(.2) [402.1(.2)]	342.1(.2) [442.1(.2)]
308.1(.2) [408.1(.2)]	346.1(.2) [446.1(.2)]
310.1(.2) [410.1(.2)]	347.1(.2) [447.1(.2)]
316.0 (416.0)	350.0 (450.0)
317.0 (417.0)	351.1(.2) [451.1(.2)]
318.0 (418.0)	352.1(.2) [452.1(.2)]
320.0 (420.0)	360.0 (460.0)
321.1(.2) [421.1(.2)]	365.0 (465.0)
322.1(.2) [422.1(.2)]	

**3. The Christian Tradition**

203.1(.2)	319.1(.2) [419.1(.2)]
204.1(.2)	328.1(.2) [428.1(.2)]
303.1(.2) [403.1(.2)]	329.1(.2) [429.1(.2)]
304.1(.2) [404.1(.2)]	331.0 (431.0)
309.0 (409.0)	333.1(.2) [433.1(.2)]
311.1(.2) [411.1(.2)]	334.1(.2) [434.1(.2)]
312.1(.2) [412.1(.2)]	338.1(.2) [438.1(.2)]

# Sociology (Soc)

Chairperson, Professor  
Professors

R. Cosper  
L. Christiansen-Ruffman  
P. Connelly, S. Halebsky  
M. Overington, H. Ralston  
H. Veltmeyer

Associate Professors

L. G. Barrett, J. McMullan  
I. Okraku, D. Perrier

Assistant Professor

J. A. Fiske  
S. J. Bell, D. G. Kellough

Lecturers

Coordinator of Criminology  
Certificate Program

J. McMullan

## Department Statement

Soc 200.0 is the introductory course and is a prerequisite for the majority of 300 level courses.

To major in sociology, a student must obtain at least a grade of C in Introductory Sociology and must complete a core program as follows: a. Introductory Sociology (Soc 200.0); b. Research Designs [Soc 364.1(2)]; Data Analysis [Soc 365.1(2)]; Classical Sociological Theory [Soc 362.1(2)]; and Contemporary Sociological Theory [Soc 363.1(2)] — all of which will normally be taken in the year following Introductory Sociology; c. the equivalent of three sociology courses at the 300 level or above with at least the equivalent of a full year seminar at the 400 level. Of these c. requirements, at least one must be outside the following sociology courses: 303.0, 315.0, 413.0, 455.0, 457.1(2), and 458.1(2). The 400 level seminar courses require credit in the equivalent of one full course in sociological theory and the equivalent of one full course in research methods as a prerequisite since they apply questions of theory and method to the sociological analysis of a specific problem. Those 400 level courses which do not fulfil requirement (c) are noted in the Calendar.

Subject to requirements (a), (b), and (c) above, students in the Criminology Certificate Program may apply all of their criminology course credits towards a major in sociology.

To minor in sociology, a student must complete the following courses with a quality point average of at least 2.00: Introductory Sociology (Soc 200.0); either Research Designs [Soc 364.1(2)] and Data Analysis [Soc 365.1(2)], or Classical Sociological Theory [Soc 362.1(2)] and Contemporary Sociological Theory [Soc 363.1(2)]; and two sociology courses at the 300 level or above.

There is an honors program in sociology which follows general university requirements. Each honors student's program is supervised by the department but in any case will consist of the following sociology courses:

1. 530.0 (Honors Seminar)
2. half credit, advanced theory [from 495.1(2)/595.1(2)]
3. half credit, advanced methods [from 460.1(2)/461.1(2)]
4. three additional 400 level courses (or half course equivalents), of which no more than one full course (or half course equivalents), except 406.0, may be reading courses. Further information should be obtained from the Department.

Note: All courses are the equivalent of three hours a week each academic year, although specific course schedules are decided by the department.

Students are urged to check with the department prior to registration to confirm the department's offerings.

Requirements for the Criminology Certificate Program (CCP) are found in the Faculty of Arts portion of Section 3 of this Calendar.

The Department also offers a graduate program in Sociology/Criminology which is described in Section 3 of this Calendar.

Note: This program is subject to the approval of the Maritime Provinces Higher Education Commission.

## 200.0 Introductory Sociology

An introductory study of sociological perspectives and concepts, human interaction and organization in society, particularly in modern Canadian society; relationship between sociological theory and research; analysis of major social institutions, e.g., familial, religious, educational, economic and political.

### 201.1(2) Community Relations and Public Issues

Prerequisite: Soc. 200.0 and permission of the Coordinator of the Criminology Certificate Program.

This course is designed to provide students with an opportunity to analyze in depth selected issues which influence the relationship between the community and components of the criminal justice system. Emphasis will be placed on analyzing and understanding the social, economic, and cultural processes of communities and how these relate to attitude formation concerning the criminal justice system.

### 202.1(2) Interpersonal Relations

Prerequisite: Soc 200.0 and permission of the Coordinator of the Criminology Certificate Program.

This course will cover some of the fundamental problems of interpersonal relations involved in the criminal justice system. Aspects of communication, self-awareness, perception, helping behaviors, group dynamics, leadership styles and problem solving will be analyzed within this institutional context on the basis of various sociological perspectives as well as communication theory. Students will have an opportunity to test their knowledge and skills in structured exercises.

### 203.1(2) Introduction to Criminal Law

Prerequisite: Soc 200.0 and permission of the Coordinator of the Criminology Certificate Program.

This course intends to familiarize the student with Canadian criminal law. The course will focus on topics such as definition of law, history of our criminal code, its elements and role in a democratic society, exemption from criminal responsibility, principles of evidence, and its administration and enforcement.

### 204.1(2) The Criminal Judicial System

Prerequisite: Soc 200.0 and permission of the Coordinator of the Criminology Certificate Program.

This course is designed to familiarize the student with legal procedures in the criminal judicial system. This will include an in-depth study of the administration of the court system and an understanding of the sentencing process.

### 302.0 Social Problems

Prerequisite: Soc 200.0.

Major social problems affecting Canadians will be analyzed. These range from alcohol use and sexual behavior to poverty and mental health. The part played by interest groups and social movements in defining and reacting to these problems will be a focus of the course.

**303.0 Criminology**

Prerequisite: Soc 200.0 or registration in the Criminology Certificate Program.

An analysis of criminal deviance which examines theories of its genesis, social definition, maintenance, control, and social consequences. The course is intended to give students an opportunity to examine major theoretical and methodological issues in the study of crime and crime control.

**304.0 Deviance**

Prerequisite: Soc 200.0.

This course attempts to explain how social disrepute can be attached to acts which deviants themselves might consider to be innocent or vicious. The course will establish that the method of defining deviance is essential for considering what types of deviants exist, how they might be enumerated, what life experiences they will enjoy or suffer, and how their behavior can be explained.

**306.0 Sociology of Education (Edu 507.0)**

Prerequisite: Soc 200 or enrolment in Education.

A study of major sociological approaches (both conceptual and methodological) to education in different societies, with special emphasis on Canadian society. The course will focus on topics such as relationship between family, education and society; education and inequality; the social organization of knowledge; education and social change; the politics of education.

**308.0 Urban Sociology**

Prerequisite: Soc 200.0.

An analysis of different ways in which sociologists approach the city; the historical and comparative approach, human ecology, urban and suburban interaction, informal urban social structures, community and power structure.

**310.1(2) Society and the Environment**

Prerequisite: Soc 200.0 or permission of instructor.

This course will be an examination of selected Nova Scotia environmental issues; acid rain, forestry/wildlife, toxic wastes, and uranium exploration and mining, from an ecological perspective. The class will address the basic question: can environmental problems be resolved within our society? Students will be expected to analyze critically the perspectives of the provincial and federal governments, industry and environmental organizations.

**311.1(2) Population**

Prerequisite: Soc 200.0.

An introductory course in demography and population studies designed to acquaint the student with the basic materials and techniques of demographic analysis, and to explore the interrelationships of demographic phenomena and various aspects of social structure. Topics include population size, composition, and distribution; and the dynamics of demographic change, i.e., fertility, mortality and migration. Particular attention is given to current population issues and problems in both developed (especially Canada) and developing nations.

**313.0 Sociology of Kinship and Family**

Prerequisite: Soc 200.0.

Cross-cultural analysis of family and changing family patterns, relationship between family and other institutions, male and female roles and patterns of interaction at each stage of family life-cycles.

**315.0 Corrections**

Prerequisite: Soc 200.0.

This course will focus on contemporary corrections through an examination of the systems, institutions, techniques, and methods that are used to prevent the development of criminal behavior patterns and to change those already developed. Emphasis will be placed on examining corrections in relation to the social forces and the value system of the society. Particular attention will be given to corrections within the criminal justice system within the Atlantic region.

**316.0 Organizations: A Sociological Approach**

Prerequisite: Soc 200.0 or permission of instructor.

We shall examine some of the more important approaches to understanding large government and corporate bureaucracies and the varieties of human interaction which constitute these powerful, social instrumentalities. Particular attention will be given to the interplay between the contingencies of organizational life and the possibilities for and limits on social action by individuals and groups located at different levels and in diverse positions in organizations.

**317.0 Sociology of Religion**

(Rel 317.0)

Prerequisite: a course in religious studies or Soc 200.0.

In its study of the relationship between religion and society, this course examines the continuities between classical contributions of sociologists such as Durkheim, Marx and Weber, and contemporary theories and issues. Attention is focused on religious movements in Canada and other countries.

**319.0 Reform and Revolution in Latin America**

Prerequisite: Soc 200.0 or permission of instructor.

This course examines the conditions and social structure that underlie movements toward reform and revolution in Latin America. Major political and social trends on the continent will be explored in terms of various themes such as the role of the church, the military, United States intervention, aid and trade, land tenure and the multinational corporations. Special case studies will include revolutions in Mexico, Cuba and Nicaragua; and Chile under Allende and Pinochet.

**320.0 Women in Canadian Society (WMS 320.0)**

Prerequisite: Soc 200.0.

The analysis of the structural and cultural conditions which have determined the position of women at various stages in Canada's development, with particular emphasis on Atlantic Canada. The process of sex-related socialization will be considered as well as the consequences of sexual differentiation on the familial, education, occupations, legal and political status of women. This course may be taken in conjunction with the Atlantic Canada Studies Program; in conjunction with a concentration in sociology; as a social science elective.

**321.0 Canadian Society**

Prerequisite: Soc 200.0 or a course in economics.

A political economy perspective on the conditions created by the regional and class structure of Canadian society. Emphasis is placed on problems of regional development, the role of business, and the corporate structure of the Canadian economy. Among the major problems to be considered are the relationship between Atlantic Canada and Central Canada; the Quebec question; native peoples and northern development; corporate concentration and the impact of foreign investment.

**322.0 Political Sociology**

Prerequisite: Soc 200.0 or a course in political science.

Prevailing theories of radical or dissident behavior will be assessed critically and alternate emerging approaches suggested. Protest and radical movements in Europe, Latin America, and elsewhere will be considered.

**323.0 The Individual and Society**

Prerequisite: Soc 200.0.

This is a general course which will explore a variety of issues that characterize sociological investigations of individual persons in their social settings. Attention will be given to the institutional contexts of individuality — families, work, leisure, and so on — to the public and private realms of social life and to the meanings which people construct with each other in their social worlds.

**324.0 Social Stratification**

Prerequisite: Soc 200.0.

An analysis of the main features of social inequality in modern industrial societies; distribution of power and wealth, existence of power elites or governing classes, comparative community power structures, institutionalization of class conflict, problems of social mobility, political expression of class and status groups.

**327.0 Social Policy**

Prerequisite: Soc 200.0.

This course analyzes the process by which public policies are formulated, the influence of particular social groups (politicians, bureaucrats, professionals, citizen interest groups) during the policy formulation process, the social implications of public policies and the nature and purpose of social policy research. The lectures focus on policy-making as it affects Atlantic Canada and each student specializes in a policy area of his or her choice (e.g., welfare, education, rural or northern development, energy, employment, health planning, defence, etc.).

**328.1.2 Social Gerontology**

Prerequisite: Soc 200.0 or permission of instructor.

An overview of the manner in which society and older people interact. The course examines such topics as social participation and adjustment, economic situations, problems of the elderly, policies and services designed to assist the elderly.

Note: Students who have received credit for Soc 312.0 may not enrol in this course.

**329.1(2) The Family in Later Life**

Prerequisite: Soc 200.0 or permission of instructor.

An examination of the relationships between the older person and the family. Topics studied include intergenerational relations, grandparent roles, marital status, sexual relationships, problems presented by dependent older people, and family support. Older women and widowhood will receive special attention. Cross-national and cross-cultural comparisons will be undertaken.

Note: Students who have received credit for Soc 312.0 may not enrol in this course.

**330.1(2) Sociology of Retirement**

Prerequisite: Soc 200.0 or permission of instructor.

The course examines various aspects of retirement from a sociological perspective. The topics covered include historical emergence of retirement, retirement policies and pension schemes, problems of individual adjustment to retirement. International comparisons will be presented.

Note: Students who have received credit for Soc 312.0 may not enrol in this course.

**331.1(2) Modernization and Aging**

Prerequisite: Soc 200.0 or permission of instructor.

An exploration of the relationships between patterns of aging and status of the elderly and societal development and modernization. Sociological perspectives and research dealing with changes in age roles, attitudes towards the elderly, family supports, services and programs for the elderly will be examined. Examples will be drawn from pre-industrial societies, as well as today's developed and developing nations.

Note: Students who have received credit for Soc 312.0 may not enrol in this course.

**332.0 Sociology of Atlantic Canada**

This course is designed to introduce students to the sociological study of Atlantic Canada, that is to the development and structure of its major institutions and social groups. The focus in the first term is on the dimensions of settlement, the development of class, industrialism, under-development and social movements. In the second term the course focuses on the contemporary structure of uneven development with particular emphasis on the organization of capital, labor, and the state in the resource sector — the fishery, agriculture, forestry and mining. Current issues and themes such as resettlement, multinational corporations, elites, marginality and unemployment, community dependence, intermediate technology, the state, and oil and gas are some subjects dealt with in this context.

**333.0 Social Movements**

Prerequisite: Soc 200.0.

Analysis of the origin and development of social movements and their role in social change. The political and sociological sources of social movements will be stressed, as well as their institutional and ideological transformations. The course will have a comparative focus, with attention to Canadian social movements in this century. Social gospel, agrarian socialism, trade unionism, social credit, cooperatives, and nationalism will be examined as diverse expressions of Canadian social life.

**336.1(2) Work and Occupations in Contemporary Society**

Prerequisite: Soc 200.0.

This course presents an overview of the work of sociologists on occupations. Occupations are studied as an important role in contemporary society. The professionalization of occupations is treated as are other changes in occupational structure and work conditions. The question of how people select or are selected for occupations is discussed. Other topics analyzed are occupations and culture, learning work roles, identification with occupations, career patterns, change in occupational structure, work setting, occupational ideologies, and influences of occupational roles on other aspects of life.

**337.1(2) Leisure in Contemporary Society**

Prerequisite: Soc 200.0.

In this course, leisure is seen as the converse of work in industrial society. Leisure is analyzed in relation to social structural features, such as social class and occupation. The course examines the social organization of such leisure activities as social interaction with family and friends; voluntary associations, varieties of play including sports, pastimes, hobbies, games and holiday travel; participation in expressive culture; use of mass media, the arts and entertainment.

**338.1(.2) Language Change and Social Change**

Prerequisite: Soc 200.0 or permission of instructor.

This course consists of a systematic overview of historical linguistics in the context of social change. Specifically, the course covers the principles and processes of language change, and their relationship to aspects of social change, such as migration, language contact, technological change, and changing social structure. Students have the opportunity to discover elements of change in Indo-European and other languages by carrying out actual exercises.

**339.1(.2) The Sociology of Language**

Prerequisite: Soc 200.0 or permission of instructor.

This course provides an introduction to the major areas of the sociology of language. Special attention is paid to language and social relations in Canada, particularly to the present-day situation. Standard topics in the sociology of language are treated, including language and social interaction; the use of language by social classes, men and women, ethnic groups and regions; dialects and social groups, bilingualism and multilingualism; language and nationalism; language maintenance and language shift; and language planning.

**340.0 Ethnic and Minority Groups**

Prerequisite: a course in anthropology or Soc 200.0.

An analysis of racial, ethnic, and minority group structure and of inter-group processes in different societies, with special emphasis given to Canadian society.

**342.1(.2) Social Interaction**

Prerequisite: Soc 200.0 or a course in anthropology or psychology.

An investigation of the social world through an examination of the nature and variety of human relationships. In personal terms, we shall struggle to understand our own places in the network of groups that make up society.

**343.1(.2) Society as Drama**

Prerequisite: Soc 200.0 or a course in anthropology or psychology.

An effort to present a dramaturgical perspective on society is made. The scope and limits of this approach are explored and students introduced to its application through observational exercises. If "all the world's a stage", what's the play about?

**344.0 Asylums, Prisons, and Other Total Institutions: The Inmates' View**

Prerequisite: Soc 200.0.

The focus of this course is on institutional methods for the management and treatment of people classified as criminal or mentally ill and the consequences that these methods have for people who are institutionalized. It outlines the historical development of prisons and mental hospitals during the 19th century and before, and examines recent sociological studies of the inmate view of imprisonment and mental hospitalization. Attention will also be given to autobiographical accounts of ex-prisoners and mental patients and to the professor's own study of women's experiences in Canadian prisons. Finally, critiques of institutional methods for dealing with the criminal and the mentally ill will be discussed.

**350.1(.2)-351.1(.2) Contemporary Issues in Sociology**

Prerequisite: Soc 200.0.

The course will provide an opportunity for students to study contemporary substantive issues in considerable depth and detail.

**352.1(.2) The Mass Media**

Prerequisite: Soc 200.0.

This course examines several of the major questions that have animated sociologists of the mass media and communication. In particular, it tackles the questions of "ideology" and political "bias" in the media's presentation of the world, and how to construct a fruitful theoretical approach to the modern media within the context of the development of capitalist society.

**353.1(.2) Industry and Labor in Contemporary Society**

Prerequisite: Soc 200.0.

This course will examine industry and labor in the context of changes in the economy since the early 1970s. Some of the themes addressed are: the internationalization of capital and the new international division of labor; technological change and its effect on patterns of work and levels of employment; and the role of the state in contemporary society. In the context of these broader themes specific issues such as, the relocation and restructuring of industry by the advanced industrial economies, changes in the labor process, unemployment and underemployment, part time work, the labor force participation of women, unemployment insurance, workers compensation, and the role of trade unions will be examined.

**360.1(.2)/460.1(.2) Quantitative Methodology**

Prerequisite: Soc 364.1(.2) and 365.1(.2).

Advanced level course in analysis of quantitative data in sociology. Topics covered include: the concept of association between variables, measures of association, multivariate analyses, regression techniques, inferential statistics and the research report.

Note: Students who have received credit for Soc 335.0 (435.0) may not enrol in this course.

**361.1(.2)/461.1(.2) Survey Analysis**

Prerequisite: Soc 364.1(.2) and 365.1(.2).

The course is designed to introduce students to the analysis of survey data and to the use of SPSS computer programs. Topics covered include editing and coding of survey data, univariate analysis including such procedures as graphic presentation of data, measures of central tendency and variability, normal distribution; bivariate table; and scale construction.

Note: Students who have received credit for Soc 335.0 (435.0) may not enrol in this course.

**362.1(.2) Classical Sociological Theory**

Prerequisite: Soc 200.0.

A critical examination of the major themes of social analysis in the 19th century, with particular emphasis on the classical tradition exemplified by the writings of Karl Marx, Emile Durkheim and Max Weber.

Note: The two half courses, Soc 362.1(.2) and 363.1(.2), replace the former course Soc 301.0. Students cannot receive a credit for both the full course and either / or both half courses.

**363.1(.2) Contemporary Sociological Theory**

Prerequisite: Soc 200.0.

A critical examination of the major themes of social analysis in the 20th century, with particular emphasis on current theoretical issues and differences in theoretical approaches to problems in sociological analysis.

Note: The two half courses, Soc 362.1(.2) and 363.1(.2), replace the former course Soc 301.0. Students cannot receive a credit for both the full course and either / or both half courses.

**364.1(.2) Research Design**

Prerequisite: Soc 200.0.

This course examines the place of research in sociology and the relationship of sociology to science. It examines concepts, measurement, research designs, and techniques of data collection. The course introduces students to a variety of approaches to research and data collection and emphasizes that methods of research are closely related to theory, the nature of research questions and design considerations.

Note: The two half courses, Soc 364.1(.2) and 365.1(.2) replace a former course, Soc 300.0. Students cannot receive a credit for both the full course and either/or both half courses.

**365.1(.2) Data Analysis**

Prerequisite: Soc 200.0 and 364.1(.2).

This course, which is a sequel to Soc 364.1(.2), covers the analysis of data and report writing. Analysis of a variety of types of data is considered, and statistics and quantitative methods are introduced. The course includes a number of exercises in analysis and report writing structured to introduce the student progressively to the means by which sociologists draw conclusions from observations.

Note: The two half courses, Soc 364.1(.2) and 365.1(.2) replace a former course, Soc 300.0. Students cannot receive a credit for both the full course and either/or both half courses.

**371.1(.2) Evaluating Social Programs**

Prerequisite: Soc 364.1(.2) and 365.1(.2) or permission of instructor.

This course is intended to provide an introduction to program evaluation for the social scientist. The material to be covered will include an examination of the evaluation process, data collection design and implementation, analytical techniques and report preparation — particularly useful for the student interested in the practical application of research methodologies.

**372.1(.2) Social Impact Analysis**

Prerequisite: Soc 364.1(.2) and 365.1(.2) or permission of instructor.

This course is designed to provide the student with an introduction to social impact analysis, in particular the effect of large scale development projects on society. As such it covers the design of analytical frameworks, the application of appropriate research methodologies and the development of social impact models.

**380.0 Third World Urbanization**

Prerequisite: Soc 200.0.

A survey of the major properties of urbanization in the developing nations. Topics to be covered include processes of urban growth, urbanization and underdevelopment, and urban migration, as well as urban life, poverty, housing settlements, and social policies, among other subjects.

**385.1(.2) Problems of Development**

Prerequisite: Soc 200.0 or a course in economics or political science.

This course will provide an introduction into concepts and theories of development and underdevelopment with particular reference to problems of Third World societies. The main emphasis will be on the various theories advanced in explanation of the historical development of less developed societies and their

position in a growing global economy. The major lines of research associated with these theories will also be reviewed.

Classes 3 hrs. a week. 1 semester.

Note: Previous credit in Soc 305.0 precludes credit in this course.

**386.1(.2) Sociology of Developing Societies**

[IDS 386.1(.2)]

Prerequisite: Soc 200.0 or a course in economics or political science.

This course examines the conditions of economic and social development in the Third World. The role of colonial empires in the creation of these conditions and of the world system in maintaining them will be scrutinized. Problems discussed will include trade relations, foreign aid, land distribution, industrialization, class structures, the role of the estate, and the position of women. Illustrative case studies on these problems will range across different countries in the Third World (Africa, Latin America, and Asia).

Seminar 3 hrs. a week. 1 semester.

Note: Previous credit in Soc 305.0 precludes credit in this course.

**387.1(.2) Women in Development**

[WMS 387.1(.2)]

Prerequisite: Soc 200.0 or IDS 300.0.

This course will examine the role of women in development. It will examine the changing structure of the division of labor by gender in different international, regional and community contexts, and the interaction between the economics and politics of class and gender in different societies at different levels of development. This course will also address issues such as: the incorporation of subsistence economies into modern market economies; the establishment of labor-intensive multinational industries, particularly those drawing on female labor; the relationship between the household and the formal and informal economies and patterns of female migration; and the role of women in the transition from rural to urban/industrial worlds.

**403.0 Revolution and Change: A Case Study — Cuba**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

The seminar will study efforts at far-reaching and radical social, political, and economic change in 20th century societies, as exemplified by Cuba since 1960. Approaches, difficulties, and successes are examined and some cross-cultural comparisons will be made.

**405.0 Sociology of Labor**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This course will analyze the changes in the occupations and industrial structure of Canadian society and the effects of these changes on the working population. Major themes of the course are the evolution of labor processes within occupations, the shifts of labor among occupations, the increasing labor force participation of women, the role of trade unions, the underemployment and unemployment of Canadian workers.

**406.0 Directed Readings in Sociology**

Prerequisite: honors standing.

This course provides an opportunity for honors students to read in depth in an area of sociology not normally covered by regular departmental course offerings. Students are expected to demonstrate initiative and independence.

#### **407.0-408.0 and 409.1(.2)-410.1(.2) Directed Reading in Sociology**

##### **[WMS 407.0-408.0 and 409.1(.2)-410.1(.2)]**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

These courses provide an opportunity for students to read in depth in an area of sociology not normally covered by regular departmental course offerings. Students are expected to demonstrate some initiative and independence.

Note: These courses do not constitute a 400 level seminar in fulfilment of requirement (c) for majors.

#### **412.0 Sociological Perspectives on Aging**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This seminar course is designed as an in-depth study of theoretical and methodological issues in sociological studies of aging. Major sociological perspectives and theories in aging are explored. Research applications of the theories in selected substantive subject areas are also presented.

#### **413.0 Sociology of Identity**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This is an advanced course which will explore methodological, theoretical and substantive issues in a sociological approach to social identities. In particular, we shall examine some of the ways in which the form and character of the link between persons and social institutions has been understood in order to enhance our own appreciation of this fundamental problem in the social sciences.

#### **414.0 Sociology of Knowledge and Science**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2); or permission of instructor.

This seminar will examine the social practices which scientists use to create what they treat as "knowledge". Particular attention will be given to the social sciences in order to examine how the "words" that scientists employ are able to give reality to their "deeds".

#### **417.0 Religious Movements**

##### **[Rel 318.0 (418.0)]**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

An in-depth study of religious change in a changing society. This seminar course will examine religious movements as specific types of social movements in First, Second and Third World countries. Students will have flexibility to choose research projects in areas of special interest.

#### **420.0 Comparative Regional Development**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This course will examine sociological models and theories of economic development and apply them to a number of regional problems based on the social organization of economic production. Analysis will focus on various regional formations of the world capitalist system, with a case study approach to problems of Atlantic Canada. Such problems will include the sociology of rural decline and urban development, industrialization, single-industry dependence, industrial location, disparities of jobs and income, etc.

**422.1(.2) Cross-listed as IDS 622.1(.2)/WMS 622.1(.2)**

**423.1(.2) Cross-listed as IDS 623.1(.2)/WMS 623.1(.2)**

#### **425.0 Corporate Power and the World Economy**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This course will analyze the structure of economic and political power from a sociological perspective. Units of this analysis are the corporations that dominate the world capitalist system and the Canadian economy. Both theoretical and methodological issues of corporate research will be explored in some depth.

#### **429.0 Rural Sociology**

##### **(IDS 429.0)**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This course is concerned with the comparative study of agrarian and maritime societies. The following issues will be examined in this context: class structures, models of development, agribusiness, the 'green' and 'blue' revolution in Third World agriculture and the fisheries, movements among rural workers and peasants.

#### **430.0 The Sociology of Alcohol Use**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This course is a seminar on the beverage use of alcohol in North America, the accompanying social problems, and society's efforts to solve these problems. Students investigate alcohol use from a variety of theoretical perspectives and are exposed to several major methods of research. Particular topics studied include taverns, the temperance movement, and drinking by youth, vagrants and ethnic groups. Students also do an original research paper on some topic related to alcohol use.

#### **431.0 Law in Society**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

An in-depth study of the relationship between law and society. This course will examine law as a product of a social system and as an instrument of social change. Emphasis will also be placed on the social forces affecting judicial behavior and the determinants and purposes of legislation as the link between values and interests. Attention will also be directed to law as a profession, and jurisprudence as an evolving discipline with special emphasis on issues in the administration of justice.

#### **440.0 Selected Studies in Sociological Analysis**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

A senior course which examines selected methods of analysis in sociology. The specific methods and the range of problems to which they are applied will vary with the instructor's areas of specialized interest and expertise.

#### **448.0 Feminist Analysis: Field Research on Women and Men (WMS 448.0)**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

This seminar focuses on problems of studying women, including sex bias in research. It also provides insights from feminist methodology.

#### **450.0 Selected Topic**

Prerequisite: Soc 364.1(.2); 365.1(.2); 362.1(.2); and 363.1(.2) or permission of instructor.

A seminar course which examines questions within an area of specialization and enables a student to study a particular sociological issue in detail.



**453.0 Citizen Participation in Community Planning**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

This course will focus on citizen participation in community planning. It will combine the reading and discussion of sociological works with an examination of case studies in citizen participation. These case studies will be supported by and based on first hand research in the Halifax/Dartmouth area and/or elsewhere in Atlantic Canada during the year. In these projects, seminar members will work independently and/or cooperatively on a series of agreed upon problems. Major topics involve historical and current perspectives on the issues in citizen participation.

**455.0 Penology**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

A seminar which examines selected topics within an area of specialization and enables a student to study a particular sociological problem in detail. This course traces the history of penal methods and the development of contemporary corrections. The Canadian correctional apparatus is examined in relation to current issues and proposals. Correctional methods, problems, and efficacy are considered in some detail, in institutional programs, and in community programs. Correctional processes as these related to typologies of offenders, and special problems of female, youthful, and persistent offenders will be examined.

**457.1(2) Critical Criminology**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

A critical examination of traditional criminological theory and of conventional approaches to the problems of deviance, crime, and social control. Examination of the relationships between crime, law, class and power. Consideration of: the relation of crime to surplus and marginal populations; social crime and the politicization of deviance; criminalization as a mode of control; and implications for a radical criminal policy.

**458.1(2) Comparative and Historical Criminology**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

This course will examine the literature dealing with the nature of deviance and crime and with the master patterns of social control in past societies. In particular, it will focus on the criminal law; punishment; policing, institutionalization of deviance; new forms of social discipline, poverty, class and images of criminality; and sexuality, patriarchy and the family.

**493.1(2)/593.1(2) Advanced Research Methods**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

Presentation to advanced students of various topics of interest not covered in Soc 335.1(2)/435.1(2). From time to time, depending on student interest and faculty availability, this course will treat issues raised in historical, comparative, observational and other methods, as well as general questions in research design and analysis.

Note: These courses do not constitute a 400 level seminar in fulfilment of requirement (c) for majors.

**495.1(2)/595.1(2) Advanced Sociological Theory**

Prerequisite: Soc 364.1(2); 365.1(2); 362.1(2); and 363.1(2) or permission of instructor.

Presentation of various topics of interest to advanced students. From time to time, depending on student interest and faculty availability, this course will consider particular theorists and such matters as constructing social theories, traditions of theoretical writing, and new directions and problems in the field.

Note: These courses do not constitute a 400 level seminar in fulfilment of requirement (c) for majors.

**509.1(2) Directed Reading: Advanced Studies in Sociology**

Prerequisite: one of Soc 407.0 to 410.1(2) and permission of instructor.

This course allows students to pursue a sub-area of sociology in considerable depth. Students are expected to demonstrate considerable initiative and independence.

**530.0 Honors Seminar**

Prerequisite: enrolment in honors program.

The purpose of this seminar is to help students prepare a major research paper on a topic agreeable to both the student and the department.

**601.0 Social Justice and Social Change**

Prerequisite: admission to M.A. in Sociology and Criminology Program.

This seminar is designed to analyze major contemporary issues of social justice and social change within Canada. The seminar will also focus on the use of sociological research and analysis in the design and delivery of social programs as well as on issues facing students and faculty in designing and implementing sociological research.

**602.1(2)-604.1(2) Research Methods**

Prerequisite: Soc 364.1(2) and 365.1(2); and either Soc 460.1(2) or 461.1(2).

These courses will focus on specified sociological research methods of particular interest to students in criminology and social development.

**608.1(2)-609.1(2) Directed Readings**

Prerequisite: enrolment in the graduate program.

These courses allow students to pursue a sub-area of sociology at the graduate level. Students are expected to demonstrate considerable analytic sophistication and a capacity for independent thought.

**610.0, 611.1(2)-612.1(2) Advanced Topics in Criminology**

Prerequisite: undergraduate degree with a major or honors in sociology.

These seminar courses are designed to cover selected topics in criminology at an advanced level. Topics examined may include historical criminology, law and social control, women and crime, penology, victimology, media and crime, organized crime, crime and social policy.

**613.1(2) Criminological Theory**

Prerequisite: Soc 362.1(2), 363.1(2), and 303.0.

This seminar course examines contributions made by sociological theory in contemporary criminology. The course will emphasize major contemporary theoretical issues and debates. It is assumed that students have already acquired a basic background in the elements of criminological theory as part of their undergraduate degree training.

**620.0, 621.1(.2)-622.1(.2) Advanced Topics in Social Development**

Prerequisite: enrolment in the graduate program.

These seminar courses are designed to cover selected topics in social development at an advanced level. Topics examined may include social policy and change; gender, ethnicity, race and class in social development policies; issues such as housing, alcohol abuse, aging and violence.

**623.1(.2) Theories of Social Development**

Prerequisite: Soc 362.1(.2) and 363.1(.2).

This seminar course will review the current state of sociological theory in the field and critically analyze and evaluate the major theoretical issues. It is assumed that students have already acquired the basic background in the elements of social policy and development theory as part of their undergraduate training.

**630.0 Thesis Research**

Prerequisite: enrolment in the graduate program.

In this course the students design and implement their M.A. thesis on a topic agreeable to both the student and the department. The thesis is expected to show both originality and the analytical/critical skills of research and interpretation.



# Women's Studies (WMS)

## Committee on Women's Studies

T.B.A., Coordinator

S. Bell	Sociology
L. Christiansen-Ruffman	Sociology
P. Connelly	Sociology
S. Crooks	Philosophy
L. Falk	English
J-A. Fiske	Sociology
P. Fitzgerald	Management
K. Flikeid	Modern Languages and Classics
M. Harry	English
W. Katz	English
G. Kellough	Sociology
U. Kelly	Education
S. Kindred	Philosophy
M. MacDonald	Economics
H. McGee	Anthropology
G. Pretty	Psychology
H. Ralston	Sociology
M. Royal	Political Science
G. Thomas	Modern Languages and Classics; Associate Dean of Arts
G. Thomas	English
S. Walter	Anthropology

During the last twenty years, courses and programs in the field of Women's Studies have begun to develop, both internationally and in Canada. In 1987 at a Women's Studies workshop sponsored by the Social Sciences Federation of Canada, Canadian Research Institute for the Advancement of Women, and Canadian Women's Studies Association, a resolution was passed unanimously that affirmed the necessity of Women's Studies being available at all universities and colleges in Canada. Women's Studies programs are now recognized as important in most Canadian universities.

Women's Studies programs at the university level are especially important. Given the commitment by all levels of government to the attainment of women's equality, and given the increasing recognition of the sexist biases in many existing disciplines, the study of women's status and experiences will make an important contribution to our knowledge, to the dissemination of knowledge, and to the eventual equality of women in society.

The Bachelor of Arts degree in Women's Studies is interdisciplinary and has been designed to facilitate cooperation with other universities in the Halifax Metropolitan Area.

Note: This program is subject to the approval of the Maritime Provinces Higher Education Commission.

### Requirements for a Major

1. Students must receive credit for 6.0 courses (or half course equivalents) in Women's Studies. Normally they will accomplish this by taking the following courses:
  - a. WMS 100.1(2)
  - b. WMS 420.1(2) and 421.1(2)
  - c. the equivalent of 1.0 course with a clear focus on feminist theory, feminist methodology, and/or feminist analysis [e.g., such courses as WMS 448.0 (from Saint Mary's); WOM 210 A/B, 310 A/B, 311 A/B (from Mount Saint Vincent); or WOST 3500 A/B (from Dalhousie)].
  - d. 3.5 additional WMS courses (or equivalent) offered by Saint Mary's, Mount Saint Vincent, and Dalhousie Universities. Courses

from the latter two institutions are subject to the established Saint Mary's regulations governing transfer credits and will be processed through the Letter of Permission system.

2. All courses for the major must be approved by the Coordinator of the WMS Program at Saint Mary's.
3. Students must satisfy all the requirements for a major in the Faculty of Arts as delineated in Section 3 of this Calendar.

### Requirements for a Minor

Students must receive credit for the equivalent of four courses, including either WMS 420.1 and 421.2 or the equivalent of 1.0 course, as described in regulation 1-c. for a major in WMS.

#### 100.1(2) Focus on Women

This course presents a variety of perspectives on the role, function, and expression of women. It focuses on women using a variety of disciplines in both the humanities (e.g., classics, English, history, linguistics, and religious studies) and the social sciences (e.g., anthropology, economics, political science, and sociology).

#### 201.0 Cross-listed as Ant 201.0

#### 252.1(2) Cross-listed as Cla 352.1(2)

#### 311.1(2)-312.1(2) and 313.0-315.0 Special Topics in Women's Studies

Prerequisite: at least 1.0 course in WMS.

These are combined lecture-seminar courses on a selected topic in women's studies. Course content will vary from year to year. These courses allow students to take advantage of offerings in other departments relevant to a women's studies degree.

#### 317.0 Cross-listed as Egl 317.0

Prerequisite for WMS 317.0: at least 1.0 university course in English or permission of instructor.

#### 318.0 Language and Gender

Prerequisite: Egl 200.0 or Egl 201.1(2)/202.1(2).

The course examines the role of language in the forming of popular perceptions about the position of women and men in society. The topics include a comparison between English and other languages in matters of grammar, vocabulary, and semantics; a comparison between modern English and earlier stages; and an inquiry into the origin of authoritarian notions of correctness. The historical role of women as users and teachers of language is also considered. Present-day attitudes, implementation of non-sexist language guidelines, and the struggle to establish non-discriminatory language practices are also included in the study.

#### 320.0 Cross-listed as Soc 320.0

Prerequisite for WMS 320.0: Soc 200.0 or 1.0 WMS course or permission of instructor.

#### 348.1(2) Cross-listed as Psy 348.1(2)

Prerequisite for WMS 348.1(2): Psy 201.0 or permission of instructor.

#### 350.1(2) Cross-listed as Rel 305.1(2) [405.1(2)]

#### 352.1(2) Cross-listed as Cla 352.1(2)

#### 380.0 Cross-listed as Phi 380.0

Prerequisite for WMS 380.0: at least 1.0 university course in philosophy.

**387.1(2) Cross-listed as Soc 387.1(2)**

Prerequisite for WMS 387.1(2): at least 1.0 university credit in WMS, political science, economics or sociology.

**391.1(2) Cross-listed as Mgt 391.1(2)**

Prerequisite for WMS 391.1(2): completion of at least 10.0 university courses.

**404.1(2)-405.1(2) and 406.0 Contemporary Issues of Feminism**

Prerequisite: at least 2.0 credits in WMS or permission of instructor.

These courses provide an opportunity for students to study in considerable depth and detail selected contemporary issues of feminism both within and outside of academia. For example, a course might focus on inequality of women in the labor force, the role of unpaid work, violence and its use against women, the colonization of knowledge within academia, or on technology including the impact of new reproductive technologies and their control of women.

**407.0-408.0 and 409.1(2) Cross-listed as Soc 407.0-408.0 and 409.1(2)**

Prerequisite for WMS 407.0-408.0 and 409.1(2): at least 4.0 credits in WMS and permission of instructor.

**414.1(2)-415.1(2) and 416.0 Directed Readings in Women's Studies**

Prerequisite: at least 4.0 credits in WMS courses.

These courses offer students an opportunity to pursue advanced readings and research in a particular area of women's studies. The students and professors will design the programs of study together.

**420.1(2) Seminar on Women's Studies**

Prerequisite: at least 13.0 university credits or permission of instructor.

Students will review feminist theoretical perspectives, methodologies, and analytic approaches grounded in several disciplines in the humanities and social sciences. Each student will develop a research proposal that applies feminist perspectives to a selected contemporary issue within the women's movement (e.g., labor force inequality, new reproductive technologies, women's organizational structures, political empowerment, violence against women).

**421.1(2) Seminar on Women's Studies**

Prerequisite: WMS 420.1(2).

Students will continue to develop their analytic skills and apply feminist methodologies and analysis in carrying out their proposed research.

**448.0 Cross-listed as Soc 448.0**

Prerequisite for WMS 448.0: previous or concurrent theory and methods courses in WMS or sociology or permission of instructor.

**550.0 Cross-listed as Egl 550.0**

Prerequisite if taken as WMS 550.0: enrolment in the honors program in English, or special recommendation of the Department of English, or permission of instructor.

**590.0 Cross-listed as Edu 590.0**

Prerequisite for WMS 590.0: permission of instructor.

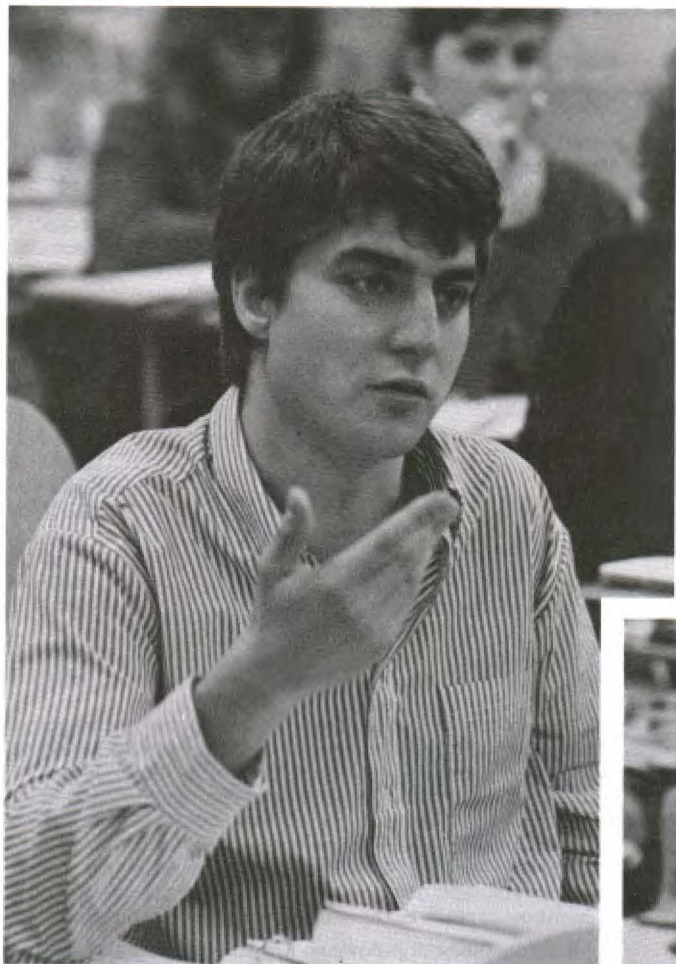
**622.1(2) Cross-listed as IDS 622.1(2) and Soc 422.1(2)**

Prerequisite for WMS 622.1(2): theory and methods courses in Women's Studies or sociology or permission of instructor.

**623.1(2) Cross-listed as IDS 623.1(2) and Soc 423.1(2)**

Prerequisite for WMS 623.1(2): theory and methods courses in Women's Studies or sociology or permission of instructor.

Note: Lists of courses in Women's Studies offered at Mount Saint Vincent and Dalhousie Universities are available in the Academic Calendars of those institutions or from the Saint Mary's WMS Coordinator.



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## Section 6

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# Financial Information



# Financial Information

**It is the responsibility of all students to be familiar with University regulations pertaining to financial matters.**

**At the time of publication, fees for the 1990-91 academic year have not yet been determined. The fees listed below are those for 1989-90 and are therefore subject to change prior to 1 September 1990. However deposits for 1990-91 have already been determined and are delineated in this section of the Calendar. All fee calculations are made at registration without prejudice and are subject to confirmation and adjustment at a later date.**

## 1. Academic Fees

### a. Tuition Fees

Course Load	Per Semester	Per Academic Year
more than 3 courses	\$890.00	\$1,780.00
3 courses or less		
Full Course	\$178.00 per course	\$ 356.00 per course
Half Course	\$178.00 per course	N/A

Note: Students carrying more than the required program load (normally five full credits) will be assessed an additional \$356.00 for each full credit overload.

### b. Students' Association Fee

This fee is compulsory for all students with the exception of those students registered in courses offered in extension centres.

Course Load	Per Semester	Per Academic Year
3 courses or more	\$42.50	\$85.00
less than 3 courses	\$ 5.00	\$10.00

### c. Medical Insurance Fees

Note: The medical insurance health plan for Canadian students is under review and may not be available in its present form in the 1990-91 academic year.

Those Canadian students registered in 3 or more courses and all non-Canadian students (regardless of course load) will be assessed a medical insurance fee at the time of registration. The fee is payable in full prior to 30 September for students who have completed early registration or at the time of regular or late registration for all other students.

	Single	Family
<b>*Canadian Students</b>		
— extended health care plan	\$ 90.00	\$200.00
<b>**Non-Canadian Students</b>		
— add equivalent to Nova Scotia's Medical Service Insurance (M.S.I.)	\$210.00	\$430.00
<b>Total Non-Canadian:</b>	<b>\$300.00</b>	<b>\$630.00</b>

\*Canadian students who wish to opt out of their insurance coverage may do so provided they have adequate medical coverage of a similar nature. In order for students to remove themselves from this plan, they must present themselves to Health Services on or before 30 September and sign a waiver form.

\*\*Exceptions to the equivalent to MSI assessment will be considered prior to initial registration upon presentation to the University's Health Services of proof of coverage of a similar plan valid for the entire academic year.

### d. Differential Fees

A compulsory differential fee is required of every non-Canadian student. It is payable in full prior to 30 September for students who have completed early registration or at the time of regular or late registration for all other students.

Course Load	Per Academic Year
3 Courses or more	\$1,700.00
Less than 3 courses	
Full Course	\$ 340.00 per course
Half Course	\$ 170.00 per course

Note: A detailed statement on differential fees explaining their application and financial implications is available from the Business Office.

### Summary of Academic Fees for Students Carrying More than 3 Courses

	Canadian	Non-Canadian
Tuition Fees	\$1,780.00	\$1,780.00
Students' Association Fee	85.00	85.00
Medical Insurance (Single)	90.00	300.00
Differential Fee	N/A	1,700.00
<b>Total</b>	<b>\$1,955.00</b>	<b>\$3,865.00</b>

### e. Audit Fees

Students auditing courses as described in Academic Regulation #2 will be assessed one half (1/2) the regular tuition fee.

### f. Thesis Supervision

Graduate students who have completed course requirements, but have not completed a thesis, are required to pay a registration fee of \$25.00 plus a supervisory fee of \$70.00, if under a thesis supervisor, at the commencement of each academic year until the thesis is completed.

### g. Special Fees

Graduation: Degree or Diploma	\$20.00
Binding of Master's Thesis (3 copies)	27.00
Official Transcript	2.00
Special Examination	10.00
Late Registration	10.00

## 2. Residence Accommodation and Meal Plan Fees

	Per Semester	Per Academic Year
Single Room		
Meal Plan I	\$1,752.50	\$3,505.00
Meal Plan II	\$1,795.00	\$3,590.00
Meal Plan III	\$1,837.50	\$3,675.00
Double Room		
Meal Plan I	\$1,592.50	\$3,185.00
Meal Plan II	\$1,635.00	\$3,270.00
Meal Plan III	\$1,677.50	\$3,355.00
Apartments, Edmund Rice Residence (room only)	\$ 840.00	\$1,680.00

Descriptions of the various residence and meal plans available are specified in the Resources and Services section of this Calendar.

### 3. Payment of Fees

#### a. Registration (August only)

A minimum payment is required as an integral part of registration in August.

3 courses or more in the first semester	\$100.00
less than 3 courses in the first semester	\$ 50.00

Outstanding first semester fees are due no later than 30 September and second semester fees are due no later than 15 January.

#### b. Registration (September only) and Late Registration

First semester fees are due at the time of initial registration and second semester fees are due no later than 15 January. In special circumstances, the University reserves the right to require prepayment in excess of the first semester installment of tuition and residence fees.

c. Those students planning to pay first semester fees from a Canada Student Loan, but have not received their loan at the time of regular or late registration, will be permitted to register with payment of a minimum deposit.

#### Deposits (1990-91)

Tuition only (3 courses or more)	\$250.00
Tuition + Single Room / Meal Plan I	\$850.00
Tuition + Single Room / Meal Plan II	\$880.00
Tuition + Single Room / Meal Plan III	\$895.00
Tuition + Double Room / Meal Plan I	\$800.00
Tuition + Double Room / Meal Plan II	\$840.00
Tuition + Double Room / Meal Plan III	\$855.00
Tuition + Apartment	\$535.00
Single Room / Meal Plan I	\$600.00
Single Room / Meal Plan II	\$630.00
Single Room / Meal Plan III	\$645.00
Double Room / Meal Plan I	\$ 550.00
Double Room / Meal Plan II	\$ 590.00
Double Room / Meal Plan III	\$ 605.00
Apartment	\$ 285.00

The balance of the first semester fees are due no later than 30 September 1990.

#### d. Registration (January only)

Students who were not in attendance during the first semester and who register prior to the end of that semester for second semester will be required to pay a deposit of \$100.00 if registering in 3 or more courses, or \$50.00 if registering in less than 3 courses. The balance of fees are due no later than 15 January. Students who register for second semester courses in January will be required to pay all fees at the time of registration.

e. Students who have not paid all fees in accordance with 3-a, 3-b, 3-c or 3-d above, may have their registration cancelled at the discretion of the University.

f. Students who have an unpaid account with the University will be permitted to register only upon settlement of the outstanding account. Such payments must be by cash, money order, certified cheque, Visa or Mastercard.

g. A student whose registration has been cancelled for non-payment of fees, must pay all outstanding fees as well as a reinstatement fee of \$50.00 prior to any consideration of reinstatement by the Registrar.

h. Cheques or money orders should be made payable at par in Canadian funds to Saint Mary's University.

Visa and Mastercard are accepted.

### 4. Late Payment

a. Students who do not pay their first semester fees by 30 September will be subject to a late payment charge of \$5.00 for each business day the account is in arrears to a maximum of \$50.00 or ten percent (10%) of the outstanding balance, whichever is less. Students who do not pay their second semester fees by 15 January will be subject to the same penalty.

b. In addition to the late penalty outlined in Section 4-a, any account outstanding after 30 September in the first semester and 15 January in the second semester, will be subject to an interest charge of one percent (1%) per month.

**Note:** In light of the late penalty and interest charges outlined above, those students planning to pay their fees with Canada Student Loan assistance are strongly encouraged to make application in sufficient time to ensure that the loan will be available prior to the last day for final payment of fees. Application processing time varies according to province; 6-8 weeks is average.

c. Students whose accounts are in arrears will be denied marks, transcripts and graduation.

### 5. Class Withdrawals and Refunds

a. Students who officially withdraw, as per Academic Regulation #16, prior to the first day of classes will receive a full refund of any fees paid, less a \$25.00 processing fee.

b. Students who officially withdraw, as per Academic Regulation #16, once a semester has begun are eligible for an adjustment of tuition fees on a proportional basis, calculated in weekly units. (The number of units is based on the number of weeks in the period from the beginning of a semester to 15 November or 28 February, whichever is appropriate.) No fee adjustment is granted after 15 November in the first semester or 28 February in the second. If the adjustment of fees will result in a refund, the student must apply directly to the Business Office for the refund.

c. Students who leave the University without officially withdrawing will be charged a \$50.00 processing fee in addition to the regular University fee assessment to the date eventually established for official withdrawal.

**Note:** Non-attendance at classes does not constitute withdrawal.

### 6. Residence Withdrawal and Refunds

a. Students who officially withdraw, or are expelled from residence, are eligible for an adjustment of room and board fees on a proportional basis, calculated in weekly units. (The number of units is based on the number of weeks in the period from the beginning of a semester to 15 November or 28 February, whichever is appropriate.) **Note:** The minimum charge for Residence is \$250.00, regardless of the date of withdrawal. No fee adjustment is granted after 15 November in the first semester or 28 February in the second. If the adjustment of fees will result in a refund, the student must apply directly to the Business Office for the refund.

b. Students who withdraw, or are expelled from residence, will be charged a penalty of \$100.00 except if they are simultaneously withdrawing from all courses for the remainder of the academic year or an acceptable replacement is found who will assume the



balance of residence fees for the academic year. Application for forgiveness of the penalty charge must be made to the Director of University Residences.

**7. Scholarship, Bursaries and Sponsorships**

- a. One-half of the value of any scholarship or bursary awarded by the University will be credited to the student's account during each of the two semesters. If the award exceeds the total semester's charges, refunds will be given by the Business Office, to those students requesting them, after 15 November for the first semester excess and after 28 February for the second semester excess.
- b. Students whose fees are to be paid by government or some other sponsoring agency (excluding Student Loan Programs) are required to present a signed statement, certificate or other appropriate supporting material at the time of registration.
- c. If the value of a scholarship or bursary awarded a student is equal to or greater than the total fees for the year, then no payment is required at the time of registration.

**8. Miscellaneous**

- a. Students will be charged for damages to University property.
- b. Cheques returned by the bank are subject to a \$10.00 charge. Replacement of such cheques and future payments by the payee must be by cash, money order, certified cheque, Visa or Mastercard. N.S.F. cheques are considered a serious offence and may result in de-registration.
- c. Income tax receipts will be mailed to all students by no later than the end of March. Please note that requests for duplicate receipts are subject to a \$2.00 charge.
- d. Students may be entitled to a tuition discount if they, their spouses, or parents are employees of the University. In order to receive a tuition discount, the University employee must make application directly to Personnel Services.
- e. Students who are 60 years of age or over, as of the first day of classes in September, will be granted a full tuition waiver.
- f. Fees cannot be deducted from salaries paid to students by the University.

**g. Parking on Campus**

Residence Parking:	
Underground . . . . .	Tenants \$19.50 per month
	\$180.00 per year
	Non-Tenants \$23.00 per month
	No Yearly Rate
Edmund Rice Residence Parking	\$65.00 per year
Motorcycles	\$35.00 per year
Other Parking	\$60.00 per year

**Student Awards and Financial Aid Programs**

The scholarships and bursaries administered by Saint Mary's University are divided into three categories: (a) Entrance Scholarships administered by the Admissions Office in cooperation with the Senate Scholarship Committee, (b) Achievement Scholarships; and (c) Named Scholarships and Bursaries administered by the Financial Aid Counsellor in cooperation with the Senate Scholarship Committee. Students may also wish to apply for external awards which are administered by the individual donor.

**Definitions**

**Scholarship** — An award granted on the basis of academic merit.

**Entrance Scholarship** — An award granted to students entering Saint Mary's University from high school.

**Achievement Scholarship** — An award granted on the basis of academic achievement attained during the preceding academic year (i.e., September to May) at Saint Mary's.

**Bursary** — A grant awarded on the basis of financial need.

**Scholarship Eligibility** — The formula used by the Senate Scholarship Committee to determine scholarship eligibility is arrived at annually from the academic performance of the top 10% of full-time students carrying five courses during the preceding year.

**Awards Administered by Saint Mary's University**

**1. Presidential Scholarships**

Conditions: A limited number of special entrance scholarships are available to students from Nova Scotia who live beyond commuting distance from the University. To be eligible students must be in Grade XII and must have maintained the highest accumulative scholastic average. Recipients of this award are ineligible for other awards administered through Saint Mary's University.

Value: The cost of tuition and fees as well as a single room with board. Equal in value to approximately \$5,000.00.

Duration: One year. Renewable for up to two further years (three for Commerce) providing the holders maintain high academic standings at Saint Mary's. Recipients are not required to reapply each year.

**2. Metro Scholarship**

Conditions: This scholarship has the same conditions as the Presidential except that it is awarded to a Grade XII student from the Halifax-Dartmouth Metropolitan area who resides off-campus.

Value: The cost of tuition and fees only.

Duration: The same terms as for the Presidential Scholarships

**3. Other Entrance Scholarships**

Condition: Candidate must be a permanent resident of Canada.

Value: \$200.00 to \$2,000.00.

Duration: One year.

**4. Achievement Scholarships**

Conditions: Candidates must qualify according to the Regulations for Scholarship Holders outlined below.

Value: \$200.00 to \$2,000.00.

Duration: One year. Application may be made each year the student progresses satisfactorily towards a first degree while attending Saint Mary's University.

**Saint Mary's University Undergraduate Scholarship Regulations and Application Procedures**

- a. By 25 May candidates for scholarships must apply each year to the Financial Aid Counsellor.
- b. Each award is granted for one year only. However, scholarships may be renewed each year on a competitive basis, providing the students reapply and qualify.
- c. Students are responsible for notifying the Financial Aid Counsellor of late course completions and grade changes which were not recorded at the time when scholarship applications were filed. These must also reach the Financial Aid Counsellor by 25 May.

- d. In order to be considered for an undergraduate scholarship students must have completed at least five full courses (or the equivalent in half courses) in the immediate preceding academic year (i.e., September to May). Courses taken at other institutions during the regular academic year and accepted as transfer credits at Saint Mary's University will be considered by the Senate Scholarship Committee provided that they appear on student's record by 25 May or that the student notifies the Financial Aid Counsellor of any possible transfer credits by that date.
- e. Students who receive scholarships from Saint Mary's must register in at least five full courses (or the equivalent in half courses) in order to be eligible for the scholarships for that academic year. An exception will be made for graduating students who require only three or more full courses (or the equivalent in half courses) to complete their degree program, as well as disabled students.
- f. Students who are full time in one semester and part time in another or withdraw or complete their studies after one semester will receive only half of their scholarship.
- g. Students who receive scholarships and fail to qualify for a renewal may reenter the competition for scholarships should they subsequently qualify.
- h. Scholarships are taxable income. A T-4A form will automatically be prepared by the University.

#### Named Undergraduate Awards

A growing number of University-administered scholarships, bursaries and trust funds are available to qualifying students at Saint Mary's University. Many of these awards have been established by generous Alumni, parents of Alumni, corporations and friends of the University. Such financial support from these benefactors provides significant assistance to both the University and the annual recipients of the awards. The entire University community is grateful for this generosity and support. Others are encouraged to support Saint Mary's in this manner. Should you wish to establish a scholarship or bursary at Saint Mary's please contact the Director of University Advancement at the University.

Detailed award values, criteria and application information for the named undergraduate scholarships and bursaries listed below can be obtained from the Financial Aid Counsellor.

The AIESEC Saint Mary's Scholarship  
 Alumni Christian Brothers of Ireland Scholarship  
 Alumni Jesuit Scholarship  
 Alumni Leadership Awards  
 Alumni Scholarship Trust  
 Ashwood Scholarship  
 Father M. J. Belair Scholarship for Part-Time Students  
 Beta Sigma Phi Scholarship  
 Birks Family Foundation Bursary  
 Samuel and Mary Butler Scholarship  
 '88 Campaign Award for Disabled Students  
 Dr. John Campbell Scholarship  
 Canadian Institute of Management Scholarship  
 Caribbean Alumni Bursary  
 Dr. James Joseph Carroll Scholarship/Bursary  
 Central Guaranty Trust Award  
 Chester Scholarship  
 William Chisholm Scholarship  
 Edwin and Edith Christian Endowment Trust  
 Betty Cleary Scholarship Fund  
 Rebecca Cohn Bursary  
 Veronica Aloyse Corbett Memorial  
 Mary C. Daley Scholarship  
 William J. Dalton Memorial Scholarship

Digital Equipment of Canada Limited Award of Merit  
 James E. Donahue Memorial Scholarship  
 Joseph Edmund Donahue Scholarship  
 Elizabeth Dunsworth Durdle Bursary  
 Barbara Flanders Goldberg Memorial Bursary  
 Gerald P. Flavin Memorial Bursary  
 Everett Flemming Memorial Scholarship  
 Eleanor M. Florian Scholarship  
 J. W. Gillis Memorial Scholarship  
 John Glenister Memorial Scholarship  
 Halifax Longshoremen's Association (Local 269 I.L.A.) Scholarship  
 Austin E. Hayes Memorial Scholarship  
 Owen J. Hayes and Mary C. Hayes Memorial Scholarship  
 R. "Bob" Hayes Football Award  
 Robert Hayes Memorial Scholarship  
 Father J. J. Hennessey, S.J., Memorial Trust  
 Donald Higgins Memorial Fund  
 Timothy P. Hines Memorial Scholarship  
 Charles Hinman Memorial Bursary  
 The Homburg Scholarship  
 Reuben and Helen Hornstein Bursary  
 Joy Estate Trust  
 Jamil Karam Scholarship  
 Lavalin Scholarship  
 Jane Shaw Law Scholarship  
 Tony Law Scholarship  
 John R. Levins Medal of Excellence  
 Lions Clubs of P.E.I. Scholarship  
 Duncan W. Lynch Memorial Bursary  
 Father Frederick J. Lynch, S.J. Bursary  
 Mahon's Stationery Limited Scholarship  
 Joyce Elizabeth Marshall Poetry Award  
 Jean Monahan Award  
 Wayne Myers Memorial Bursary  
 National Bank of Canada Scholarship  
 Northern Telecom Scholarship  
 Nova Scotia Teachers College Scholarship  
 Bruce C. Oland Scholarship  
 Colonel Sidney C. Oland Scholarship  
 Kenneth and Elizabeth Ozmon Family Scholarship  
 V11 Pan American Wheelchair Games Bursary  
 Pat King Award  
 Peat, Marwick, Thorne Award  
 Perrier Family Scholarship  
 Pur-Lin Bursary  
 Reardon Family Scholarship  
 Regis College Prize  
 Resolutes Amateur Athletics Club Bursary  
 Gary W. Richardson Memorial Bursary  
 Saint Mary's Faculty Union Scholarship  
 Saint Mary's Faculty Women's Association Scholarship: Mildred Harrington Award  
 Saint Mary's University High School Alumni Bursary  
 Saint Mary's University Staff Union Scholarship  
 Saint Mary's University Student Association Scholarship  
 Scott Maritimes Limited Scholarship  
 Shatford Trust  
 Laurie W. Smith Memorial Scholarship  
 Dana Spiropoulos Scholarship  
 Norman Stanbury Scholarship in English  
 Brother Stirling Scholarship  
 Stephen Telfer Memorial Bursary  
 Harry Woods Memorial Scholarship  
 Bernard Zwicker Memorial Bursary

The scholarship application deadline for the 1990-91 academic year is 25 May 1990.

Bursary applications will be available between 1 October and 1 February. Award decisions will be made twice during the academic year. Provincial student aid assessment forms must be submitted with the bursary applications.

### 5. Scholarships for Part-Time Students

There are achievement scholarships available for students studying on a part-time basis. Interested students should consult with the Financial Aid Counsellor for information about terms of eligibility, as approved by the Senate.

### 6. Demonstrators and Teaching Assistantships

In some departments positions as laboratory demonstrators or research/teaching assistants are available for Saint Mary's University students. For more information please contact the appropriate department.

## Awards Administered by the Donor (External Awards)

Canadian Federation of University Women Bursary

CN Native Educational Awards

The Donald E. Curren Scholarship Fund

Department of Education — Scholarship for Black Students

Imperial Oil Higher Education Awards (Entrance and renewal)

I.O.D.E. Provincial Chapter Bursaries

McEwen Scholarship: Co-op Atlantic: Entrance Award

The Nova Scotia Federation of Labour — The Joe Gannon Memorial Scholarship

Petro Canada Education Awards for Native Students

Queen Elizabeth Silver Jubilee Awards

The Rotary Foundation Scholarships

The Soroptimist Foundation Scholarship Programs for Women

Terry Fox Humanitarian Award Program

Tourism Scholarship of Prince Edward Island

For information concerning additional external awards application procedures and eligibility, please contact the Financial Aid Counsellor.

## Financial Aid Programs Administered by the Government

### Canada Student Loans Plan

Students requiring financial assistance to help meet their educational expenses are encouraged to apply for Canada Student Loans. (Exception: Residents of Quebec apply for Quebec Student Loans.) Application is made to the Province in which the student is a resident. Canada Student Loan assistance is awarded on the basis of the financial information provided by the student, parents or spouse. The loans are interest-free while the student is registered full-time at University and are repayable six months after he/she ceases full-time study. Students are encouraged to apply early to avoid late payment of fee charges.

### Provincial Bursaries/Grants

Non-repayable bursaries or grants are provided by many provinces to students who demonstrate financial need and meet the bursary/grant eligibility requirements.

### Notification of Award

Students found eligible for Canada Student Loans from Nova Scotia and New Brunswick will be sent their notification and documents in the mail. Bursary cheques from Nova Scotia and

New Brunswick are sent directly to the institutions, as are Canada Student Loans and/or bursaries from most other provinces.

Students expecting Provincial Student Aid should check the Provincial Awards Board located in Student Services on the fourth floor of the O'Donnell-Hennessey Student Centre. Notices of any funds received are posted here as well as relative information or special instructions pertaining to each province.

### Canada Student Loans Program: Part-Time Loans Plan

Guaranteed loans for part-time students attending post-secondary institutions are available under this program funded by the Federal Government. These interest-bearing loans are calculated on the basis of the student's financial situation and cover basic university expenses. Repayment of these loans begins thirty days from the date on which the loan was negotiated.

### Canada Student Loans Program — Interest Relief Plan

The Canadian Government will pay the interest on full-time or part-time Canada Student Loans on behalf of the debtor if he/she is experiencing financial hardship due to unemployment or disability. Application for Interest-Relief forms are available in local banks.

Detailed information regarding financial aid eligibility, application procedures and appeals may be obtained by contacting the Financial Aid Counsellor at Saint Mary's University, or by writing to the appropriate Provincial Student Aid Office as listed below.

Nova Scotia	Student Aid Office Department of Advanced Education and Job Training P.O. Box 2290 Suite 409 2021 Brunswick Street Halifax, Nova Scotia B3J 3C8 Telephone (902) 424-8420 Toll free in Nova Scotia 1-424-4245
New Brunswick	Student Financial and Support Services P.O. Box 6000 Fredericton, New Brunswick E3B 5H1 (506) 453-2577 (506) 453-2713
Newfoundland	Student Aid Division Department of Career Development and Advanced Studies Memorial University St. John's, Newfoundland A1C 5S7 (709) 576-2688 1-800-563-2000
Ontario	Student Awards Branch Ministry of Colleges and Universities Mowat Block, Queen's Park Toronto, Ontario M7A 2B4 (416) 965-6263 (416) 965-2798

Prince Edward  
Island Student Aid Office  
Department of Education  
P.O. Box 2000  
Charlottetown  
Prince Edward Island  
C1A 7N8  
(902) 368-4640

Quebec Director generale de l'aide  
financiere aux etudiants  
1035, De la chevrotiere  
Quebec, Quebec  
G1R 5K9  
(418) 643-3750

**Mahon's Stationery Limited Scholarship**  
Awarded by the Graduate Awards Committee to a second year  
M.B.A. student.

**Pendse Awards — M.B.A.**

**Royal LePage Scholarship — M.B.A.**

**Saint Mary's University M.B.A. Scholarship**

**Note:** Addresses for Student Aid Offices in other provinces are available on request from the Financial Aid Counsellor.

### **United States Stafford Loans Program (formerly GSL)**

Citizens of the United States may be eligible for guaranteed student loans from their state to assist the funding of their post-secondary studies. Information and/or application forms may be obtained from the State Higher Education Authority, State banks or the Financial Aid Counsellor.

### **Post Graduate Scholarship Assistance**

Students whose university performance gives promise of successful graduate studies should seek advice on availability of fellowships and scholarships. Interested students should contact the Secretary to the Senate, Room MM216A, McNally Building, Saint Mary's University.

### **Father Burke-Gaffney Memorial Scholarship — Astronomy**

**Canadian Tire Corporation Scholarship**  
Established in 1976, by the Canadian Tire Corporation, for a graduate commerce student proceeding toward an M.B.A. degree. Applications should be submitted to the Chairman of the Graduate Awards Committee.

### **Allstair and Josephine Cannon Memorial Scholarship — M.B.A.**

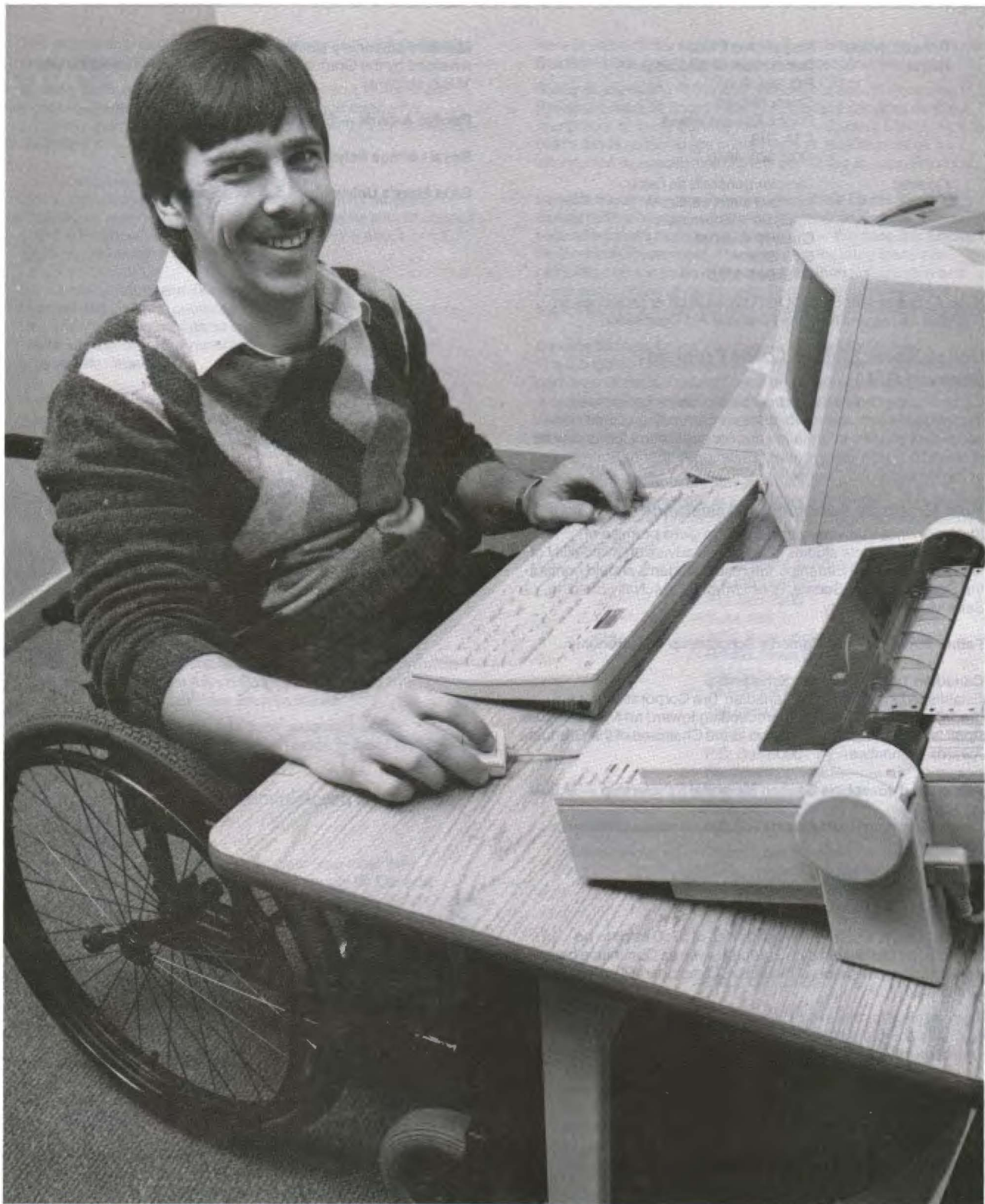
**Central Guaranty Trust Award — M.B.A. or senior Commerce student**

### **John Despard de Blois Scholarship — Astronomy**

**The Raymond W. Ferguson Bursary**  
One bursary of \$1,500 or two bursaries of \$750 each to be awarded by the University's Graduate Awards Committee based on the recommendation of the M.B.A. Director and Dean of Commerce.

To be eligible for this award, a student must

- a. have completed five (5) M.B.A. credits at Saint Mary's University on a full-time basis;
- b. be enrolled in the M.B.A. program on a full-time basis;
- c. be a Canadian citizen who has lived in Nova Scotia for at least ten (10) years;
- d. show evidence of financial need, academic ability, and possess those qualities of character and initiative which indicate potential leadership in the business world.



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## Section 7

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# Centres Institutes and Special Programs



# Centres, Institutes and Special Programs

## The Canada/China Language and Cultural Program

The Canada/China Language and Cultural Project originated in 1982 as part of an ambitious development program for China in the areas of human resource development, agriculture, forestry, and energy, financed by the Canadian International Development Agency (CIDA). Saint Mary's University was chosen as the administrative centre of the program which is an integral part of the total development program because expertise on China was available and CIDA had good experiences in the past with programs administered by the International Education Centre.

### Objectives of the CIDA Development Program

In order to stimulate the human resource development required to modernize its industry and educational institutions, the Chinese government is trying to arrange exposure to Western models of management and technological application for its key people. In response to this strategy, CIDA is concentrating its program in China on technical assistance delivered through linkage arrangements between Canadian universities, colleges, and professional associations. In the human resource development sector the program puts particular emphasis on transferring managerial skills to China. Most recently, China and Canada have added two other sectors — communication and transportation — to those already identified as key areas for training.

### Organization of the Canada/China Language and Cultural Program

The successful implementation of these projects has required CIDA and China to develop a language and orientation program aimed at preparing both the Canadian and Chinese personnel involved in exchanging technologies. The linchpin for this undertaking is the Canada/China Language Centre (CCLC) at Beijing Normal University. The modern language centre has an annual capacity for approximately 100 trainees in either English or French.

Those trainees who pass a stringent proficiency test will come to Canada to one of the five Regional Orientation Centres, located in Vancouver, Edmonton, Toronto, Montreal, and Halifax for a six-week cultural orientation program. It includes a special language program aimed at familiarizing the trainees with the necessary vocabulary relevant to their particular field and an orientation to life in Canada. Following this program the trainees will either pursue academic studies in Canada or acquire experience in work settings.

### Activities

The Canada/China Language and Cultural Program is directly responsible for the purchase of all teaching material and equipment for the Regional Centres in Canada and the Language Centre in Beijing. Of high priority to the project is the development of teaching and training material to be used in English or French as a Second Language. The Language Centre is responsible for conducting language proficiency tests for Chinese, mostly mid-career professionals, who have been selected for training on CIDA-sponsored projects in Canada. Another responsibility is the organization of visits by Chinese delegations who want to see and study Canadian industrial and research institutions. Teacher training in Canada is also provided for the Chinese staff at the CCLC. Finally, the Regional Orientation Centres prepare cultural and special language courses for all trainees coming to Canada

under CIDA sponsorship. Briefing programs for Canadians who will be on assignment to China on CIDA-funded projects or for Canadian business people who plan to go to China for business purposes are also provided.

### Facilities

The Canada/China Language and Cultural Program is located on the second floor of The Oaks, 5920 Gorsebrook Avenue. It is administered by a Director, a National Coordinator, an In-China Director, an Administrator, two secretaries, an accountant, and an In-China Administrative Assistant.

## The Gorsebrook Research Institute for Atlantic Canada Studies

The Gorsebrook Research Institute for Atlantic Canada Studies was established at Saint Mary's University in 1982 to enhance and strengthen the research component of the University's well established Atlantic Canada Studies program. The Institute gives particular emphasis to the study of regional political economy, resource development, and the culture of the Atlantic Provinces. It also encourages research and activities in support of the International Development Studies program.

### Objectives

The primary aim of the Institute is to encourage and facilitate research pertaining to Atlantic Canada, and to disseminate research findings to the regional, national, and international communities. The Institute emphasizes interdisciplinary, interuniversity and university/other-sector research cooperation.

### Structure

The Gorsebrook Research Institute was established by the Senate/Board of Governors of Saint Mary's University and, in turn, operates under its own Board of Directors. Comprising the Institute's Board are the President of the University or his designate, the Coordinator of the Atlantic Canada Studies Committee, four members of the University community, six members external to the University, and the Executive Director of the Institute, ex officio. Ultimately, the Institute's Board of Directors is responsible to the Board of Governors and Senate of Saint Mary's University.

### Resources

The Gorsebrook Research Institute utilizes and complements the resources of Saint Mary's Bachelor of Arts degree program in Atlantic Canada Studies, which was introduced in 1975, and corresponding Master of Arts program, which began in the fall semester, 1983. Both programs are interdisciplinary in nature, drawing on the expertise of 25 faculty members whose teaching and research is focused on the Atlantic Region. In addition, the Institute draws on faculty associated with the International Development Studies program, and on Research Fellows and Associates of the Institute. The Institute operates a survey research centre which provides services to researchers in the region.

### Research

The Institute's research program is gaining momentum, and at present a number of projects are underway. These include a cooperative investigation involving faculty at both Saint Mary's and Dalhousie Universities focused on Nova Scotia's fishing industry, a study examining the contribution of women's work to

local single-industry communities, and a project that is considering the relationship between the structure of manufacturing in Halifax and economic development and employment generation. In addition, the Institute is engaged in a two-year project that will compile a comprehensive bibliography of printed sources dealing with resource industries in the four Atlantic provinces.

#### Activities and Programs

In order to improve regional research communication the Institute publishes the Atlantic Canada Research Letter three times per year. This publication reports on current research on Atlantic Canada in the social sciences and humanities, and aims to provide individuals with a ready source of reference for what is happening in their respective fields. Additional activities include workshops, public forums, and conferences that have dealt with such regional concerns as the future of fisheries policy, assessment of the real potential of oil and gas development, and the impact of micro-chip technology on the workplace and employment. The Institute publishes occasional papers and a series of materials titled "Special Documents" that are oriented to a more general readership and deal with major regional issues. The Institute arranges visits to schools within the region to communicate information.

#### The International Education Centre (I.E.C.)

The International Education Centre carries out international and multicultural research, publication and education in the schools and community.

#### The Schools Program

The Centre extends its services to schools throughout Nova Scotia. It plans and arranges professional development workshops for teachers, focusing on topics and teaching strategies in international development and multicultural education. It also provides special programs to mark World Food Day, Human Rights Day, Multicultural Heritage Day and Global Development Day. The Centre offers an annual conference for secondary school teachers and a "Global Issues in Education" course in conjunction with Saint Mary's Faculty of Education. This program meets the increasing desire of Canadians in schools, in universities, and in the community at large for information and understanding of developing societies.

#### Speakers

People from many parts of the world, now resident in Nova Scotia, give over 150 presentations to schools and community groups interested in obtaining a better understanding of multicultural and international development issues.

#### The Community Program

The Centre promotes cooperation and interaction between the academic community and groups involved in multicultural and international development work. The Centre makes its facilities available to ethnic organizations and non-governmental organizations, frequently hosts meetings and conferences, and publishes a monthly newsletter listing community international and multicultural events.

#### The Resource Centre

The Centre has a significant collection of audio-visual and print resources on international development and multicultural issues. These are available for consultation at the Centre or for loan by the public. The extensive holdings of the University Library complement the print materials of the Centre.

#### The Atlantic Region Orientation Centre (AROC)

The I.E.C. houses the Atlantic Region Orientation Centre, one of five centres across Canada involved in the orientation and training of men and women from the People's Republic of China. AROC provides ongoing support for these trainees while in Atlantic Canada. It also carries out public education activities.

#### The Atlantic International Briefing Centre (AIBC)

The I.E.C. also houses the Atlantic International Briefing Centre which helps prepare people travelling and doing business abroad to operate effectively in other cultures.

#### Research and Publications

Research interests of the Centre are both local and international. Local interests include the historical, economic, social, and political background of Nova Scotia ethnic groups and education problems associated with ethnicity, race relations, and related issues. Through such research the Centre contributes to understanding Canadian society and culture. To this end the Centre published ten monographs on Ethnic Heritage in Nova Scotia, together with a bibliography of sources for ethnic studies. In 1987, the Centre launched a new publication series entitled "Issues in International Development." The first two volumes focus on development in the Caribbean and Atlantic Canada. Another new series was begun in 1988, "Issues in Ethnicity and Multiculturalism," with the publication, *Work, Ethnicity and Oral History*. Research to broaden understanding of international development is also a priority. In collaboration with Dalhousie University, the Centre is surveying the understanding of Canadian students about international issues.

#### Organization

A fifteen-member board oversees the activities of the Centre. The board is drawn from members of the Saint Mary's University community, the school system, ethnic groups, other universities, and from the community at large. The Centre's permanent, full-time staff includes a Director, two Schools Education Program Officers, a Community Coordinator, an Administrative Assistant, the AROC Coordinator and Administrative Assistant, and the AIBC Coordinator and Administrative Assistant. Part-time staff are involved in special research and conference organization activities. The Centre welcomes international students and their involvement in its programs.

#### Facilities

The International Education Centre's offices and resource centre are on the main floor of the Burke Education Building. Beside the Centre are two theatres, one accommodating 175 persons and the other 275 persons, which the University can make available for I.E.C. activities. The Director's office is on the second floor of the Burke Education Building. AROC and the AIBC are located at The Oaks.

#### The Institute of Human Values

The supporters of the Institute believe that an organic relationship is one of interdependence and that none of these human concerns can flourish in isolation. They believe further that a serious deterioration of this relationship has taken place with consequent danger to all three. They take as the primary goal of the Institute, the restoration of this relationship through discussion, teaching and research.



The contemporary crisis to which the Institute addresses itself is fourfold:

1. A twin crisis in the humanities, the social and the natural sciences, stemming from the failure to produce a theory of knowledge consonant with their characteristic functions and activities; and with their essential complementarity.
2. A crisis of values deriving from the fact that moral values have been divorced from knowledge on the one hand, and from personal and social well-being on the other.
3. A crisis of leadership in all aspects of human activity, deriving from a widespread inability to make any meaningful connection between knowledge and the practical judgement.
4. A crisis in the area of political freedom which derives, at least in part, from a loss of the sense of the historical relationship between moral values and the winning and defence of that freedom.

The Institute does not attempt to grapple with these problems as a self-sufficient entity, but acts rather as a catalyst through which the human and physical resources of Saint Mary's and other universities are brought to bear upon them.

#### **Institute Activities**

1. The coordination of the work of the members of the Institute in the various disciplines.
2. Research on all aspects of the relationship between knowledge, values and freedom, as well as upon urgent contemporary problems in which values are deeply involved.
3. The advising of students who wish to supplement their majors with problem and theme oriented core programs.
4. Liaison with faculties and departments with the object of implementing and improving such programs.
5. The advising of students who wish to follow a program related specifically to human values.
6. The arranging of special lectures and symposia designed to explore all aspects of knowledge, values and freedom.
7. The editing of a journal concerned with the relationships between knowledge, values and freedom.
8. The production of video and sound tapes on values problems for distribution to the University community and to the public at large.
9. Assistance and advice to primary and secondary school teachers who are interested in implementing the recommendations of the Nova Scotia Government Graham Commission with respect to values in public education.
10. The establishment of a clearing house of information on questions related to knowledge, values and freedom, as a service to its members within the University and throughout the world.

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## Section 8

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# Resources and Services



# Resources and Services

## Alumni Association

The Alumni Association is an organization of graduates and former students of Saint Mary's. The Association seeks to promote the welfare of the University, and to foster continued association with the University and with one another. The Alumni Association elects six members to the Board of Governors of the University.

Annually, the Association awards the Father W. A. Stewart, S.J., Medal for Teaching, the gold medal for the outstanding graduate in Science, achievement awards for academic merit among resident students, and awards for graduating athletes.

The Association provides for substantial scholarship awards each year.

In addition, assistance is provided to student extra-curricular activities, student organizations, and other activities associated with the Senior class.

The Alumni Office is located in Rooms SC308, 308A and 311 on the third floor of the O'Donnell-Hennessey Student Centre. The Director of Alumni Affairs is Mr. Tom McDonnell.

## Athletics and Recreation

The Department of Athletics and Recreation organizes and operates a variety of activities on a number of different levels, providing an opportunity for all students at Saint Mary's University to participate. The intramural and recreational programs are designed to promote fun, recreation, and sportsmanship by encouraging students to compete on a friendly basis. Emphasis is placed on participation.

The club sports program provides an opportunity to compete for a representative team in sports not included in the varsity program. The varsity program offers competition at the highest level and, as a member of the Atlantic Universities Athletic Association and the Canadian Interuniversity Athletic Union, Saint Mary's competes in regularly scheduled and tournament sports with other universities in the Atlantic region and non-conference competitions with teams across Canada.

### Varsity (Men)

Soccer  
Football  
Ice Hockey  
Basketball  
Track and Field

### Club (Men)

Rugby

### Varsity (Women)

Field Hockey  
Basketball  
Soccer  
Track and Field  
Volleyball

### Club (Men and Women)

Badminton  
Curling  
Fencing  
Judo  
Racquetball  
Squash

### Intramural (League)

Softball  
Football  
Soccer  
Volleyball  
Hockey  
Basketball  
Indoor Soccer  
Coed Softball  
Coed Soccer  
Coed Basketball

### Intramural (Tournament)

Broomball  
Tennis  
Golf  
Curling  
Badminton  
Table Tennis  
Racquetball/Squash  
Basketball  
3/3 Basketball

## Recreation (Unstructured)

Swimming  
Skating  
Jogging  
Basketball  
Volleyball  
Hockey  
Badminton  
Weight Training  
Table Tennis  
Tai Chi  
Yoga

## Recreation (Instructional)

Aerobics  
Fencing  
Tennis  
Skating  
Swimming  
Weight Training  
Women's Self-Defence  
Speedwalking  
Running Clinics  
Ski Clinics  
Squash  
Racquetball  
Dance  
Tae Kwon Do

## On-Campus Facilities

The Tower  
Alumni Arena  
Huskies Stadium (artificial track and field)  
Swimming Pool  
Tennis Courts

The Fitness and Recreation Centre ("The Tower") was opened in June 1987. This centre houses a triple-sized gymnasium with retractable seating, running track, racquetball and squash courts, weight training room, multi-use exercise room, sauna, whirlpool, steam room, lecture/classroom, offices, lounge, locker rooms, pro shop, sports medicine area, and equipment distribution area.

## Bookstore

Situated on the second floor of the O'Donnell-Hennessey Student Centre, the bookstore utilizes 3,600 square feet of retail space to serve the University community.

The bookstore's prime role is to supply textbooks for current course offerings. In addition to textbooks, the bookstore carries an array of supplies, from pens to calculators, as well as an assortment of sundry items, including imprinted giftware, glassware, and crested clothing.

During the academic year, various services are available:

**Used Book Buy-Back** — At the end of both semesters, the bookstore conducts a buy-back of used books. Half price is paid for re-adopted textbooks, lesser amounts for books no longer used at Saint Mary's.

**Ring Days** — Rings can be ordered any time of the year, but during the special ring days, special discounts apply.

**Special Orders** — Personal copies of any book in print can be ordered through the bookstore. Customers pay list price plus postage.

**Diploma/Degree Lamination** — This method of preserving diplomas or degrees utilizes plastic sealing on a hardboard backing with attractive woodgrain finish.

The bookstore's regular hours: 9:00 a.m. to 4:30 p.m., Monday to Friday (7:30 p.m. on Wednesday). These are extended during rush periods.

## Computer Services

The main academic computer system at Saint Mary's University consists of Digital Equipment Corporation VAXes running the

VAX/VMS operating system. There are two VAX 780s, each with 16 million bytes (mb) of main memory and a micro VAX 2000 with 6 mb of ram memory. These three systems have been set up to function as one large system, e.g., a local area VAX cluster. The cluster has over 1,804 million bytes of on-line high speed disk storage. Also included with the VAX cluster are dual density (800/1600 b.p.i.) magnetic tape drives, a 1.8 gigabyte backup storage unit, 3 line printers and an 8 pen drum plotter. Some of the languages and compilers supported include: BASIC, C, COBOL, FORTRAN, MACRO-11, PASCAL, MODULA-2 as well as the DEC EDT editor. There are also several statistical packages available including IMSL, Minitab, SPSS-X, SPSS-X Graphics, SAS. Several other applications including TSP (Time Series Processor), Shazam Econometric, Oxford Concordance, Bulletin Board, Runoff, survey data bases are also available. The widely used Kermit Communications Program and TeX Formatting Language are also available. The Department of Mathematics and Computing Science maintains a QMS 800 Lasergraphics printer as well as a multi-user UNIX based system.

On-campus and off-campus users may dial-up the academic VAXes through several dial-up ports centralized on a Develcon Dataswitch Front End Communications Processor. This Dataswitch allows a terminal to be connected to one of several destinations including the academic VAXes, the UNIX system, various computer systems located at other universities within the Metro-Halifax area, public access to the Metro-Halifax university on-line library GEAC system, dial-out communications for DataPac, Envoy 100, etc. Users in the general access terminal labs are connected to the VAXes via terminal servers and the campus backbone Ethernet system.

There are over 200 computer terminals (video, hardcopy and graphics) and about 400 microcomputer systems available for individual faculty, research and administrative purposes. In addition, there are nine general access and departmental computer labs containing over two hundred micros (PCs and MACs) and thirty-five terminals. Some of the microcomputer vendors include IBM, Apple, Atari, Commodore, Tandy/Radio Shack, AT&T, Hewlett-Packard, as well as several types of PC XT and AT clones, etc. There are also several plotters, laser printers, micro-computer boards, and CAD/CAM microcomputer based systems, digitizing tablets, etc. Most of the PC XTs in the labs are equipped with 640 kb ram memory, dual floppy disks, Hercules compatible graphics, along with software for word processing, spreadsheet and data base management applications. A large PC AT general usage lab contains forty PC ATs, each using a 20 mhz 286 cpu with 1 mb ram. Most of the MACs contain 1 megabyte of ram memory, dual floppys, and wordprocessing, spreadsheet software. Several labs contain software used for statistics, graphics, charting and map drawing, CAD/CAM, financial applications. Many of the micros in the labs have connections with the academic VAXes, Develcon Dataswitch. Several microcomputer labs are configured as local area networks (LANS) with network disk servers and printers. In addition, many labs and classrooms are equipped with special computer overhead data projection units used for teaching computer related courses.

The academic VAX is also a node on the NetNorth and Bitnet World-Wide electronic mail systems. Authorized users can exchange information with users at over 2000 other sites around the world.

In addition to the day-to-day operation of the academic and administrative vaxes and computer labs, Computer Services also provides a variety of services for its users, including tours of the University computing facilities, assistance in using the VAXes and

the public access microcomputer labs, programming advice, etc. The latter is in addition to the liberal assistance available to students through their courses and labs. Computer Services also provides advice relating to the selection and purchase of computer hardware and software. Various computer manuals are produced by Computer Services and are available through the University Bookstore. Saint Mary's is also involved with several other universities in providing computer resources for academic and research purposes. Authorized faculty and students may make use of computer resources located at these universities.

### Patrick Power Library

The library was officially opened on campus in June 1976 and named in honour of the late Patrick Power, a generous benefactor of Saint Mary's in its early years as a college.

In 78,000 square feet of space, the three storey structure provides study space for students and accommodation for 300,000 volumes. In addition to the main book collection, the library houses the periodical collection, rare books, journals, newspapers, the reference collection and microforms. Annual reports of major corporations are also available, as well as telephone directories, academic calendars of universities in Canada, the United States and abroad. Novanet, the library's new on-line catalogue, gives access to holdings in the five metro universities' libraries. In addition the library subscribes to a number of information retrieval systems including CAN/OLE, DIALOG, ORBIT, and INFOGLOBE, as well as several bibliographic data bases on compact disc (COROM). These systems provide access to a large number of computerized data bases covering a wide range of subject areas in science, education, technology, the social sciences, business and economics. From these data bases one can generate a list of recent references on almost any topic. These references are usually to periodical articles or research reports.

The Ferguson Library for the Print Handicapped is located on the third floor of the library. The Ferguson Library provides a free service to the print-handicapped, defined as individuals who are either medically certified blind or whose physical disability prevents them from reading printed material. This service is available to both students and professionals.

Volunteer narrators read requested books and articles on cassette tapes, which are loaned to the print-handicapped for a two-month, six-month or open-loan period, depending on the client's needs.

The permanent collection of the Ferguson Library consists of titles on cassettes. There is also a substantial temporary collection, composed of short articles and selections from books. The Ferguson Library has a Kurzweil Reading machine which reads printed text by means of a scanner and a synthesized voice.

A Magniink offers visually impaired persons the highest quality closed circuit television system available. The Magniink is engineered for the special needs of low vision individuals. It is capable of enlarging the text up to fifty-four times.

The Media Centre is the headquarters of Media Services and is located on the third floor of the library. All requests for services and equipment are handled through the Media Centre. It provides playback facilities for audio and video cassettes, slides, films, filmstrips, film loops, and recorded plays, as well as a previewing service.

The Language Laboratory, located on the second floor of the McNally Building, provides individual carrels where students and

classes may listen to a variety of language tapes at a speed suitable to their requirements.

To assist students in making the most efficient use of library facilities, instruction at beginner and advanced levels is offered to classes and individuals. In addition to the services of the Patrick Power Library, students have access to the collections of other libraries in the area, and, through inter-library borrowing, to libraries all over the world.

In conjunction with other university libraries, the library uses the latest technological advances to facilitate expeditious acquisition and cataloguing of books.

A conference room and discussion rooms are available for groups of varying sizes, and typewriters and photocopying services are also provided.

### Observatory

The Rev. Michael W. Burke-Gaffney Observatory at Saint Mary's University was opened in 1972.

The revolving aluminum dome measures five metres in diameter and rests upon an elevated pad atop the 23-storey academic-residence building. The Observatory's 0.4-metre reflecting telescope, the most powerful in Eastern Canada, is used primarily for student instruction.

The Observatory is open to the general public for regular viewing sessions every Saturday evening.

An enclosed corridor connects the Observatory to the night office and instrument room.

The Observatory is named for the late Professor Emeritus, Rev. Michael W. Burke-Gaffney, astronomer, engineer, and educator, who was at Saint Mary's University from 1940 until his death in 1979.

### Student Services

At Saint Mary's University the Department of Student Services includes the Office of the Director, Chaplaincy, Counselling, Health Services, Cultural Activities (including the Art Gallery), Financial Counselling, Canada Employment Centre, Atlantic Centre of Support for Disabled Students, University Residences and Food Services, International Student Advising, and Student Discipline.

#### Chaplaincy

Because of its traditional commitment to Christian education, Saint Mary's University continues to emphasize personal and social values deriving from the experience of Christian civilization. Its students and teachers represent a diversity of cultural and religious backgrounds and the University encourages participation in activities related to all faiths.

The Roman Catholic chaplaincy is found in Room 200 of the Loyola Residence; weekday Mass is provided in the Loyola Chapel. In addition, a special University Mass is held every Sunday in Canadian Martyrs' Church located on the edge of campus. Protestant and Jewish services are available in nearby churches and synagogues.

Pastoral guidance is available from the University's Chaplain and from clergymen of all major denominations.

#### Counselling Services

Saint Mary's University Counselling Centre staff provide free, professional counselling services to full and part-time Saint Mary's University students. The Counselling Centre is located on the fourth floor of the O'Donnell-Hennessey Student Centre.

Students may use the services by dropping into the Centre between 9:00 a.m. and 5:00 p.m., Monday to Friday, or by calling Pam Stonehouse, 420-5614; Heather Ferguson, 420-5610; Susan Shaw, 420-5446; or Sarah Morris, 420-5601; and making an appointment. Evening appointments can be arranged. Students may use the service of the Centre on their own initiative, or they may be referred by a member of the academic or outside community.

A variety of services are offered through the Counselling Centre. While some students may have personal problems and can receive confidential assistance with these problems, many students use the service to improve their study skills, help define career goals, or simply increase their personal effectiveness.

The following describes the various services available at the Counselling Centre:

#### Individual Counselling

**Personal Counselling** — Students are counselled concerning a wide range of personal problems including learning problems, conflicts with professors, study skills, family problems, marriage and sexual problems, depression, anxiety, drug and alcohol abuse, eating disorders, and other issues.

**Vocational Counselling** — Students are interviewed in areas related to career choice (e.g., their abilities, interests, previous employment, etc.). Students may write an occupational interest inventory. The aim is to help the students define suitable career goals and enable them to select courses consistent with their career goals.

#### Group Programs

**Study Skills** — This program consists of six one-hour sessions which examine the topics of concentration and motivation, time-management, lecture-note taking, effective reading, writing papers, and exam preparation. These sessions are offered in both fall and winter terms.

**Assertiveness Training** — This program focuses on how to effectively communicate one's thoughts, feelings, and opinions. Assertive communication often leads to cooperation among people and having one's needs met. Communication skills are taught through lecture, role-playing, and practise in everyday situations.

**Stress Management** — This program helps students recognize and deal with sources of stress in their own lives. Techniques for coping with stress (e.g., relaxation exercises, problem-solving methods) are learned and applied. The above groups may involve 2 to 3 classes, lasting 1 to 1½ hours each.

#### Sexual Harassment

To ensure and facilitate the pursuit of knowledge, Saint Mary's University is committed to the provision of an equitable environment for work and study for all university community members. Sexual harassment can seriously undermine the fulfilment of this primary goal by destroying the trust that is necessary for personal and educational freedom. In 1986, the Senate established procedures to discourage the presence of sexual harassment through education, and to investigate and resolve complaints of sexual harassment expeditiously and with fairness to all concerned.

Saint Mary's provides an advisory service to all members of the university community. The office of the Sexual Harassment Advisor is located in the Counselling Centre, fourth floor, O'Donnell-Hennessey Student Centre. The Advisor is available between 9:00 a.m. and 5:00 p.m., Monday to Friday, or by calling 420-5446 for an appointment.

The Advisor is available to answer all inquiries concerning sexual harassment, and can provide educational programs for all campus groups. The Advisor is also available to consult with concerned individuals on a confidential basis, to suggest and explore a number of informal problem solving methods. She is also able to mediate formal disputes, and will advise complainants and respondents of correct procedures if involved in an investigation of sexual harassment. All inquiries are welcome, and will remain strictly confidential.

#### **Atlantic Centre of Support for Disabled Students**

The Atlantic Centre of Research, Access, and Support for Disabled Students is one of three "Centres of Excellence" created under the Department of the Secretary of State's Centres of Specialization Fund. The purpose for creating these Centres was to mobilize a truly Canadian effort in making post-secondary education accessible to hearing-impaired Canadians.

The Atlantic Centre commenced operations in January of 1985. Since August 1987, the Atlantic Centre has been operating under a grant jointly funded by the Nova Scotia Department of Social Services and the federal Department of Health. Although the Centre has a mandate to provide support services to all disabled students, the major focus, until 1987, was to implement programs to assist hearing-impaired students in the post-secondary system.

The Centre, located on the third floor of the O'Donnell-Hennessey Building, is a demonstration centre which will assist in transforming the campus into an environment that is accessible to all students. We propose to arrange for looping of classrooms, acoustically treated rooms, and adequate visual alarms throughout the residences. As well, the Centre has acquired a limited number of devices, such as a Personal FM system, for students to borrow for classroom use. These technical aids will ensure that the campus is well equipped to meet the needs of hearing-impaired students.

The Atlantic Centre, the new Fitness and Recreation Centre, the Ferguson Tape Library for Print-handicapped Students, and other features such as accessible buildings, demonstrate the commitment of Saint Mary's to a totally accessible educational experience. Other universities within the Atlantic Region and throughout Canada will be able to experience first-hand how such an environment can assist a disabled student to complete a university education.

Ensuring that support services are available to hearing-impaired students attending Atlantic universities will be a vital role of the Atlantic Centre. The Visual Language Interpreting Program, a one-year course, is offered at Saint Mary's to develop entry-level interpreters capable of working in the university classroom.

A Tutor/Notetaker Program is being implemented in order to provide much-needed services. A Screening-in Program, which will evaluate admission requirements and examine criteria allowing for the screening-in (and not out) of hearing-impaired students, and computer-assisted instruction, are two other facets of the overall program providing hearing-impaired students with support services never before available in Canada.

The Atlantic Centre has on staff a deaf Educator/Counsellor who is qualified to provide counselling services to hearing-impaired students. The Educator/Counsellor is also available to faculty members for advice and intervention on behalf of faculty members or the hearing-impaired student.

#### **Atlantic Centre — Innovations Project**

Making the Employment Connection, funded in April 1988 for three years by Employment and Immigration Canada, Jobs Strategy Program, is demonstrating that capable, highly-motivated, and post-secondary educated persons with disabilities are successful candidates for career-track employment with large and small businesses in Nova Scotia.

#### **Pre-Employment Support Services**

The Project provides pre-employment interest and skills assessment counselling, job research and interviewing skills developing, occupational therapy and computer technology consultations, and job placement for candidates and employers, designed to meet the specific needs of the person and the workplace.

#### **Post-Employment Support Services**

This aspect of the Project focuses on supplying the successful job candidate and their employer with the information and facilitation to make the transition into the workplace as smooth as possible. Services are tailored to meet the specific needs of each situation and might include workshops with co-workers to address fears and adjustments in the integration of the new employee, occupational therapy, computer, and vocational rehabilitation follow-up consultations.

Based on a consortium model, the Project is demonstrating that a partnership of large and small business, educational institutions, government agencies, and community resource groups that serve people with disabilities can produce an effective means of aiding Project candidates in finding meaningful work.

#### **Research**

In gathering and analyzing all previous research materials regarding employment issues for persons with disabilities, alternate employment opportunities, distance education, consortium models, and any other topics deemed of importance to the Project, Making the Employment Connection aims to accomplish its information and advocacy goal by reporting and publishing in this field of research. Original research reporting, out of the development and findings of the Project, is the goal of the third year.

The staff of the Atlantic Centre are confident that the use of specialized equipment, interpreters, tutor/notetakers, counselling, and a screening-in procedure will enhance the opportunities for hearing-impaired Canadians to pursue a post-secondary education with true equality in the country of their birth.

#### **Financial Aid Office**

Students are welcome to contact the Financial Aid Office for the following services.

#### **Scholarships and Bursaries**

Scholarship and Bursary brochures are available in the Financial Aid Office. These booklets provide detailed criteria and application procedures for all awards administered by the University.

#### **Scholarships (merit-based)**

If further information is required regarding University scholarships, students are welcome to contact the Financial Aid Office, (i.e., clarification of scholarship policy, study-abroad students).

All scholarship award letters are prepared by the Financial Aid Counsellor.

### **Bursaries (need-based)**

Bursary criteria is available in the Scholarship and Bursary brochure

Applications for bursaries are available after October 1 from the Financial Aid Office.

Students will be interviewed when applying for a bursary and are therefore asked to make appointments with the Financial Aid Counsellor.

Provincial Government Student Aid Programs (including U.S. loan applications)

### **Application Procedures/Information**

Residency Questions, i.e., which province do I apply to?

Student Aid Appeals, i.e., what areas of the assessment may I appeal?

Disbursement of Student Aid Funds, i.e., where do I pick up the loans and cheques; timing and availability of funds; processing problems/delays.

### **Budget Counselling**

Information on preparing a yearly budget is available. Students can also obtain help in:

- reviewing their yearly budget to determine whether they can meet the education expenses;

- exploring all sources of financial aid to meet the student's financial need;

- suggesting alternative sources of financial aid.

### **Foreign Students**

Letters are provided for visa students regarding their expected education expenses for the academic year in question.

### **External Awards (awards administered through outside agencies)**

Information concerning external scholarships and bursaries is available from the Financial Aid Office.

This information is also forwarded to the Dean's office for posting. Students are encouraged to drop by for updated information.

### **Student Health Services**

The C. Henry Reardon Medical Centre is located on the 4th floor of the Student Centre and is named in honour of the late Dr. C. Henry Reardon who served as its initial Director from 1967 to 1980. It provides the students with the same service they would receive from their family doctor. Referrals to specialists may be made through the clinic.

Office hours are 9 a.m. to 12 noon and 1:30 to 5:00 p.m., Monday through Friday. A nurse and secretary are in the office during office hours. The Doctor's office hours are 1:30 to 4:30 in the afternoon only. It is preferable that students make an appointment (420-5611).

During the evening or night a physician may be reached at 453-3511. For emergency service call 428-2043/428-2948 or go directly to the Victoria General Hospital Emergency Department, 1278 Tower Road. Emergency services are also available at the Halifax Infirmary, 1335 Queen Street, telephone: 428-2784.

In response to the serious health problem created by AIDS (Acquired Immune Deficiency Syndrome), in the fall of 1989, Senate and the Board of Governors of the University developed a policy for all students, staff, and faculty. Details on this official policy are available on request.

### **Medical Insurance**

Each year the Health Insurance Committee decides which insurance company will carry the health plan and they, along with the insurance company, are responsible for the administration of the plan. The following description applies to the 1989-90 academic year. Please note that the health plan for Canadian students is under review and may not be available in its present form in the 1990-91 academic year. A description of the benefits in any revised plan will be available on request from Health Services.

#### **1. Full-Time Students (Canadian and Non-Canadian)**

An extended health care plan arranged by the Students' Health Insurance Committee is compulsory for all full-time students. Students who are already covered by a similar plan may opt out. (See Financial Information section of this Calendar for details.) This plan includes such benefits as prescription drugs, ambulance service, accidental dental, physiotherapy, life insurance, etc. For information on premiums, please consult the Financial Information section of this Calendar.

#### **Full-Time Canadian Students**

All Canadian students, with the exception of those residing in the Yukon or Northwest Territories, are either covered or have access to basic hospital and medicare coverage in their province of domicile. It is the students' responsibility to see that they are in good standing with the Provincial Hospital Insurance Commission in the province of origin. If the province requires monthly payments, the students must make certain they are properly enrolled and maintain payments.

#### **Full-Time Non-Canadian Students**

Students not eligible for basic Canadian hospital and medicare coverage must be insured by the Blue Cross comprehensive health and hospital plan which has been arranged through the Students' Representative Council. For information on the premiums, please consult the Financial Information section of this Calendar.

Students who provide proof at the time of registration that they have the equivalent to Nova Scotia's Medical Services Insurance (M.S.I.) are exempt from the non-Canadian portion of the University's compulsory comprehensive coverage.

#### **2. Part-time Students**

Part-time students are not eligible for either the extended or the comprehensive health plan.

### **Cultural Activities**

#### **Performing Arts**

The performing arts program at Saint Mary's University brings a cross-section of excellent musicians and entertainers to the campus each season. From chamber orchestras to modern jazz, concerts provide musical adventure for every preference. The present Lunch with Art and Evening with Art series present professional artists in dance, recitals, and readings, and includes a variety of films covering academic interests, art, and current movies.

#### **Artist-in-Residence**

The Artist-in-Residence program is designed to cover the spectrum of the arts with the intention of developing a varied

program for both the University and the community at large. Not necessarily limited to musicians and the fine arts, the program is designed on a broad scale and intended to enrich the lives of both students and citizens.

Saint Mary's Artist-in-Residence program has included such outstanding artists as Israel-born pianist Shulamit Ran; bassoonist George Zukerman; Halifax painter C. Anthony Law, and Cape Breton native and New York based vibraphonist Warren Chiasson; and presently, watercolorist and printmaker J. R. Leighton Davis, who is also Curator/Director of the Saint Mary's Art Gallery.

In the past the artists have conducted instructional sessions with the University's music program, workshops for community musicians and artists, the local school music program, and various performing sessions including public concerts.

#### **Art Gallery**

Designed and constructed to National Gallery of Canada standards, Saint Mary's University gallery is located on the ground floor of the Ignatius Loyola Building.

Opened in October 1971, the gallery was the first University Art Gallery in Halifax. The initial exhibition consisted of sculptures and graphics by Eskimo artists, and since then approximately 150,000 visitors have attended 700 exhibitions and other cultural events.

The gallery also sponsors lectures and slide demonstrations on the history of Canadian Art, and life drawing and painting classes by the University Artist-in-Residence.

The Halifax public as well as the University community has been able to view the work of internationally known artists at Saint Mary's University; for example: an exhibition of works by George Roault, Wilhelm Webels, Otto Dix, and Harold Town; an exhibition of contemporary Christian Art, *Ars Sacra '77*, which included works by Graham Sutherland, Bernard Buffet, Salvador Dali, Carol Fraser, and Bruno Bobak; an exhibition, *In Memoriam*, of the works of Miller G. Brittain; for the first time in Canada, an exhibit by Friedensreich Hundertwasser, the Austrian Master of Ornamentalism; and, more recently, a display of primitive art and artifacts from Papua, New Guinea.

A permanent collection of Nova Scotia pottery exists at Saint Mary's University Art Gallery in which potters such as Alma and Ernst Lorenzen and Max Roulston are represented. The University Art Collection has been made possible through the generosity of private donors and organizations who have enjoyed the facilities of the Art Gallery.

#### **Canada Employment Centre on Campus**

Specifically to assist students in finding employment, a campus office of Canada Employment and Immigration is maintained on the 4th floor of the O'Donnell-Hennessey Student Centre.

In addition to professional guidance to both graduate and undergraduate students, the office provides current labour market news, career information, business literature, assistance in preparing resumes and in completing job applications.

Personal interviews will also be arranged with representatives of the many companies who visit the campus each year to meet potential employees. On-campus interviews start in October of the students' final year.

Although notices of job opportunities are posted regularly, students in need of part-time, summer, casual, or permanent employment are advised to register early in the year with the employment office.

Hours are from 8:30 a.m. to 4:30 p.m., Monday to Friday.

#### **University Residences**

One of the distinctive features of Saint Mary's University is its residence complex. Approximately one third of the student body resides on its beautiful 30-acre campus. The University does not require students to live in residence; however, it highly recommends residence life and encourages all first year students from outside the metropolitan area to reside in the modern on-campus facilities.

The residence complex includes the 17-storey Edmund Rice Residence, the four-storey Vanier House and the 20-storey Ignatius Loyola Residence. The residence complex is linked together and serviced by a students' cafeteria, mini-market, beauty salon, barber shop, a pool, and above-ground as well as underground parking, an art gallery, and a laundromat. A further attraction of the Ignatius Loyola Building is the Reverend M. W. Burke-Gaffney Observatory, which is open to students and the public. For further information see the Astronomy section.

Students may choose single room, double room, or apartment-style living arrangements. Students are encouraged to apply early as room assignments are made on a priority basis. Detailed information about residence accommodation and residence programs is available in the Residence Handbook. The Handbook is available from the Director of University Residences.

#### **Family Housing (Ignatius Loyola Residence)**

One and two-bedroom apartments for married students are available on a 12-month lease only. Stove and refrigerator are provided. Further information is available from the Director of University Residences.

#### **Application for Residence Accommodation**

Application for residence accommodation, together with a non-refundable application fee of \$15.00, should be made to the Director of University Residences.

Fees for accommodation in each of these residences and for various food plans are specified in the Financial Information section of this Calendar.

#### **Food Service**

The University provides a complete food service program during the academic year. Food Service outlets include the Residence Cafeteria, Student Centre Cafeteria, Colonnade, and Mini-Mart.

#### **Meal Plans**

Residents of Vanier House and Loyola Residence are required to purchase a meal plan.

#### **The Flexible Dining Plan**

The Flexible Dining Plan features a computerized meal card with a declining balance. With each food purchase you make, the amount will be deducted from your account balance. You may receive an update of your balance at any cashier outlet.

The Residence Dining Room features unlimited seconds at breakfast and dinner with an a-la-carte program at lunch. All other outlets on campus are a-la-carte. Fees for meal plans are specified in the Financial section of the Calendar.

#### **International Student Advising**

The Director of Student Services provides information and referral services in response to questions or problems international students may encounter during their adjustment to a new country and university.



## Student Discipline

### a. Student Behaviour

Saint Mary's University, in accepting students, takes it for granted that they are prepared to engage seriously in the pursuit of learning within an ordered academic institutional environment. Rules and regulations which affect student behaviour are intended to ensure that the quality of life of students and of those associated with them in the work of the University is respected and preserved.

The largest measure of responsibility for maintaining standards of conduct rests with the students themselves. The University reserves the right, however, to counsel, admonish, limit the activities of, impose penalties on, or dismiss any student or group of students whose conduct violates normally accepted standards of civilized behaviour or is in conflict with the University's objectives, policies, rules and regulations.

### b. Discipline System

The Senate-approved disciplinary system operates under the general responsibility and direction of the Director of Student Services. Several administrative officers of the University receive complaints, examine the evidence, and make decisions with respect to the disposition of cases. If there are appeals against these decisions, they are heard by the three-person Student Disciplinary Appeal Board. Decisions can involve monetary fines, suspensions, or expulsion from the University.

### c. Campus Security Force

The maintenance of order and conduct at extracurricular functions is the responsibility of the Saint Mary's Campus Security Force. The Force is composed of full-time and part-time students and is headed by a chief, deputy chief, and six team captains. Students wishing to be members of this force must be of sound academic standing, of a general demeanour consistent with the normally accepted standards of conduct required of students at the University. The force is under the general supervision of the Director of Student Services of the University. Applications for Campus Security Force membership are to be directed to the Director's office.

The Campus Security Force provides students with an opportunity to obtain valuable experience in the field of crowd and citizen management and funds to augment their education costs.

## Students' Representative Council

Incorporated in 1966, the Saint Mary's Students' Representative Council is the official representative organization of the students of Saint Mary's University. Every full-time student is a member of the Association.

The goal of the Association is to promote and represent the interests of its membership. The Association seeks to foster understanding and fellowship among all sectors of the University community as a whole. It also coordinates artistic, literary, educational, social, and recreational activities for Saint Mary's students.

The extracurricular organizations for students are recognized by the University. Students who represent the University in any public activity — dramatics, debating, oratorical contests, or athletic competition — or who hold office in any student organization, must be in good academic standing at the time of their election or appointment.

A detailed description of student societies is available in the Student Handbook which is distributed by the Students' Representative Council in September. Included in this list are the following:

**The Journal**  
**Radio CFSM**  
**The Santamarian (Yearbook)**

### Major Societies

Arts Students Assembly (ASA)  
 Caribbean Students Society  
 Commerce Students Society  
 Mature and Part-Time Students (MAPSO)  
 Residence Society

### Societies

Accounting  
 A.I.E.S.E.C.  
 Anthropology  
 Astronomy/Physics Society  
 K. Thomas Biology  
 Chemistry  
 Chinese  
 Classics  
 Debating  
 Economics  
 Education  
 Engineering  
 English  
 French  
 Geography  
 Geology  
 Marketing  
 Math  
 M.B.A.  
 Off-Campus  
 Philosophy  
 Political Science  
 Psychology  
 Residence  
 Sociology

### Religious Affiliations

Saint Mary's Christian Fellowship  
 Chinese Christian Fellowship  
 Folk Choir  
 Newman Society  
 Atlantic Provinces Jewish Students' Federation

### Special Interest Groups

Saint Mary's University Student Women  
 Saint Mary's University Young Progressive Conservatives  
 Saint Mary's University Young Liberals  
 Freshman Society  
 Senior Class

### Clubs

Dramatic Society  
 Debating Society  
 Amateur Radio and Electronic — VEISMU  
 Sports Parachute  
 Maroon and White Booster Club