

Academic Calendar 1987-88

# Saint Mary's University





The academic year to which this Academic Calendar refers begins on 3 September 1987. 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 1986.

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.

Since not all courses listed in this Calendar are offered in 1987-88 students are advised to consult the academic timetable for those courses which are actually available and the times when they will be offered in the 1987-88 year.

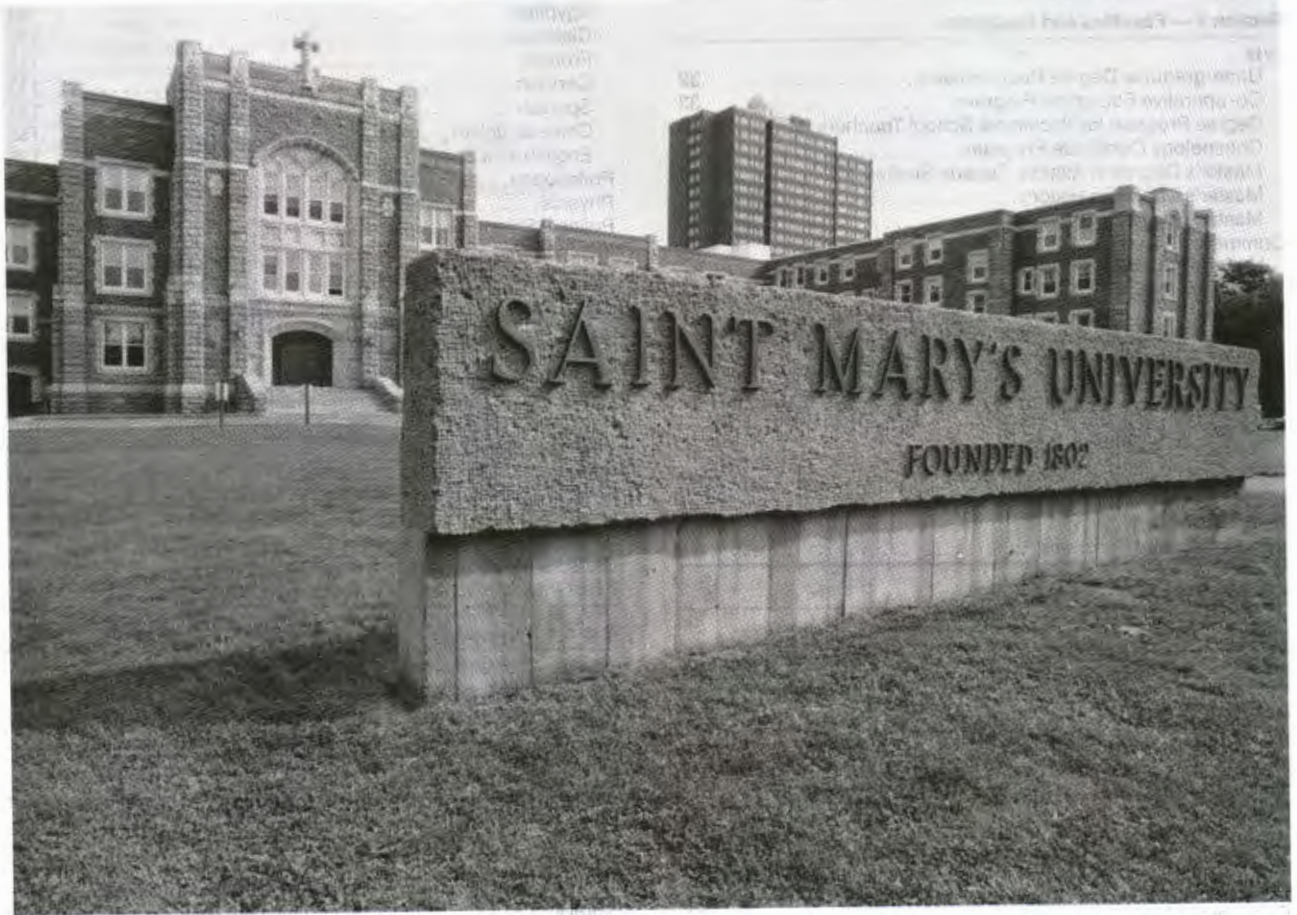
Frequently in this Calendar, the masculine includes the feminine and the plural includes the singular, and vice versa, as the context may require. This matter is subject to ongoing revision.

Inquiries regarding academic matters should be directed to the Registrar.

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

**1987-88**

Saint Mary's University  
Halifax, Nova Scotia  
Canada  
B3H 3C3  
(902)420-5400





# General Information

## History

Saint Mary's University was founded in 1802 to provide opportunities for higher learning to young Catholic men. Its founder, the Reverend Edmund Burke, had meagre resources to work with but, on later being named Bishop with responsibility for Nova Scotia, he continued to support the college as essential to the development of the Catholic community. It was not until 1841, however, that the Nova Scotia House of Assembly gave formal, if temporary, recognition of its academic role. Its legal status was confirmed in perpetuity by enactment in 1852, but the college had an uncertain existence for many years. In 1913, the Christian Brothers of Ireland, a teaching order, were invited by the Archdiocese of Halifax to direct the college and its academic program. During the ensuing years, Saint Mary's University became more widely known for the quality of its undergraduate teaching and continued to develop new instructional programs, most notably within its Faculty of Commerce. In 1940, the Upper Canada Province of The Society of Jesus was invited to succeed the Christian Brothers as administrators and teachers in the University, and for thirty years until the enactment in 1970 of the new act of incorporation, the college remained under Jesuit supervision. The long-standing emphasis on liberal arts and commerce was extended to include new programs in science, engineering, and teacher education. Extension courses became an important part of the University's commitment to an active educational role in the community. The new Act gave legal status to the Board of Governors and Senate. Subject to the powers of the Board, Senate is responsible for the educational policy of the University. In 1974, under the Trade Union Act of Nova Scotia, faculty members formed a Faculty Union which has since become an influential voice in the affairs of the University.

The transfer of responsibility from the Roman Catholic Archdiocese of Halifax to an independent Board of Governors in 1970 began a new phase in the life of Saint Mary's University. Now a public, co-educational institution functioning within its tradition of Christian values, the University offers full undergraduate programs in arts, science and commerce, with pre-professional programs in engineering, medicine, law, theology, dentistry and architecture, and selected graduate study. Five thousand students are annually enrolled in day and evening programs given at its thirty-acre campus, located in the south end of Halifax, and at several off-campus locations in Nova Scotia. An energetic building campaign has given the University almost a dozen modern buildings, including high-rise academic and residence complexes for married and single students, a Student Centre, Science building, and recently a new library. Currently under construction is a recreation and fitness centre.

Saint Mary's University remains faithful to the founding ideals of dedication to undergraduate teaching and concern for the individual student. The traditions formed by its founder and early teachers, built upon by the commitment to sound education of the Christian Brothers of Ireland and strengthened by the educational tradition and imaginative leadership of the Canadian Jesuits, provide a stable base for further development. The direction in which this development will take place is indicated by the establishment of the Institute of Human Values. The Institute acts internally as an instrument for focusing the human and physical resources of the University on the relationship between knowledge, values and freedom with the object of stimulating purposeful and effective leadership in all three of these areas of

human activity. Externally it acts as a clearing house of information and a channel of communication serving scholars in all fields who share this common concern. Further information on the Institute is carried in Section 7 of this Calendar.

## 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 courses 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 a relatively new association between the Toronto School of Theology and Regis College.

## University Crest

The University crest was designed in the 1940's 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 from the Irish Christian Brothers represents their contribution to the development of Saint Mary's.

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. Ronald J. Downie, Q.C.

### Vice-Chairperson

Mr. Harry Paton, Q.C.

### 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

Academic Vice-President

Dr. Joseph G. Jabbra

Vice-President (Administration)

Mr. Guy Noel

### Members Appointed by the Roman Catholic

#### Episcopal Corporation

Rev. J. Christensen

to July 31, 1989

Mr. Ronald J. Downie, Q.C.

to July 31, 1988

Mr. E. J. Flynn, Q.C.

to July 31, 1987

### Members Elected by the Alumni Association

Mr. Steve Clancy

to July 31, 1988

Mr. James Crane

to July 31, 1987

Mr. Michael Hornby

to July 31, 1988

Mr. Donald Reardon

to July 31, 1989

Mr. Robert Shaw

to July 31, 1987

Mr. Gerald Walsh

to July 31, 1989

## Academic Senate

### Chairperson

Mr. Ronald A. Lewis

### Vice-Chairperson

Dr. Keith Vaughan

### Members Ex-Officio

Dr. Kenneth L. Ozmon, President

Dr. Joseph G. Jabbra, Academic Vice-President

Dr. Douglas H. Williamson, Dean of Science

Dr. Frederick C. Miner, Dean of Commerce

Dr. James Morrison, Dean of Arts

Dr. Michael R. MacMillan, Dean of Education

Mr. Ronald A. Lewis, Librarian

Mrs. Elizabeth A. Chard, Registrar

Mr. Keith Hotchkiss, Director of Student Services

### Members Elected by the Academic Staff

Dr. C. Byrne\*

to July 31, 1988

Dr. N. Kling

to July 31, 1987

Dr. R. Konopasky

to July 31, 1988

Dr. K. Mailer

to July 31, 1989

Dr. E. Stiegman

to July 31, 1989

Dr. J. C. Young

to July 31, 1987

### Members Elected by the Students

To be announced

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

Reverend F. Lynch, S.J.

to July 31, 1988

### Members Elected by the Board of Governors

Mr. John Bragg

to July 31, 1988

Mr. Fred Crooks

to July 31, 1988

Mr. Craig Dobbin

to July 31, 1989

Mrs. Bruce Jodrey

to July 31, 1988

Mr. J. G. (Jack) Keith

to July 31, 1989

Mr. Harry Paton, Q.C.

to July 31, 1988

Mr. David F. Sobey

to July 31, 1988

To be announced

to July 31, 1988

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

Mr. L. Jerry Redmond

to February 28, 1987

Mr. James F. Snell

to February 28, 1988

### Members Elected

To August 1989

To August 1988

Dr. S. Armstrong

Dr. R. Bollini

Dr. P. Arya

Dr. P. Bowlby

Dr. N. Kling

Prof. S. Davis

Dr. R. Konopasky

Dr. D. Perrier

Dr. G. Pe-Piper

Dr. T. Whalen

To August 1987

### Student Senators

To be announced

Dr. J. Ahiakpor

Dr. C. Dodds

Dr. K. Flikeid

Prof. E. McBride

Dr. K. Vaughan

# Academic Officers and Faculty

## Academic Officers

### Academic Vice-President

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

### Faculty of Arts

**James H. Morrison**, B.A., B.Ed. (Acadia), Ph.D. (Ibadan), Dean and Associate Professor of History

### Faculty of Commerce

**Frederick C. Miner**, B.A. (Gettysburg College), M.B.A. (Utah), Ph.D. (Minnesota), Dean and Associate Professor of Management

### Faculty of Education

**Michael R. MacMillan**, B.A., B.Ed. (St. Francis Xavier), M.A. (Saint Mary's), Ph.D. (Alberta), Dean and Associate Professor of Education

### Faculty of Science

**Douglas H. Williamson**, B.Sc., Ph.D. (Aberdeen), Dean and Professor of Geology

## Faculty

**Ahiakpor, James C. W.**, B.Sc., M.Sc. (Ghana), M.A. (British Columbia), Ph.D. (Toronto), Associate Professor of Economics

**Amirkhalkhali, Saleh**, B.A. (Shiraz), M.A., Ph.D. (Dalhousie), Assistant 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 and Chairperson of the Department of Religious Studies

**Arya, Pyare Lal**, B.A., M.A., Ph.D. (Delhi), Associate 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), Assistant Professor of Sociology and Coordinator of Atlantic Canada Studies

**Bartholdy, Jan**, M.A. (Dalhousie), Lecturer in Finance/Management Science

**Bateman, D.**, B.B.A. (New Brunswick), M.B.A. (Dalhousie), C.A., Assistant Professor of Accounting

**Baydar, Vedat**, D. Econ. and Comm. Sc. (Istanbul), Associate Professor of Marketing

**Beis, Richard H.**, B.A. (Western Ontario), M.A., Ph.D. (Notre Dame), Professor of Philosophy

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

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

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

**Boyd, R. Gavin**, B.A. (Melbourne), Professor of Political Science

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

**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 and Chairperson of the Department 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), Associate 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

**Charles, Tony**, B.Sc. (Hon.) (Carleton), Ph.D. (British Columbia), Assistant Professor of Finance/Management Science

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

**Chew, Milton**, B.S. (Juniata College), M.S., Ph.D. (Carnegie Institute of Technology), Associate Professor of Finance/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), N.S.E.R.C. University Fellow in Biology

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

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

**Cosper, Ronald L.**, B.A. (Purdue), M.A. (Cornell), Ph.D. (Rutgers), Professor of Sociology

**Crowther, Roger H.**, B.A., M.A. (Cambridge), Professor of English

**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., Associate 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), Assistant Professor and Chairperson of the Department 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 Professor of Finance/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
- Dodds, J. Colin**, B.Sc. (Hull), M.A., Ph.D. (Sheffield), Professor and Chairperson of the Department of Finance/Management Science
- Dostal, Jaroslav**, Dip. Geol. (Prague), Ph.D. (McMaster), Associate Professor and Chairperson of the Department of Geology
- Dougherty, Frank P.**, B. Comm. (Sir George Williams), M.Sc. (Clarkson College of Technology), Ph.D. (Pennsylvania State), C.A., Professor and Chairperson of the Department of Accounting
- DuPuy, David L.**, A.B. (King's College, Tennessee), M.A. (Wesleyan), Ph.D. (Toronto), Associate Professor of Astronomy
- Duquette, Georges**, B.A. (Laurentian), B.Ed., M.Ed. (Ottawa), Ph.D. (State Univ. of N.Y. at Buffalo), Assistant Professor of Education.
- Eagles, D. Munroe**, B.A. (Honors) (Acadia), M.A. (Queen's), Lecturer in Political Science.
- Elkhazin, Izzy**, B.Sc. (Khartoum), B.A. (Hons), M.B.A. (Western Ontario), R.I.A., Associate 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), Associate 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
- Fillmore, Keith G.**, B. Sc. (Queen's), M.A. (Princeton), Ph.D. (British Columbia), Assistant Professor of Physics
- Finbow, Arthur S.**, B.Sc., M.A. (Dalhousie), Ph.D. (Washington), Associate Professor of Mathematics
- Finden, Walter**, B.Sc., M.Sc., Ph.D. (Waterloo), Associate Professor of Mathematics
- Fitzgerald, Patricia A.**, B.B.A. (St. Francis Xavier), M.A. (North Dakota), Ph.D. (Northern Colorado), Associate Professor of Management
- Flikeld, Karin**, B.A., M.A. (Besancon), Ph.D. (Sherbrooke), Assistant Professor of Modern Languages and Classics
- Fletcher, Dale**, B.Sc. (New Brunswick), M.B.A. (Dalhousie), Lecturer in Finance/Management Science
- Flynn, T. Edward**, B.A. (Memorial), M.A. (Dalhousie), Ph.D. (London), Associate Professor of English
- Gale, John R.**, B.A. (McGill), M.B.A. (Dalhousie), Associate Professor of Management and Director of MBA Program
- Ginsburg, Jack L.**, B.A. (Temple), Ph.D. (Rutgers), Professor of Chemistry
- Gorman, Barry**, B. Comm. (Saint Mary's), M.B.A. (Dalhousie), C.A., Assistant Professor of Accounting
- Gregory, Janet**, B.A. Sc. (Waterloo), M.Sc., B.Ed., Ph.D. (Dalhousie), Assistant Professor of Finance/Management Science
- Grennan, Wayne**, B. Eng. (Nova Scotia Technical College), B.A., M.A. (Dalhousie), D. Phil. (Oxford), Associate Professor of Philosophy
- Haigh, Elizabeth V.**, B.Sc., M.Sc. (Alberta), Ph.D. (Wisconsin), Professor of History
- Halebsky, Sandor**, B.A. (City College of New York), Ph.D. (Cornell), Professor of Sociology
- Hallett, George B.**, B.A., M.A. (Dalhousie), Associate Professor of English
- Hanrahan, Bette L.**, B.A., B.Ed., M.A. (Saint Mary's), Assistant Professor of Education
- Hartnell, B.L.**, B.Math., M.Math., Ph.D. (Waterloo), Associate Professor of Mathematics
- Harvey, Andrew S.**, B.A. (Maine), M.A., Ph.D. (Clark), Professor and Chairperson of the Department of Economics
- Haysom, John T.**, B.Sc. (London), Ph.D. (Cambridge), Professor of Education
- Herrick, Michael J.**, B.A., (College of Steubenville), M.A. (John Carroll), M.B.A. (Dalhousie), Ph.D. (Texas), Associate Professor of Education and Director, Canada/China Language and Cultural Program
- Heukaeufer, Margaretha**, Philosophicum (Friedrich Wilhelm), Erstes Staatsexamen (University Cologne), Zweites Staatsexamen (Aachen), Ph.D. (British Columbia), Assistant Professor of German
- Higgins, Donald J.**, B.A., (Queen's), M.A. (Victoria, N.Z.), Ph.D. (Carleton), Professor of Political Science
- Hill, Kenneth A.**, B.A. (California State College), M.A., Ph.D. (Alberta), Associate Professor of Psychology
- Howell, Colin D.**, B.A., M.A. (Dalhousie), Ph.D. (Cincinnati), Professor of History
- Jaquith, James R.**, B.A. (Mexico City College), M.A., Ph.D. (Indiana), Professor of Anthropology
- Jopling, Samuel H.**, B.Mech. Eng. (Georgia Institute of Technology), M.S., Ph.D. (Pennsylvania State), Associate Professor of Accounting
- Kabe, Dattatraya G.**, B.Sc., M.Sc. (Bombay), M.Sc. (Karnatak), Ph.D. (Wayne State), Professor of Mathematics
- Kapoor, Brij M.**, B.Sc., M.Sc., Ph.D. (Delhi), Professor of Biology
- Katz, Wendy**, B.A. (Skidmore College, N.Y.), M.A., Ph.D. (Dalhousie), Associate Professor of English
- Kellough, D. Gail**, B.A. (Hon.) (Winnipeg), M.A. (Manitoba), Lecturer in Sociology
- Kiang, Mo-Tak**, B.Sc., M.A., Ph.D. (Dalhousie), Professor of Mathematics
- Kiesekamp, Burkhard**, B.A. (Carleton), M.A., Ph.D. (Toronto), Associate Professor of History
- Kling, Nathan D.**, B.B.A., M.B.A., Ph.D. (Texas), Associate Professor and Chairperson of the Department of Marketing
- Konopasky, Robert J.**, M.A. (Western Ontario), B.A., Ph.D. (Windsor), Professor and Chairperson of the Department of Psychology

- Kruse, Robert L.**, B.A. (Pomona College), M.S., Ph.D. (California Institute of Technology), Professor of Mathematics
- Ladd, Timothy**, B.Sc., M.Sc. (Akron), Ph.D. (Calgary), Assistant Professor of Biology
- Landes, Ronald G.**, B.Sc. (Oregon), M.A., Ph.D. (York), Professor and Chairperson of the Department of Political Science
- Larsen, Michael J.**, B.A. (Saint Mary's), M.A. (Dalhousie), Ph.D. (Toronto), Associate Professor and Chairperson of the Department of English
- Lee, John**, B.A., M.A., Ph.D. (Toronto), Assistant Professor of History
- Lenzer, Irmgard I.**, B.A. (California), Ph.D. (Indiana), Professor of Psychology
- LePierres, Guy**, B.A., Lès L. (Rennes), Dip D'Etudes Sup. (Montpellier), CAPES (Rennes, Paris and Montpellier), Associate Professor of French
- Lonc, William, S.J.**, B.Sc. (Sir George Williams), Ph.L., Ph.D. (St. Louis), Professor of Physics
- MacDonald, Martha**, B.A. (Dalhousie), M.A., Ph.D., (Boston College), Associate Professor of Economics
- MacDonald, Roger A.**, B.A. (St. Dunstan's), M.A. (Dalhousie), Ph.D. (New Brunswick), Associate Professor of English
- MacKinnon, Kenneth A.**, B.Sc. (St. Dunstan's), M.A. (Dalhousie), Ph.D. (Toronto), Professor of English and Executive Director of the Gorsebrook Research Institute for Atlantic Canada Studies
- Mackriss, John**, B.L.S. (McGill), B.A., M.A. (Toronto), D.E.A. (Paris-Sorbonne), Associate Professor of French
- MacLeod, Kevin**, B.Sc. (St. Francis Xavier), M.Sc. (Technical University of Nova Scotia), Lecturer in Mathematics and Computing Science
- MacMillan, Michael R.**, B.A., B.Ed. (St. Francis Xavier), M.A. (Saint Mary's), Ph.D. (Alberta), Associate Professor of Education
- March, Peter**, B.A. (Dalhousie), Ph.D. (Bristol), Assistant Professor of Philosophy
- Marshall, Rowland C.**, B.A., M.A. (Western Ontario), Ph.D. (Ottawa), Associate Professor of Philosophy
- McBride, Edward J.**, B.S. (LeMoyné), M.A. (Catholic University of America), Associate Professor of Political Science
- McCalla, Robert J.**, B.A. (Western Ontario), Ph.D. (Hull), Associate Professor and Chairperson of the Department of Geography
- McGee, Harold F.**, B.A., M.A. (Florida State), Ph.D. (Southern Illinois), Professor of Anthropology
- McMullan, John**, B.A. (Hons.), M.A. (Sir George Williams), Ph.D. (London School of Economics and Political Science), Associate Professor of Sociology
- Mailer, Kathleen**, B.Sc. (Toronto), M.Sc. (St. Francis Xavier), Ph.D. (British Columbia), Associate Professor of Chemistry
- Mills, Wallace G.**, B.A., M.A. (Queen's), Ph.D. (California, Los Angeles), Associate Professor of History
- Millward, Hugh A.**, B.A. (Lanchester Polytechnic), M.A., Ph.D. (Western Ontario), Associate Professor of Geography
- Mitchell, George F.**, B.Sc. (McMaster), M.A., Ph.D. (Toronto), Professor and Chairperson of the Department of Astronomy
- Monahan, Arthur P.**, B.A., M.A., Ph.D. (Toronto), L.M.S. (Pontifical Institute of Medieval Studies, Toronto), Professor and Chairperson of the Department of Philosophy
- Muir, Paul**, B.Sc. (Saint Mary's), M.Sc., Ph.D. (Toronto), Assistant Professor of Mathematics
- Mukhopadhyay, Arun K.**, M.A. (Calcutta), M.A., Ph.D. (Brown), Associate Professor of Economics
- Murphy, Arthur**, B.A. (Dalhousie), M.A. (Dalhousie), Assistant Professor of French
- Murphy, Lawrence F.**, S.J., B.A. (Montreal), M.A. (Saint Mary's), M.A. (Toronto), Ph.D. (Marquette), Professor of Religious Studies
- Murty, Dangety S.**, M.A. (Madras), B.Sc., M.Sc., D.Sc. (Andhra), C.Eng., F.I.E.E., F.I.E.R.E., Professor and Chairperson of the Department of Physics
- Musial, Thomas J.**, B.A. (Notre Dame), M.S. (Wisconsin), Ph.D. (Notre Dame), Associate Professor of English
- Nauls, Donald J.**, B.A. (Honors), M.A. (Wilfrid Laurier), Lecturer in Political Science
- Okroku, Ishmael O.**, B.A. (Ghana), M.A., Ph.D. (Cornell), Associate Professor of Sociology
- O'Neill, Timothy J.**, B.A. (St. Francis Xavier), M.A. (British Columbia), Ph.D. (Duke), Associate Professor of Economics
- Overington, Michael A.**, B.A. (Clark), M.A., Ph.D. (Wisconsin), F.L.A., Professor of Sociology
- Parrott, Linda**, B.A. (Manitoba), M.A. (Western Michigan), Ph.D. (Michigan), Associate Professor of Psychology
- Pe-Piper, Georgina**, B.Sc. (Athens), Ph.D. (Cambridge), Associate Professor of Geology
- Pendse, Shripad**, B.A. (Knox College, Illinois), M.S. (Massachusetts Institute of Technology), Ph.D. (Stanford), Professor of Management
- Perkyns, Richard J.H.**, B.A., Ph.D. (London), Professor of English
- Perrier, David C.**, B.A. (Saint Mary's), M.A. (Dalhousie), Ph.D. (York), Associate Professor of Sociology
- Phillips, Francis R.**, Ph.D. (London), Associate Professor of Education
- Pigot, David D.**, B.A., M.A. (Dalhousie), Assistant Professor of English
- Pretty, Grace**, B.Sc. (Hons.), M.Sc. (Acadia), Ph.D. (Western Ontario), Assistant Professor of Psychology
- Qureshi, Zahoorul H.**, M.A. (Bombay), M.B.A. (California, Los Angeles), Associate Professor of Marketing
- Ralston, Helen**, R.S.C.J., B.A. (Newton College), M.A. (Boston College), Ph.D. (Carleton), Associate Professor of Sociology
- Rana, K.C.**, B.E.(Hons) (Punjab), Ph.D. (Waterloo), Assistant Professor of Finance/Management Science
- Reed, B. Cameron**, B.Sc. (Waterloo), M.Sc. (Queen's), Ph.D. (Waterloo), Assistant Professor of Physics
- Reid, John G.**, B.A. (Hons.) (Oxford), M.A. (Memorial), Ph.D. (New Brunswick), Associate Professor of History
- Ricketts, Peter J.**, B.A. (Hons) (Nottingham), Ph.D. (Southampton), Assistant Professor of Geography

## Academic Officers and Faculty

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**Robinson, Brian S.**, B.A. (Queen's, Belfast), M.A. (Alberta), Associate Professor of Geography

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 Geraldine Coll, Executive Secretary  
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 Murray Wilson, B.A., B.Ed. (Saint Mary's), Associate Registrar  
 Theresa Brennan, B.A. (Saint Mary's), Assistant to the Registrar

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 Candace A. Bryson, B.Comm. (Laurentian), Assistant Director of Residences (Residence Life)  
 Sam Scribner, Assistant Director of Residences (Residence Services)

**Senate Office**

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**Student Services**

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Lyn Andrews, B.A. (Saint Mary's), M.Sc. (Memorial), Counsellor

Bruna Caracristi, B.A., B.Ed. (Saint Mary's), Manager, Canada Employment Centre on Campus

J.R. Leighton Davis, B.F.A. (Nova Scotia College of Art and Design), Director / Curator, Art Gallery

Charlene Hall, R.N., Nurse

Judy Hudson, B.A. (Carleton), Financial Counsellor

David Leitch, B.A., B.Ed., B.S., M.A. (Dalhousie), Head of Counselling

Rev. John Mills, B.A. (St. Anthony's College), B.D. (Mary Immaculate Seminary), M.A. (Maryknoll Seminary), M.S. (Edu) (St. John's, N.Y.), Chaplain

Jane E. Reid, B.A. (Carleton), M.Ed. (Acadia), Counsellor



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## Section 2

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### **Admission**

### **Academic Regulations and Information**

### **Registration**

# Admission

Students seeking admission to any degree program, (except as noted below in 3, 4, and 6), undergraduate or graduate, at Saint Mary's University should address all enquiries, requests for application forms or correspondence to:

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

Telephone: (902) 420-5415

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### 1. Procedures for Admission to Undergraduate Programs

a. Completed application forms should reach the Admissions Office by 1 April for fall admission (1 August for January admission) in the case of non-Canadian applicants, and 1 August for all other students except for transfer students. 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. Provincial certificates or other accredited school certificates giving final grades or marks, plus a non-returnable processing fee of \$15.00 must accompany the application forms.

b. A confidential report form will be sent to the applicant with the application. It should be given to the high school principal or guidance officer, where appropriate, with a request that the completed form be mailed directly to the above address.

c. Applicants who have completed courses at another university or post-secondary educational institution must ask that institution to send an official transcript of the work done by the applicants to the above address. Failure to report all institutions attended may result in dismissal from the University.

d. (i) Students who previously had been registered at Saint Mary's University but were not in attendance during the preceding academic year or during a period of up to three 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 five years or longer, or who have been requested to withdraw must apply for re-admission to the Director of Admissions (see Academic Regulations).

e. 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 60 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 entering from Nova Scotia school system must have Grade XI with satisfactory grades in English and four other academically recognized subjects, as defined above, to enter a four year degree or five year honors program.

(a) Students intending to register in arts may be admitted to a four year general or five year honors degree, if they meet the requirements of English and four other completed courses in Grade XI with satisfactory grades.

(b) Students intending to register in commerce may be admitted to a five year general or five year honors degree, 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 to a four year general or major degree or a diploma program in engineering and a five year honors degree 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 to a three year general or four year honors degree, if they meet the requirements of English and four other completed courses in Grade XII with satisfactory grades.



(b) Students intending to register in commerce may be admitted to a four year general or a four year honors degree, 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 to a three year general or major degree or a diploma program in engineering and four year honors degree 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 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 university, or if the high school transcript is received after the last day for late registration.

**Note: Entrance requirements from Nova Scotia Grades XI and XII under the new coding system, effective 1 September 1982.**

The basic entrance requirements have not changed; however, because the new coding system allows for open category courses in Grades XI and XII, some modifications must be made. Effective 1 September 1982, 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 at the 431 or 331 level;
- (c) Division of Engineering — English 431, Math 431, Physics 431, Chemistry 431 plus one subject at either the 431 or 331 level;
- (d) Faculty of Commerce — English 431, Math 431, 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, 2

(ii) Students who do not meet the above requirements but who have been awarded a high school graduation certificate may be accepted into a four year degree program.

**d. Newfoundland**

Students who have completed Grade XII in the Newfoundland school system may be admitted to a three year degree program in arts and science or a four year degree program in commerce.

**e. 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: Grade XII diploma of the five year program. Students who have completed a Secondary School Honors Graduation Diploma (Grade XIII) will ordinarily be admitted with 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: Completion of a four year secondary school program may be considered for advanced standing.

**f. United States**

(i) Students who have graduated from high school with 12 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, a confidential evaluation from the school principal or counsellor, 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.

**g. Other Countries**

(i) Students must have completed four years of a North American high school system or the English or the Caribbean GCE at the Ordinary Level to be considered for admission. Pass 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.

(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 centers:

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.

#### **h. 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).

#### **i. 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 personally with the appropriate Dean (or the Dean's 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 hopes to enrol in a course or courses.

#### **3. Mature Admission**

a. To qualify for admission as mature students, applicants must be at least twenty-five years of age and must show, through education, work experience or in other ways, capability of successfully completing degree programs at Saint Mary's. Each mature applicant is considered on an individual basis. The Dean of the appropriate Faculty (or the Dean's designate) will determine the specific length of each mature student's program within the following guidelines (see 5-c below):

Arts — 15 to 20 credits  
Commerce — 20 to 25 credits  
Science — 15 to 20 credits  
Engineering — 16 to 18 credits

b. The application procedure for admission as mature students shall be as follows:

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

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

(ii) The completed application form should be sent together with the regular application fee of \$15.00, and, if possible, with an accredited school certificate giving the grades or marks attained during the last year of attendance.

(iii) Applicants who have completed courses at another university or post-secondary educational institution must ask that institution to send official transcripts of their work to the Director of Continuing Education.

(iv) Official transcripts from all institutions previously attended must be on file before the students' registrations will be considered official.

(v) Each applicant must arrange through the Director of Continuing Education an appointment for interview, if possible before the following dates:

First summer session — May 1  
Second summer session — June 15  
Fall semester — August 15  
Winter semester — December 1

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

#### **4. Procedures for Other Admission Categories**

##### **a. Admission as a Transfer Student**

Students who have been formally 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 as mature students may apply for admission as mature students through the Continuing Education Office, and will be required to complete a program of study within the range of credits established for mature students by the Faculty to which they are admitted.

##### **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 particular 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 a Non Degree Program (N.D.P.)**

(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 program 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 in one of the Faculties of the University.

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

(iii) Students who wish to study at Saint Mary's in a non degree program should apply through the office of the Director of Continuing Education. A separate application is required for each academic year or summer session in which the student is enrolled in this program.

**5. Length of Program of Study**

a. Students will be awarded advanced standing credit in conformity with the principles and procedures stated in academic regulation 20.

b. Students may earn up to five academic credits with the principles and procedures stated in academic regulation 22.

c. In the case of mature students, the Director of Continuing Education may make a written recommendation to the appropriate Dean concerning the students' education, work or other experience which may have a bearing on the required length of the students' programs of study. The appropriate Dean (or Dean's designate) will determine the specific number of credits that each mature student will be required to complete within the ranges established for that Faculty (see 3-a above). In determining the length of mature students' programs, the Dean will take into consideration the recommendations of the Director of Continuing Education, the requirements of the programs that the students wish to enter, and the official record of any previous formal education that the students may already have completed.

d. 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.

**6. Procedure for Admission to Graduate Programs**

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 applies and must be shown on all correspondence with the University as well as on all forms pertaining to registration. If after being accepted, a student opts not to register for the upcoming academic year, the I.D. number is no longer valid.

# Academic Regulations

The information, regulations, and guidelines contained in this section apply to all students at the University whether undergraduate or graduate. Additional regulations pertaining to the Masters' programs are delineated 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.	Grade	The letter indicating an instructor's evaluation of a student.
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.	Instructor	A member of faculty teaching either full or part time.
Admission	Acceptance of an applicant as a student.	Major	A subject or area of concentration.
Advanced Standing	Credit granted for work completed before admission to Saint Mary's University.	Non Degree Program (NDP)	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.
Audit	Attend a course without working for or expecting formal credit.	Prerequisite	A stated regulation which must be fulfilled prior to registration in a particular course.
Bursary	A monetary grant based on financial need.	Probation	A conditional status assigned to a student who has shown evidence of academic weakness.
Chairperson	Faculty member responsible for a department or area of study.	Program	An approved group of courses leading to a degree or diploma.
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	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.
Credit	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.	Registration	Enrolment of a student in a course, courses, or program, including the payment of fees.
Dean	Also called Dean of the Faculty; the chief academic administrator of a Faculty.	Satisfactory academic Standing (standard)	Maintaining a quality point average of at least 1.50.
Elective	A course not specifically required by a student's program of studies.	Scholarship	A monetary award based on academic achievement.
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.	Semester	A term or period of instruction corresponding to one half of the academic year; each semester lasts approximately fourteen weeks.
		Special Student	A student, working on a degree at another academic institution, who has a letter of permission to take a course or courses at Saint Mary's University.
		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
Atlantic Canada Studies	ACS
Biology	Bio
Business Administration	Bus
Chemistry	Che
Chinese	Chi
Classics	Cla
Commercial Law	Cml
Communication	Com
Computer Science	CSC
Criminology Certificate Program	CRM
Data Processing Program	DPM
Economics	Eco
Education	Edu
Egyptian	Egp
Engineering	Egn
English	Egl
English as a Second Language	ESL
Finance	Fin
French	Fre
General Business Studies	GBS
Geography	Gpy
Geology	Geo
German	Ger
Greek	Gre
Hebrew	Heb
History	His
Independent Study Program	ISP
International Development Studies	IDS
Irish Studies	IRS
Italian	Ita
Latin	Lat
Management	Mgt
Management Science	Msc
Marketing	Mkt
Mathematics	Mat
Personnel and Industrial Relations	PIR
Philosophy	Phi
Physics	Phy
Political Science	Pol
Psychology	Psy
Religious Studies	Rel
Sociology	Soc
Spanish	Spa

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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**

- 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 and in the Bachelor of Education program six full courses (or the equivalent) per semester constitute a normal full-time load. 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 considered to be part-time. During the same academic year it is possible for students to be full-time in one semester, part-time in another.
- 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. Forms to request a course overload are available in the Registrar's Office and, on completion, must be filed with the Registrar for processing.
- 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 the benefit of 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 delineated in I3-b for changing courses, 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 Early Registration.

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 make available to students in writing, within the time limits set down in I3-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 in a full course is given as shown below in equivalent grades and quality points (for half courses, half the number of quality points are awarded).

Grades	Quality Points	Percentage Equivalents*	Rating
A+	4.00		
A	4.00	80-100	Excellent
A-	3.67		
B+	3.33		
B	3.00	70- 79	Good
B-	2.67		
C+	2.33		
C	2.00	60- 69	Satisfactory
C-	1.50		
D	1.00	50- 59	Marginal Pass
F	.00	0- 39	Failure or withdrawal after deadline (see no. 16)

\*These percentage equivalents are provided solely to assist other institutions in interpreting letter grades. Students are advised that 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) AE  
 Authorized withdrawal from course W  
 (see No. 16-c)

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 four 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;
- (ii) graduate level courses, where 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 students' 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 students' 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 for Continuance

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 are found delineated in the Division of Engineering and pertain explicitly to that program.

(ii) To qualify for a Bachelor's degree in Education a quality point average of at least 2.00 is required. For this reason, performance in any individual course below the grade of C or a quality point average below 2.00 in any given semester is considered unsatisfactory.

(iii) To qualify for 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 in respect of those five courses;
- (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 Early Registration.

#### 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. Readmission 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 no longer 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 submission of mid-year and final grades to the Registrar will follow the time frame delineated herewith:

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 to students at the beginning of the second semester.

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.

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 in compliance with subsection c. above. 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 submit their case to the Committee on Academic Appeals. An appeal, however, 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, failing satisfaction, should also 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 of 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.

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 student 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 student's 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 with the Registrar by the dates stipulated in the University Calendar of Fees (see centrefold of this Calendar), and pay the graduation fee:

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.

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 in the fall, 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 on the students' official record card and hence appear on any academic transcript issued.

d. The University grants the following degrees:

Bachelor of Arts	B.A.
Bachelor of Science	B.Sc.
Bachelor of Commerce	B.Comm.
Bachelor 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	
Co-operative Education Certificate	
Criminology Certificate	

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 students must pay, 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.

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

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 exception to this is in the Diploma in Engineering program where the minimum number will be ten full courses (or the equivalent). 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.

c. No distinctions are awarded in the Bachelor of Education and Master's degree 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 while registered 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 Medal

This medal is awarded to the undergraduate with the highest cumulative quality point average.

#### 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

At the end of the academic year, full-time students whose quality point average indicates high academic achievement will have their names placed on the Dean's List by the Dean of the Faculty. 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. Placement on the Dean's List will be recorded on the students' transcript.

### 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 also 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 five working days, additional time may be needed at certain 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.

### 32. Sexual Harassment

Information about the University's policy on sexual harassment is available from the Office of the Academic Vice President.

# Registration

## 1. Procedures

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

## 2. Early Registration

Early 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 Early Registration by mail during the first two weeks of August.

It should be noted that Early Registration is an optional procedure only.

## 3. Regular Registration

The dates and times for regular 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. 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.

## 7. 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.

## 8. 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.

## 9. 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, 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. However, 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

# 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 only in Atlantic Canada Studies, in history and in 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.

All candidates for the Bachelor's degree are expected to be able to express themselves clearly, cogently, and with at least tolerable felicity 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 course 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.

## 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.

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 60 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 8 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 200.0 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, and International Development Studies (for details consult the Program Co-ordinator) are three 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 the 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 fulfilment 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.

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, economics, English, French, geography, history, 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 optional co-operative education programs in geography, sociology, and English. 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 require:
  - (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.

### Criminology Certificate Program

This program of degree courses is designed to provide broad theoretical and practical foundations for persons who deal in their daily work with problems of delinquency, criminal behaviour 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 and qualified persons. Students must be enrolled in a degree program at Saint Mary's University or have completed an undergraduate degree. Introductory Sociology (Soc 200.0) or relevant experience is a prerequisite for the program.

Students who are registered in a degree program at Saint Mary's may apply for the program by completing the application form available from the Registrar. The application must be approved by the Coordinator of the Criminology Certificate Program. The completed, approved form must be returned to the Registrar.

Students who have completed an undergraduate degree may apply for the program through the Office of the Director of Admissions. Applicants must submit a copy of their high school marks, a resume of relevant experience, and official transcripts from each university attended. Application forms are available from the Admissions Office. Students are encouraged to complete their application for admission by 30 June.

### Degree Program for Vocational School Teachers

1. Vocational teachers may be admitted to the Bachelor of Arts program if they have completed:
  - a. eight years trade training and experience,
  - b. grade XII or its equivalent,



- c. the three-summer program at the New Brunswick School or Institute of Technology,
- d. and three years successful teaching at a Vocational High School or Technical Institute.

2. 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.

3. Vocational teachers may proceed to the degrees of Bachelor of Education (Vocational) and Bachelor of Arts concurrently. The Degree of Bachelor of Education (Vocational) may be obtained by successfully completing at Saint Mary's University at least two courses in Education, and a Practicum to be selected in consultation with the Dean of Education.

## 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:

1. Students with a Bachelor's degree in ACS (or the equivalent) who have at least a 3.00 quality point average in the courses submitted in fulfilment of their major concentration(s) will be admitted to a qualifying program in order to prepare for admission to the graduate program in ACS.
2. The qualifying program consists of five full courses which are normally taken at the 400.0 or a higher level and will involve at least two disciplines. The selection of courses must be approved by the Graduate Coordinator of ACS in connection with a faculty advisor for the qualifying program who will be assigned to students upon admission.
3. Completion of the qualifying program with a quality point average of at least 3.00 will provide students with a satisfactory basis for admission to the graduate program in ACS.
4. Students are required to have completed the Atlantic Canada Seminar (ACS 400.0) and an honors degree or their equivalent(s) in the discipline selected as the area of basis for admission to the graduate level of the Master's program in ACS.
5. In lieu of the completion of the ACS 400.0 requirement, enrolment in this course or approval of equivalent interdisciplinary work may be used by holders of an honors degree as a basis for admission. However, ACS 400.0 cannot be taken as a substitute for other course requirements in the graduate program.
6. The ACS Graduate Studies Coordinator determines all matters of equivalency as a basis for admission. Whether students enter ACS graduate work from an honors program or from a qualifying one, and whether they engage in Atlantic Canada graduate studies on a full or part-time basis, the Coordinator will work with all 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. Where students are not yet enrolled in a qualifying program, the Coordinator will include the faculty advisor from that program in the process of selecting a supervisor. The thesis supervisor will be the Graduate Faculty Advisor for the duration of a given candidate's participation in the program.

7. 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.

8. 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.

9. 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.

10. 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

11. All candidates, as part of their four-course program, must complete ACS 600.0. 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 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, ethnics, and aesthetics.

# Faculty of Commerce

## General Information

The faculty of Commerce offers programs of study leading to the degrees of Bachelor of Commerce, Bachelor of Commerce (Honors) in Economics and Master of Business Administration. The purpose of these programs is to prepare students for meaningful careers in business and government.

The bachelor degree programs couple a broad educational foundation in English, mathematics and other basic arts and science subjects with the study of a common body of business and economic knowledge and the opportunity to attain an appropriate degree of specialized expertise in one or more of the major commerce functional areas. These areas are accounting, data processing, economics, finance, management, management science, marketing, personnel administration and industrial relations, and computer science and business administration.

Both the honors in Economics and the general bachelor degree programs are of the same duration and require the same total number of courses. A cumulative quality point average of B (3.00) is needed for admission to, and continuation in, the honors in Economics program. This program also requires completion of certain other specified courses including an honors project or thesis.

The Master of Business Administration program encompasses a common body of business and economic knowledge and advanced study in the following areas: accounting, economics, finance, management, management science and marketing.

## Requirements for the Degree of Bachelor of Commerce

The following requirements apply to all entering commerce students.

1. Bachelor of Commerce program consists of the equivalent of twenty full courses beyond Nova Scotia Grade X11 (or equivalent) or a total of twenty-five full courses (or equivalent) for those entering from Nova Scotia Grade X1 or otherwise not granted advanced standing.
2. 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.
3. During the regular academic year a full time student will normally take the equivalent of five full courses. (See academic regulation 1.)
4. Each candidate for the Bachelor of Commerce degree is required to successfully complete the courses listed below (credit value of each course is indicated in parenthesis after the course number). They are arranged by year as a guide to students in preparing their individual programs of study.
5. Students in the computer science and business administration major should refer to subsection j. for the recommended course sequence and all the program requirements for this major.

## 25.0 Course Program

**Qualifying Year** (First year of 25 credit program for students without advanced standing)

- Mat 113(1) Mathematics for Commerce students  
Egl 200(1) Introductory English (see note a. below); 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.  
Non commerce electives (3)

In addition to the above courses, students admitted to the 25.0 course program are required to complete the program below.

## 20.0 Course Program

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

- Msc 205 (½) Introduction to Quantitative Methods for Commerce I (see note b. below)  
Msc 206 (½) Introduction to Quantitative Methods for Commerce II (see note b. below)  
Mgt 281 (½) Principles of Management  
Msc 325 (½) Introduction to Computers  
Eco 201 (½) Principles of Economics: Micro  
Eco 202 (½) Principles of Economics: Macro  
Egl 200 (1) Introductory English (see note a. below); 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.  
Non commerce elective (1) (see note c. below)

## Sophomore Year

- Msc 207 (½) Introductory Statistics for Commerce  
Acc 241 (½) Introductory Accounting I  
Acc 242 (½) Introductory Accounting II  
Mkt 370 (½) Introduction to Marketing  
Mgt 382 (1) Organizational Behavior  
Cml 301 (½) Legal Aspects of Business — Part I  
Economics elective (1) (see note d. below)  
Com 293 (½) Managerial Communications  
or  
Egl 250 (½) Business English

## Junior Year

- Acc 348 (½) Planning and Control  
Fin 360 (½) Business Finance I  
Fin 361 (½) Business Finance II  
Free electives (1) (see note e. below)  
Courses as listed for major (2½) (see requirement 6).

## Senior Year

- Mgt 489 (½) Business Policy  
Courses as listed for major (4½) (see requirement 6).

## Notes:

- a. Egl 200.0 is required of all students, including those entering with advanced standing as a result of senior matriculation. Students on a 25 credit program should take Egl 200.0 in their qualifying year and substitute a non-commerce elective for Egl 200.0 in their freshman year.
- b. Nova Scotia Grade XII Mathematics (or equivalent) is a prerequisite for Msc 205 and 206. In the event that students have not received advanced standing for Grade XII Mathematics they are required to take Mat 113 as one of the non-commerce or free electives, prior to taking MSC 205.1(2) or MSC 206.1(2).
- c. All undergraduate commerce students are required to successfully complete at least three (3) elective courses, (or equivalent) offered outside of the Faculty of Commerce.

Non commerce courses taken in lieu of commerce courses cannot be counted as non-commerce electives.

d. Economics students must take Eco 300 (½) and 301 (½). Other commerce students may take one or both of these courses or any other two half courses in economics for which they have the necessary prerequisites, except Eco 317.1 (2) or 322.1 (2).

e. A free elective may be chosen from any Faculty.

6. Students are also required to complete a major in accounting, business administration, economics or computer science and business administration. Students wishing to apply for the computer science and business administration major should apply to the Dean of Commerce no later than the end of their freshman year. For other majors (i.e., accounting, business administration, and economics) students are expected to choose a major by the end of their sophomore year. At this time business administration majors are also expected to choose their program (data processing, finance, management, management science, marketing, personnel and industrial relations or general business studies). The junior and senior year requirements are listed below by-major and programs where applicable.

#### a. Accounting Major

##### Junior Year

Acc 323 (½) Information Systems I  
Acc 341 (½) Intermediate Financial Accounting I  
Acc 342 (½) Intermediate Financial Accounting II  
Acc 345 (½) Financial Accounting Theory  
Acc 346 (½) Introductory Cost Accounting

##### Senior Year

Acc 455 (½) Accounting Seminar  
Accounting elective (1) — see note below  
Non commerce electives (2)  
Free elective, 200 level or above (1)

Note: Msc 324 (½) may be used to partially satisfy this requirement.

#### b. Economics Major

##### Junior Year

Economics elective (½) (see note below)  
Economics elective 300 level or above (1)

Non commerce elective (1)

Note: One of Eco 306 (½), Eco 310 (½), Eco 312 (½), Eco 315 (½), or Eco 323 (½).

##### Senior Year

Eco 304 (½) or Eco 305 (½)  
Economics elective 300 level or above (1)  
Non commerce elective (1)  
Free electives (2)

#### c. Business Administration Major (Data Processing)

##### Junior Year

Acc 323 (½) Information System  
Msc 324 (½) The Use of COBOL in Data Processing  
Msc 331 (½) FORTRAN in Data Processing — see note below  
Non-commerce elective (1)

##### Senior Year

Mgt 483 (½) Interpersonal Behavior I or other Mgt elective approved by the Finance and Management Science chairperson  
Msc 424 (½) COBOL II

or

Msc 431 (½) FORTRAN II

Application area elective (½) — to be chosen from among the following courses: Acc 425, Mkt 378, Msc 316, Msc 317, Msc 322  
Msc 426 (½) Computer Configurations  
Msc 436 (½) Seminar in Data Processing Management  
Non-commerce elective (1)  
Free elective (1)

Note: With permission of the chairperson, CSC 226 and CSC 227 may be taken in lieu of Msc 331 and a half credit non-commerce elective.

#### d. Business Administration Major (Finance Program)

##### Junior Year

Commerce elective, 300 level or above (1)  
Non commerce elective (1)  
Free elective, 200 level or above (½)

##### Senior Year

Fin 463 (½) Financial Management  
Fin 464 (½) Corporation Finance  
Fin 466 (½) Investments  
Fin 467 (½) Portfolio Management  
Free electives, 200 level or above (1½)  
Non commerce elective (1)

#### e. Business Administration Major (Management Program)

##### Junior Year

Msc 316 (½) Management of Service Operations  
or  
Msc 317 (½) Management of Manufacturing Operations  
Accounting elective (½)  
Marketing elective (1)  
Commerce elective (½)

##### Senior Year

Mgt 385 (½) Personnel Management  
Mgt 386 (½) Industrial Relations  
Mgt 481 (½) Organization Theory Structure Process, Analysis and Design  
Finance elective (½)  
Non commerce elective (2)  
Free elective, 200 level of above (½)

#### f. Business Administration Major (Management Science Program)

##### Junior Year

Msc 301 (½) Operations Research — (see note (i) below)  
Msc 303 (½) Statistical Analysis for Business and Economics  
Msc 316 (½) Management of Service Operations  
or  
Msc 317 (½) Management of Manufacturing Operations  
Non commerce elective (1)

##### Senior Year

Free electives in a quantitative area (1½) (see note (ii) below)  
Commerce elective in a non-quantitative area (1)  
Non commerce elective(s) (1)  
Free elective(s), 200 level or above (1)

Note:

(i) Mat 445.0 may be taken in lieu of Msc 301.1(2) and (½) non commerce elective.

(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 (½) Consumer Behavior  
 Mkt 378 (½) Marketing Research  
 Marketing elective (½)  
 Non commerce elective (1)

**Senior Year**

Mkt 479 (½) Marketing Policy  
 Marketing electives (1)  
 Non commerce electives (1)  
 Free electives, 200 level or above (2)

**h. Business Administration (Personnel and Industrial Relations Program)****Junior Year**

Mgt 385 (½) Personnel Management  
 Mgt 386 (½) Industrial Relations  
 Eco 339 (½) Labor Economics  
 Eco 340 (½) Human Resources Economics  
 Free elective, 200 level or above (½) — see note below

**Senior Year**

Mgt 481 (½) Organization Theory, Structure, Process, Analysis and Design  
 Mgt 483 (½) Interpersonal Behavior I  
 Non commerce electives (2)  
 Free electives, 200 level or above (1½)

Note: If Eco 339 (½) and/or Eco 340 (½) were used to satisfy the required Economics electives in the sophomore year, the number of free electives is increased to (1) or (1½) as appropriate.

**i. Business Administration Major (General Business Studies)****Junior Year**

Commerce electives, 300 level or above (1½)  
 Non commerce elective (1)

**Senior Year**

Commerce electives, 300 level or above (1½)  
 Non commerce elective (1)  
 Free electives, 200 level or above (2)

**j. Computer Science and Business Administration**

(see note (i))

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

Eco 201 (½) Principles of Micro Economics  
 Eco 202 (½) Principles of Macro Economics  
 Egl 200 (1) Introductory 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 English Department.  
 Com 301 (½) Legal Aspects of Business — Part I  
 Mat 200 (1) Calculus I  
 CSC 226 (½) Introduction to Computer Programming I  
 CSC 227 (½) Introduction to Computer Programming II  
 Mgt 281 (½) Principles of Management

**Sophomore Year**

Acc 241 (½) Introductory Accounting I  
 Acc 242 (½) Introductory Accounting II  
 Economics elective (½) (see note (ii) below)  
 CSC 325 (1) Data Structures and Program Design  
 Mgt 382 (1) Organizational Behavior  
 Mkt 370 (½) Introduction to Marketing

Msc 207 (½) Introductory Statistics for Commerce  
 Msc 324 (½) The use of COBOL in Data Processing

**Junior Year**

Acc 348 (½) Planning and Control  
 Fin 360 (½) Business Finance I  
 Fin 361 (½) Business Finance II  
 Mat 320 (½) Linear Algebra I  
 Mat 321 (½) Linear Algebra II  
 CSC 326 (1) Computer Organization and Assembly Language Programming  
 Msc 301 (½) Operations Research  
 Free elective (½)  
 Com 293 (½) Managerial Communication  
 or  
 Egl 250 (½) Business English

**Senior Year**

Acc 323 (½) Management Information Systems I  
 Acc 425 (½) Management Information Systems II  
 Eco elective (½) See note (ii) below  
 CSC 461 (½) Advanced Topics in Computer Science I  
 CSC 462 (½) Advanced Topics in Computer Science II  
 Mgt 489 (½) Business Policy  
 Commerce elective (1)  
 Free elective (1)

**Notes:**

(i) Students already enrolled in the Commerce program who wish to major in Computer 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:**

- Minimum cumulative quality point average of 3.00 at the end of the sophomore year.
- 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:**

- To continue in the program and to graduate, students must maintain a minimum cumulative quality point average of 3.00.
- Students must accumulate 20 full course credits, or equivalent, beyond completion of Nova Scotia Grade XII, or equivalent. They must also complete all the normal requirements for the Bachelor of Commerce degree.
- Students must receive credit for not fewer than ten full courses or equivalent in business and economics of which eight must be at the 300 level or above. The chairperson of the Economics Department may permit the substitution of up to two courses from a related subject area as part of the ten courses required.
- In the courses presented to satisfy 2-c students must have a minimum quality point average of 3.00 with at least eight grades of B or higher and no grade lower than C (2.00).

**Specific Requirements for the 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 Bachelor of Commerce with Honors are contained elsewhere in this section. In addition to these general requirements, all candidates for graduation with honors in economics must comply with the following.

1. Students must satisfy the applicable requirements for a major in economics as outlined on the preceding pages.
2. The ten full courses or equivalent in economics presented for honors must include:
  - a. Eco 201.1(2), Eco 202.1(2), Eco(or Msc) 206.1(2), and 207.1(2);
  - b. one full credit (or equivalent) in microeconomic theory beyond the 200 level;
  - c. one full credit (or equivalent) in macroeconomic theory beyond the 200 level;
  - d. Eco 302.1(2), Eco 303.1(2) and Eco 309.1 (2) or equivalent credit (1½) from the Department of Mathematics and Computing Science with the approval of the chairperson of the Department of Economics.
  - e. an honors project, which is the equivalent of ½ credit, done under the supervision of a faculty member;
  - f. either Eco 306.1, Eco 312.1 or Eco 406.1(2) or another economics half course approved by the department chairperson;
  - g. one full economics credit at the 400 level to include either Eco 440.1(2) or Eco 441.1(2).
3. 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 area as part of the ten courses in economics presented for honors.
4. Commerce students doing honors in Economics are permitted to count one economic credit at the 300 level or higher as a non-commerce elective.

**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 Arts or Science, and a second degree in 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.

# Master of Business Administration

## 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 M.B.A. 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 M.B.A. 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;

## Registration Deposit

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

## Part-Time Basis

The program is available on a part-time basis for students wish to complete it in part, or whole, while remaining in full 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 summer sessions. Consequently, students may complete the program on a part-time basis within four years.

## Teaching Methodology

The program is neither discipline nor case oriented, but combines 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 program.

The faculty believes that management education is essential to the process of personal development which must be student-centered. 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 1

Both generalist and specialist management education, as well as 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 functional areas of management. It also shows the student 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

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 (2 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	½
Eco 501	½
Msc 506	½
Msc 507	½
Msc 521	½
Acc 540	½
Acc 548	½
Fin 561	½
Mkt 571	½
Mgt 584	1
	5 ½

#### Second Year (See Note below)

Course	Credits	Comments
Mgt 689	½	Required
MBA 691	½	Required
Acc 6xx	½	Acc elective
Fin 6xx	½	Fin elective
Mgt 6xx	½	Mgt elective
Mkt 6xx	½	Mkt elective
Msc 6xx	½	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 that 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 692.1 (.2)	Directed Study

##### Economics

Eco 690.1 (.2)	Seminar in Economics
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##### Finance

Fin 663.1 (.2)	Capital Budgeting and Cost of Capital
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 Management  
 Mgt 688.1 (.2) Social Issues in Business  
 Mgt 690.1 (.2) Seminar in Management  
 Mgt 692.1 (.2) Directed Study

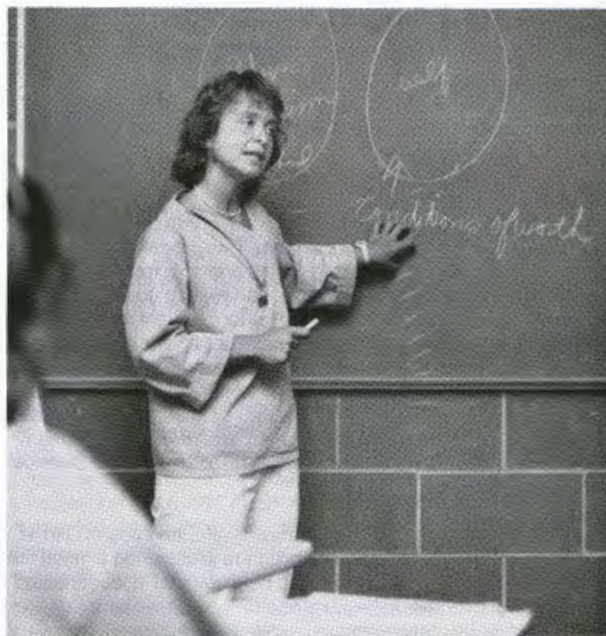
**Management Science**

- Misc 603.1 (.2) Statistical Applications in Management Science I  
 Misc 604.1 (.2) Statistical Applications in Management Science II  
 Misc 615.1 (.2) Operations Management  
 Misc 636.1 (.2) Data Processing Management  
 Misc 690.1 (.2) Seminar in Management Science  
 Misc 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 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; 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 sections 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. 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.
8. 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

9. 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 5 full courses more than the major programs, they normally require an additional year of study.

10. 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 7 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, 12 to 16 courses in the two major subjects (at least 6 in each subject);

c. four science courses not in the major subject in an honors program (2 in a combined honors) in addition to the required mathematics courses;

d. sufficient electives to complete the degree program.

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

12. 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 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 Computer 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	Second Semester
1. Mat 200.0*	Mat 200.0* (continued)
2. CSC 226.1*	CSC 227.2*
3. Mgt 281.1*	Msc 324.2*
4. Eco 201.1*	Eco 202.2*
5. A science elective	A science elective (continued)

##### Sophomore Year

First Semester	Second Semester
1. CSC 325.0*	CSC 325.0* (continued)
2. Mat 320.1*	Mat 321.2*
3. Acc 241.1*	Acc 242.2*
4. Mgt 382.0*	Mgt 382.0* (continued)
5. Egl 200.0	Egl 200.0 (continued)

##### Junior Year

First Semester	Second Semester
1. CSC 326.0*	CSC 326.0* (continued)
2. Fin 360.1*	Fin 361.2*
3. Msc 207.1*	Acc 348.2*
4. A science elective	A science elective (continued)

5. A course in the humanities

A course in the humanities (continued)

##### Senior Year

First Semester	Second Semester
1. CSC 461.1*	CSC 462.2*
2. Msc 301.1*	Acc 425.2*
3. Acc 323.1*	Mgt 489.1(.2)*
4. Mkt 370.1*	Elective
5. A course in the humanities	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.

## 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.) A student who is interested in entering the program should write the Chairman of the Department (enclosing an up-to-date transcript) and ask for an outline of the course program he 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)

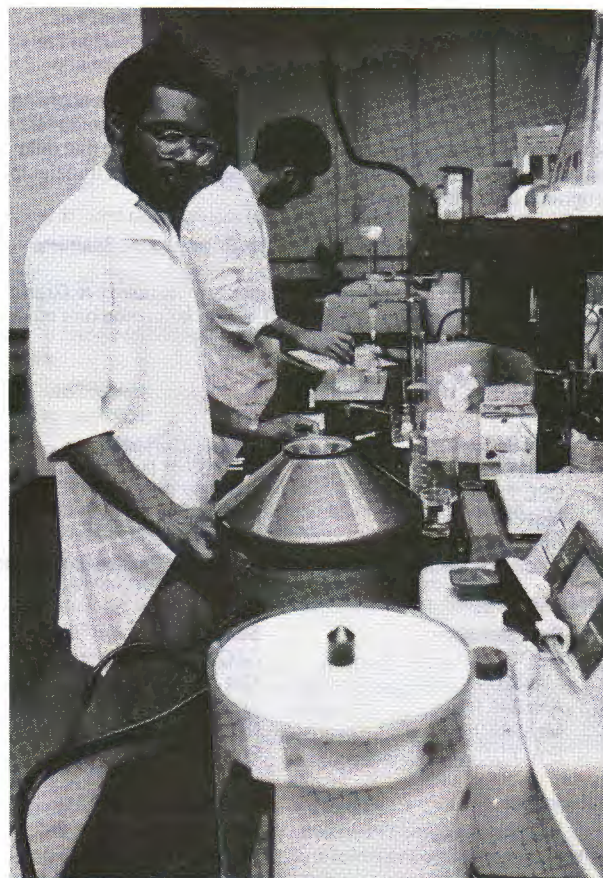
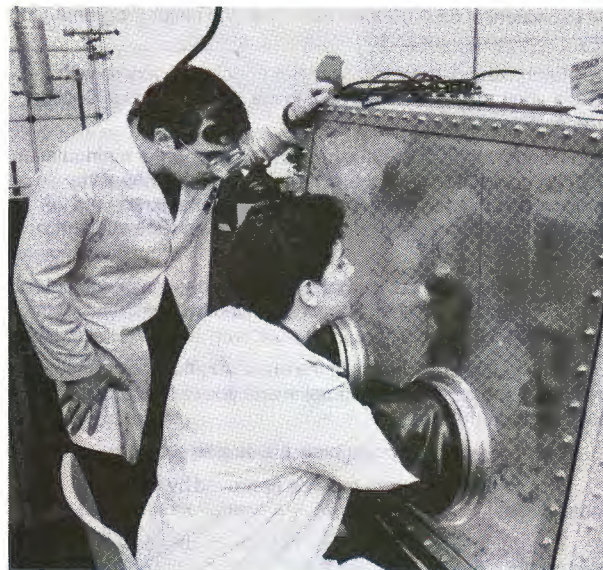
Psy 605.2 (Assessment of Work Behavior)

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.

Note: (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 200.0	Introductory 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.

#### 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 course 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 2.00.

The above regulations 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, Bi-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.

### Admission Requirements

1. Applicants must hold a Bachelor's degree from Saint Mary's University or from another recognized university of similar standing with at least a C average in either case.
2. 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 courses in the program selected in consultation with the Dean of Education or designate. The Faculty undertakes to offer each year at least one course that would be suitable for this purpose at a time when practising teachers can attend.
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 full credit courses approved by the Dean of Education or designate. Three must be in the Faculty of Arts, Commerce or Science and at the 300 or 400 level; and two in the Faculty of Education at the 500 level.
4. Vocational teachers may apply for admission to a program leading to the degree of Bachelor of Education (Vocational). Such teachers must hold the Bachelor of Arts degree or be enrolled in a Bachelor of Arts program. For admission see under Faculty of Arts; Degree Program for Vocational Teachers. After receiving the Bachelor of Arts degree, a candidate may receive the degree of Bachelor of Education (Vocational) by completing successfully at Saint Mary's University a practicum and at least two courses in Education to be selected in consultation with the Dean of Education.
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, and who are licensed as teachers by the Province of Nova Scotia, and who have acquired a Bachelor's degree, may apply for admission to the Bachelor of Education program. Candidates are required to undertake a program approved by Senate.
6. 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 to teaching.

### Application Procedure

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 should be made as soon as possible, to the Director of Admissions, Saint Mary's University. Applicants are advised that applications to the Faculty of Education are processed on a competitive basis. Applications received after 1 April may not be processed in time for registration in September.

### Requirements for the Degree of Bachelor of Education

#### 1. Regular 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)/593.1(2) Practice Teaching

The Bachelor of Education student chooses two from the following:

Edu 521.1 through 540.1 Content and Methods of Specific Fields

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 Handbook which outlines the program in greater detail.

#### 2. 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 this 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.

#### 3. 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.(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.

## Masters Degrees in Education (M.Ed. or M.A.)

### General Information

General requirements, which have been set by the University for admission to graduate studies and for the Master of Arts 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:

1. Candidates for admission are normally asked to appear for a personal interview with the Dean of Education or a designate. The interview usually occurs after the candidate's application form and supporting documents are on hand.
2. 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.

3. Course offerings include the following fields: philosophy of education, psychology of education, comparative education, curriculum and educational administration/supervision. The complete listing of courses is found in the Education section of this Calendar.

4. Two alternative Master's programs are offered.

- a. **M.Ed. Degree (Master of Education)**

The M.Ed. program provides a broad focus for the study of educational theory and practice. It also provides an opportunity for students so wishing to undertake a research project (one credit). A minimum of five university graduate credits is required. The courses are to be selected in consultation with the Dean of Education.

- b. **M.A. Degree (Master of Arts in Education)**

The program provides a specific focus through the thesis for the study of educational theory and practice. The thesis (two credits) is a study in depth of a particular topic of concern to the student. It can involve using qualitative and quantitative methodologies in theoretical or applied areas. A minimum of five university graduate credits is required. A program will consist of a thesis and a minimum of three graduate courses.

5. The Master's program is available on a full-time or part-time basis. A part-time student is strongly advised to take only one full credit course (or equivalent) during the regular academic year.

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

7. Application Procedures:

- a. See under Bachelor of Education.

- b. A student may register for an education graduate studies course for upgrading purposes.

# 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 Philosophy  
 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 fulfilment 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 average:

Aegrotat AE  
 Authorized withdrawal from a course W

### 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 should 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 \$23.25 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 Main 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 \$8.00 per copy. (Proof of payment in the form of a duplicate receipt must accompany additional copies).

e. **Departmental Regulations**

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

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## Special Programs

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### 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 courses 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 Catholic University of the West 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 a 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.

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## Pre-Professional Programs

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### Professional Schools

Students who intend to continue studies at professional schools, such as theology, law, medicine, architecture 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. Dalhousie University considers applications from students who have entered university with Nova Scotia Grade XII or its equivalent and who have completed at least 10 university courses, usually during two years of full-time attendance.

The following subjects are the minimum requirements of all Canadian medical schools: general biology, general chemistry,

organic chemistry, physics and English, each of an academic year's duration. Dalhousie University requires that five additional elective classes must include two or more in one subject. 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. 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 Ontario Veterinary College at the 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-Law**

Students applying for admission to the Law School are required to submit results of the Law Schools Admission Test 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-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.

organic chemistry, physics and English, each of an academic year's duration. Dalhousie University requires that five additional elective classes must include two or more in one subject. 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. 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**

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

#### **Pre-Law**

Students applying for admission to the Law School are required to submit results of the Law Schools Admission Test 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-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.

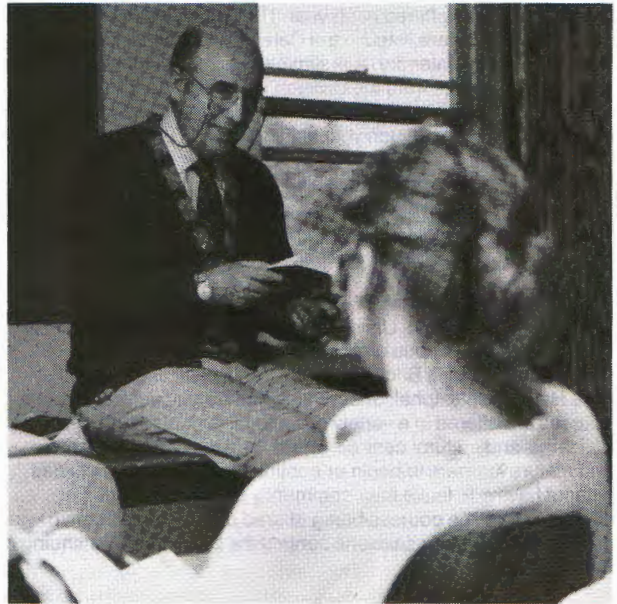
Students (from any Faculty) who are interested in applying to graduate or professional schools are urged to contact the Office of the Dean of Science for further information on the Counselling Committee. These students should also regularly check the Counselling Committee Bulletin Board located on the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

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## Section 4

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### Continuing Education



# Continuing Education

## Degree Programs

The Division of Continuing Education coordinates the planning and promotion of university programs for part-time and mature learners. This includes the 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

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.

### 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, Westphal, 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.

## Coordinated Programs with Professional Associations

### 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.

### a. Compulsory Courses

Mgt 281.1(2)	Introduction to Business Management
Mgt 382.0	Organizational Behavior
Mgt 385.1(2)	Personnel Management
Mgt 386.1(2)	Industrial Relations
Mgt 485.1(2)	Wage and Salary Administration
Mgt 486.1(2)	Personnel Staffing, Training and Development

### b. 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 125.1(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
Mgt 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
Msc 325.1(2)	Introduction to Computers

Application for the certificate program is to be made to the Division of Continuing Education.

### Certificate Program in Management and Administration

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:

### a. Canadian Institute of Management Core Courses

1-A	Management Principles and Practice
1-B	Managerial Process and Organizational Behaviour
2-A	Canadian Business Law
2-B	Managerial Accounting
3-A	Marketing Management
3-B	Optional Course*
4-A	Financial Management
4-B	Policy and Administration

### b. Saint Mary's University Equivalent Degree Courses

1-A	Mgt 281.1(2)	Introduction to Business Management
1-B	Mgt 382.0	Organizational Behavior
2-A	Cml 301.1(2)	Legal Aspects of Business — Part I
2-B	Acc 241.1(2)	Introductory Accounting — Part 1
3-A	Mkt 370.1(2)	Introduction to Marketing
3-B		Optional Course*
4-A	Fin 360.1(2)	Business Finance 1
4-B	Mgt 489.1(2)	Business Policy

\* Any optional Course (3-B) must be approved in advance by C.I.M.

For further information about the C.I.M. certificate program contact the Canadian Institute of Management, P.O. Box 162, Halifax, Nova Scotia, B3J 2M4. Phone 465-6245 or 435-4071. A descriptive brochure is available from the Division of Continuing Education.

#### 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:

#### a. Economics

- Eco 201.1(2) Principles of Economics: Micro
- and Eco 202.1(2) Principles of Economics: Macro

#### b. 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

#### c. Land Resource Studies

- Gpy 312.1(2) Urban Land Use
- or Eco 450.1(2) Urban Economics

#### d. Appraisal

- Fin 362.1(2) Principles of Real Estate and Appraisal

For further information about the programs offered by the Real Estate Institute contact the provincial course coordinator, Tom Davis, 7001 Mumford Rd., #3030 Halifax Shopping Centre, Halifax, N.S. B3L 4R3. Phone 455-2213.

#### Certificate Program in Arena Management

The Arena Managers Association of Nova Scotia, in cooperation with the Nova Scotia Department of Culture, Recreation and Fitness 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 3805, 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
- Society of Management Accountants

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.

#### 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

All courses described in this Calendar will not be offered in 1987-88. Students are advised to consult the academic timetable for those courses which will be taught in the 1987-88 academic year and the times when they will be offered.



# Accounting

Chairperson, Professor  
Associate Professors

F. Dougherty  
I. Elkhazin  
S. Jopling

Assistant Professors

D. Bateman, B. Emerson  
B. Gorman, G. Walsh  
N. Young

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 Provinces Association of Chartered Accountants, 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.

**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(½)	Information Systems 1
Acc 341(½)	Intermediate Financial Accounting I
Acc 342(½)	Intermediate Financial Accounting II
Acc 345(½)	Financial Accounting Theory
Acc 346(½)	Introductory Cost Accounting

## Senior Year

Acc 455(½)	Accounting Seminar
Accounting electives (1) (see note below)	
Non commerce electives (2)	
Free electives, 200 level or above (1)	

Note: Msc 324(½) 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 consent of instructor.

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).

Perceived 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).

Systems theory; development of computerized information systems; management implications of computers; planning, organizing and staffing for computer systems; controls in computerized systems.

Classes 3 hrs. a week. 1 semester.

**443.1 (.2) Advanced Financial Accounting I — Corporate Accounting**

Prerequisite: Acc 342.1(.2).

An advanced study of mergers and acquisitions, consolidated financial statements, branch accounting, and foreign operations.

Classes 3 hrs. a week. 1 semester.

**444.1 (.2) Advanced Financial Accounting II — Special Topics**

Prerequisite: Acc 342.1(.2).

An advanced study of special topics including partnerships, fiduciary accounting, fund accounting, receivership and liquidations, and price-level and current-value accounting.

Classes 3 hrs. a week. 1 semester.

**448.1 (.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.

**451.1 (.2) Taxation**

Prerequisite: Acc 342.1(.2) or Fin 361.1(.2).

An introductory study of the theory and procedures of taxation at all levels of government.

Classes 3 hrs. a week. 1 semester.

**451.1 (.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.

**The following courses are available only to students registered in the Master of Business Administration Program.**

**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 500 level courses or the consent of Director of the MBA program.

In this course students study the development and management of a computerized management information system. The course deals with information system design, cost-benefit analysis of MIS proposals, resource selection and the management of systems design and operations.

**641.1 (.2) Financial Reporting: Problems and Issues**

Prerequisite: completion of all 500 level course or the consent of Director of the MBA program.

This course focusses 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 500 level courses or the consent of Director of the MBA program.

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.

**692.1 (.2) Directed Study**

Prerequisite: completion of all 500 level courses and the consent of Director of the MBA Program, the 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.

Classes: Tutorial and independent study. 1 semester.



# Anthropology

Chairperson, Assistant Professor	S. Davis
Professors	J.R. Jaquith, H. McGee, Jr.
Associate Professor	P. Erickson
Assistant Professor	S. Walter

## Departmental Policy:

1. 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.

2. 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.

3. The program for majors must be approved by the student's departmental advisor who will be assigned at the time the major is declared.

4. 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.

5. Ant 200.0, 201.0, 220.0, 221.0, 270.0, 319.0, and 372.0 do not have prerequisites.

6. 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.

7. 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

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 (IDS 315.0) Peasant Society and Culture**

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 Abenaki, 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.

**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.

**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.

Note: This course may be taken at the 420-level with the following prerequisite: one course in philosophy or anthropology, or Rel 306.0.

**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.

**412.1 (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.

**412.1 (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.

**451.0 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

## Committee on Asian Studies

H. Schwind, Coordinator  
 J. Ahiaokpor  
 P. Bowlby  
 G. Boyd  
 A. Mukhopadhyay  
 H. Ralston  
 B. Robinson  
 S. DeMille Walter

Management  
 Economics  
 Religious Studies  
 Political Science  
 Economics  
 Sociology  
 Geography  
 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

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.

## 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 Development Economics  
 311.2 Issues in Economic Development  
 313.1 International Finance  
 314.2 International Trade  
 315.1 Comparative Economic Systems  
 323.1 Soviet-Type Economy

## Geography

340.0 Cultural Geography of China  
 409.0 The Birth of the City

## 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  
 326.1 (.2) The Hindu Religious Tradition  
 327.1 (.2) The Buddhist Religious Tradition

### 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

Chairperson, Professor  
Observatory Director  
Associate Professors

G. F. Mitchell  
G. A. Welch  
D. Turner, 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. Students interested in observing with the telescope (whether or not enrolled in an astronomy course) should contact the observatory.

## Undergraduate Courses and Physics/Astrophysics Option

The Astronomy 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 5b) for science majors. All five courses (Ast 202.0, 301.1, 302.2, 401.1, 402.2) may be taken as electives by physics majors to constitute an astrophysics option in the B.Sc. degree offered by the Department of Physics. In addition, the physics honors thesis (Phy 500.0) may be written in the area of astrophysics. Ast 201.0 is a non-mathematical course intended for the non-science student.

## 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 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.

## 202.0 Introduction to Astronomy

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 inter-stellar gas clouds in the galaxy.

Classes 3 hrs. a week. 1 semester.

## 401.1 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

#### 402.2 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. This 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-color 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

## Committee on Atlantic Canada Studies

L. G. Barrett, Coordinator	Sociology
J. Baker	English
C. J. Byrne	English
J. Chastard	Management
T. Charles	Finance and Management Science
L. O'Connell-Ruffman	Sociology
B. Cone	Biology
P. Connelly	Sociology
S. Davis	Anthropology
B. Day	Geography
P. Fitzgerald	Management
K. Flood	Modern Languages and Classics
D. Higgins	Political Science
C. Howell	History
L. E. Jabbra	Political Science
B. Kasekamp	History
M. MacDonald	Economics
K. MacKinnon	English
E. McCala	Geography
H. F. McGee	Anthropology
H. Millward	Geography
F. C. Miner	Management
J. Morrison	History
T. O'Neil	Economics
G. Pender	Sociology
H. Reardon	Sociology
B. Robinson	Geography
A. T. Seaman	English
K. R. Tudor	English
H. Weismeyer	Sociology
T. A. Whalen	English
M. White	Biology

Atlantic Canada Studies is an inter-disciplinary major 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 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. Saint Mary's is the only institution in Canada which offers this program.

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 six full course credits (or the equivalent) from the courses listed below. Three of these must be from different disciplines, and one must be the Atlantic Canada Seminar. 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.

Details concerning the Master of Arts in Atlantic Canada Studies degree are found in Section 3 of this Calendar.

## 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 labor, 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.

## 410.1 (.2) Regional Cultures of Atlantic Canada I

## 411.1 (.2) Regional Cultures of Atlantic Canada II

Prerequisite: one of ACS 300.0, ACS 400.0, Soc 332.0, His 340.0, or Gpy 210.0.

This course will focus on the culture of a specific region of Atlantic Canada. It will seek to identify the cultural traditions, the material culture, the ethnic, religious, historical and other influences on culture, and the rationale for culture policy planning, all in terms of a delimited geographic area such as: Newfoundland, Cape Breton, Prince Edward Island, Northern New Brunswick, and so on.

**420.1 (.2) Material Culture of Atlantic Canada I**

**421.1 (.2) Material Culture of Atlantic Canada II**

Prerequisite: one of ACS 300.0, ACS 400.0, His 340.0 or Egl 380.0.

This course will focus on the "essential" arts (art, architecture, and furnishings) of Atlantic Canada with a special emphasis on their domestic context. Elite, popular, and folk traditions will be analysed within an historical, ethnic, and geographic context in order to illustrate how men, women, families, and craftspeople of the region have striven to create a distinctive ambience out of their ideals of home and civic life. Examination of documentary evidence (literature, diaries, letters) will corroborate stylistic and other analyses. Field trips, slide presentations, and guest lecturers will provide supplementary access to materials.

**430.1 (.2) Studies in the Folk Culture of Atlantic Canada I**

**431.1 (.2) Studies in the Folk Culture of Atlantic Canada II**

Prerequisite: one of the ACS 300.0, ACS 400.0, Ant 300.0, Ant 315.0, Ant 321.0, Ant 300.1(.2), Ant332.1(.2) or Egl 335.0.

Selected areas of the folk culture of the Atlantic Provinces will be examined. While, initially, some attention will be paid to the problems of approach, and to theoretical and terminological distinctions, the course will largely consist of an analysis of a variety of areas of folk life, e.g., settlement and migration patterns, the forms of artistic expression and speech dialects, folklore, folk tales, the role of tradition and ethnicity, and the effects of urbanization and mass-media.

**440.1 (.2) Cultural Policy in Atlantic Canada I**

**441.1 (.2) Cultural Policy in Atlantic Canada II**

Prerequisite: any one of ACS 300.0, ACS 400.0, Soc 327.0, or Pol 307.0.

This course will seek to develop a rationale for general culture policy for Atlantic Canada and its sub-regions. It will also seek to define the problems of cultural policy planning for provincial governments of the region, for inter-governmental bodies, for inter-provincial non-governmental cultural institutions, for the volunteer sector in regional culture, and for regional operations of national cultural bodies. It will examine national, regional, municipal, and private funding for the arts and culture. It will raise the issue of the cultural consequences of economic dependency, recovery of affluence without cultural goals, and external influences, especially from Central Canada and the United States. Regional broadcasting, film, theatre, music, higher education, publishing, and arts organizations will be examined for their capacity to assert simultaneously both regional and qualitative priorities.

Students pursuing a major in Atlantic Canada Studies must select at least six full courses (or equivalent) from the following:

ACS 300.0	The Culture of Atlantic Canada
ACS 301.1	Selected Topics in Atlantic Canada
ACS 302.2	Selected Topics in Atlantic Canada
ACS 303.1 (.2)	Higher Education in Atlantic Canada
ACS 310.0	The Atlantic Fisheries

ACS 400.0	Atlantic Canada Studies Seminar
ACS 410.1 (.2)	Regional Cultures of Atlantic Canada I
ACS 411.1 (.2)	Regional Cultures of Atlantic Canada II
ACS 420.1 (.2)	Material Culture of Atlantic Canada I
ACS 421.1 (.2)	Material Culture of Atlantic Canada II
ACS 430.1 (.2)	Studies in the Folk Culture of Atlantic Canada I
ACS 431.1 (.2)	Studies in the Folk Culture of Atlantic Canada II
ACS 440.1 (.2)	Cultural Policy in Atlantic Canada I
ACS 441.1 (.2)	Cultural Policy in Atlantic Canada II
Ant 322.0	Native Peoples of Atlantic Canada
Bio 207.0	The Atlantic Fisheries
Eco 324.1	The Atlantic Economy
Eco 325.2	The Atlantic Economy Seminar
Eco 330.1	Regional Economics
Egl 300.1, 301.2, 302.1, 303.2	Selected Topics
Egl 335.0	Introduction to Folklore
Egl 380.0	Literature of Atlantic Canada
Fre 303.0	Acadian Culture and Society
Fre 304.0	Acadian Culture and Society
Geo 204.0	The Earth: Atlantic Canada Perspective
Gpy 384.1 (.2)	The Northwest Atlantic
Gpy 400.0	Regional Analysis and Development
His 320.0	Atlantic Provinces and New England
His 340.0	A History of the Atlantic Provinces
His 344.0	A History of Nova Scotia
His 345.0	Blacks and Other Minorities in Nova Scotia
His 560.0	History and Society: The Atlantic Provinces Seminar
Pol 307.0	Provincial Government and Politics
Pol 420.0	Urban Government and Politics
Soc 320.0	Women in Canadian Society
Soc 321.0	Canadian Society
Soc 327.0	Social Policy
Soc 332.0	Sociology of the Atlantic Region
Soc 420.0	Comparative Regional Development

## 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 Coordinator of program.

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 Coordinator of program.

An investigation into the ecology of the Atlantic Canada region and of the prospects for the rational use of natural resources and energy. Under the guidance of specialists and experts, students will be presented with a synthesis of scientific, technological, economic, political and sociological imperatives which bear upon the exploration of natural wealth in any society.

#### **640.0 Atlantic Canada Political Economy Seminar**

**Prerequisite:** enrolment in the Master of Arts in ACS or permission of Coordinator of program.

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 Coordinator of program.

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 Coordinator of program.

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

Chairperson, Associate Professor E. Unturbe — Rojo  
 Professors B. Kapoor, M. Wiles  
 Assistant Professor T. Ladd  
 NSERC, University Fellow D. K. Cone

The Biology Department offers programs to fulfill the requirements of the following degrees:

1. the general degree of Bachelor of Science with a concentration in biology,
2. the degree of Bachelor of Science with a major in biology and,
3. the 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 204.0; 205.0; 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 200.0
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 204.0
5. Bio 205.0

### Junior Year

1. Two courses from the following  
 Bio 302.0  
 Bio 305.0

Bio 307.1 & 308.2  
 Bio 309.0  
 Bio 310.0  
 Bio 317.0

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 305.0  
 Bio 307.1 & 308.2  
 Bio 309.0  
 Bio 310.0  
 Bio 317.0
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  
 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 200.0
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 204.0
5. Bio 205.0

### 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.  
 Bio 309.0
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, 403.1  
 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 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.

1. 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 411.1 & 412.2	
2. Bio 549.0
3. Two courses from the following:
 

Bio 501.0	Bio 554.0
Bio 550.0	Bio 555.0
Bio 552.0	
Bio 553.0	
4. 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****First Year**

1. Bio (111.0)
2. Che (101.0)
3. Mat (100.0)
4. Egl
5. Elective (Science or Arts)\*

**Second Year**

1. Che (201.0 or 202.0)
2. Bio (204.0)
3. Bio (205.0)
4. Mat (200.0)
5. Egl (200.0)

**Third Year**

1. Bio (307.1/308.2)
2. Bio 300.0 level, other than above
3. Che 341.0 (or 343.0 in special cases)
4. Che 331.0 (or 311.0)
5. Mat 300.0

**Fourth Year**

1. Bio (400.0 level)
2. Bio (400.0 level)
3. Che 311.0 (or 331.0)
4. Che 321.0
5. Che (one of 441.0, 411.0, or 442.0)

**Fifth Year**

1. Che 500.0 or Bio 590.0
2. Bio 549.0
3. One Chemistry or Biology course at 500 level

4. Two electives\* — one of which may be a chemistry or biology course.

\*One of the electives must be a humanities course.

**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 Principles of Biological Science**

Course designed for science students. A study of the physical, chemical and biological bases of the activities of living organisms. Emphasis will be on the modern approaches to biological sciences through a consideration of the following disciplines of biology: ecology, physiology, cytology, genetics, molecular biology, evolution and behavior.

**204.0 Botany**

Prerequisite: Bio 111.0.

A study of different plant groups: viruses, bacteria, fungi, algae, bryophytes, ferns, gymnosperms and angiosperms. Introduction to physiological processes in plants, including photosynthesis, transpiration, absorption, nutrition, enzymes, hormonal action and growth.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

**205.0 Zoology**

Prerequisite: Bio 111.0.

A systematic survey of the animal kingdom with emphasis on gross morphology and its relation to function. Phylogenetic relationships, the influence of physiological adaptation through the mechanisms of heredity, and the involvement of evolutionary processes in the diversity of modern animal life.

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

# Chemistry

Chairperson, Professor  
Professors

C. M. Elson  
W. A. Bridgeo, D. H. Davies  
J. Ginsburg, K. Vaughan  
J. C. O'C. Young  
K. Mailer  
M. Zaworotko

Associate Professor  
Assistant Professor

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 four of 412.1, 413.1, 421.1, 432.1, 433.1, 443.1, 441.1, 451.1, 452.1. 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 Che 201.0, 311.0, 321.0, 331.0, 341.0, 412.1, 413.1, 443.1, 444.1, 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.

Combined honors programs can be arranged and one suggested program is outlined in the Biology section of this Calendar.

Note: Students who fail the laboratory component of a course will fail the course.

## 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, Mat 300.0 (may be taken concurrently).

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

Prerequisites: 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, colorimetry. 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 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.

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.

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.

### 431.1 (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.

### 431.1 (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.

3 hrs. lecture and 3 hrs. lab. 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.

3 hrs. lecture and 3 hrs. lab. 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.

### 543.1 (2) Advanced Organic Spectroscopy

Prerequisite: Che 443.1(2) and 444.1(2).

An introduction to  $^{13}\text{C}$  nuclear magnetic resonance spectroscopy and the interpretation of second order  $^1\text{H}$  nuclear magnetic resonance spectra. Infrared spectroscopy, mass spectrometry, and ultra-violet spectrophotometry will also be applied to the problems of organic structural determination.

Classes 3 hrs. a week. 1 semester.

### 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 200.0
2. Mat 100
3. Che 101.0
4. A science elective

#### Sophomore Year

1. Che 201.0
2. Mat 200.0
3. A science elective (non-chemistry)
4. A course in the humanities

5. A course in the humanities
5. An elective

#### Junior Year

1. Two courses from:  
Che 311.0  
Che 321.0  
Che 331.0  
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 (non-chemistry)
4. An elective (non-chemistry)
5. A non-chemistry elective

### Scheme B: Science Degree with a Major in Chemistry

#### Freshman Year

1. Egl 200.0
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 413.1(2)  
Che 421.1(2)  
Che 432.1(2)  
Che 433.1(2)  
Che 443.1(2)  
Che 444.1(2)  
Che 451.1(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 (non-chemistry)
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

# Commercial Law

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Commercial Law courses are administered by the Department of Accounting.

## **201.1 (2) Legal Aspects of Business — Part I**

Prerequisite: Eco 201.1(2) and 202.1(2).

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.

## **202.1 (2) Legal Aspects of Business — Part II**

Prerequisite: Cml 301.1(2).

A further examination of some of the legal aspects of commerce; issues 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.

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# Communication

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This course is administered by the Department of Marketing.

## **281.1 (2) Managerial Communication**

Prerequisite: Mgt 281.1(2) and Egl 200.0.

This course is aimed at improving the student's ability to communicate effectively. The course prepares the student to write informative and persuasive memoranda, letters and reports. It helps the student to define the managerial role in the context of the intended audience and to choose appropriate content, format, and style. The course deals with oral communication to a limited extent.

Classes 3 hrs. a week. 1 semester.

Note: Students who have previously earned a credit for Egl 281.1(2) or Mgt 293.1(2) may not also earn a credit for Com 281.1(2) or vice versa.

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# Computer Science

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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

Chairperson, Professor  
Associate Professors

A.S. Harvey  
J.C. Ahlakpor, P.L. Arya  
A. Dar, E.J. Doak  
M. MacDonald  
A.K. Mukhopadhyay  
T. O'Neill  
S. Amirkhalkhali

Assistant Professor

## 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), 360.1(2), 430.1(2), 450.1(2)  
Comparative Systems, Eco 315.2(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)  
Labor, 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), 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 fifteen full courses, or equivalent, following Nova Scotia Grade XII. The latter requires a total 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 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:

- Mat 113.0 (Nova Scotia Grade XII Mathematics) or equivalent
- Egl 200.0 (Introductory English)
- One course in the humanities or a language

- One 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, that of taking one full course in mathematics beyond Mat 113.0.
- One course from the social sciences other than economics
- The following economics courses:
 

Eco 201 (½)	Principles of Economics: Micro
Eco 202 (½)	Principles of Economics: Macro
Eco 206 (½)	Introduction to Quantitative Methods for Economists II or
Msc 206 (½)	Introduction to Quantitative Methods for Commerce II
Eco 207 (½)	Introductory Statistics for Economics or
Msc 207 (½)	Introductory Statistics for Commerce
Eco 300 (½)	Intermediate Microeconomic Theory I
Eco 301 (½)	Intermediate Macroeconomic Theory I
Eco 304 (½)	Intermediate Microeconomic Theory II or
Eco 305 (½)	Intermediate Macroeconomic Theory II and one of:
	Eco 306 (½), Eco 310 (½), Eco 312 (½),
	Eco 315 (½), or Eco 323 (½)

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.

**Suggested sequence of courses leading to a B.Comm. with a major in economics, see Faculty of Commerce, Section 3.**

**Suggested courses leading to a B.A. with a major in Economics (assuming there is no advanced standing)**

### First Year

Mat 113.0

Social science other than economics (e.g. political science, anthropology, sociology, geography, psychology or history)

Elective

Elective

Elective

### Second Year

Eco 201.1(2) and 202.1(2)

Eco 206.1 and 207.1 (see note)

Egl 200.0

Elective

Elective

### Third Year

Eco 300.1 and 301.2

Eco elective

Mathematics or computers (see note)

Elective

Humanities or language (e.g. philosophy, religious studies, English, French)

### Fourth Year

Eco elective

Eco elective

**E23.1 (.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.

**E24.1 (.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.

**E25.1 (.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.

**E26.1 Introduction to Labor 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 markets.

Classes 3 hrs. a week. 1 semester.

**E26.2 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.

**E26.1 (.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: 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.

**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 1½ hrs. a week. Seminars 1½ 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.

**410.1 (.2)[IDS 410.1(.2)] Issues in Economic Development**

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.

**414.1 (.2) International Trade**

Prerequisite: Eco 300.1(.2).

An introduction to the theory of international trade: comparative advantage, modern refinements, gains from trade, empirical relevance of trade models, tariffs and protection, economic integration, trade and growth.

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.

**430.1 (.2) Regional Economics**

Prerequisite: Eco 301.1(.2) or permission of instructor if Eco 300.1(.2) has been completed.

Elective  
Elective  
Elective

Note: students taking Eco 205 (½) and Msc 325 (½) to satisfy requirement d. above, should take Eco 205 (½) and 206 (½) in the second year and Eco 207 (½) and Msc 325 (½) in the third year.

### 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 (1½) 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 ½ credit, done under the supervision of a faculty member
  - (vi) either Eco 306.1(.2), Eco 312.1(.2) or Eco 406.1(.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.

#### 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.

#### 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.

#### 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 Economics 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 302.1(.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.

**308.1 (.2) Introduction to Econometrics**

Prerequisite: Eco 207.1(.2); or 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.

**309.1 (.2) [IDS 310.1(.2)] Development Economics**

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.

**302.1 (.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.

**303.1 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, international banking, 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.

An examination of the theoretical basis of interregional growth and disparities, methods of regional analysis and evaluation of policies and programs affecting regions. Topics include the nature and measurement of regional disparities, regional growth theory, interregional trade and mobility theory, regional economic analysis and regional economic policy.

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.

#### **440.1 (.2) Advanced Microeconomics**

Prerequisite: Eco 300.1.

Treatment of the major topics in microeconomic theory at an advanced level. Topics will include the theory of the firm, consumer behavior and distribution theory. Other topics which could be covered at the discretion of the instructor may include: welfare economics, theories of capital and interest, game theory and decision-making models.

Classes 3 hrs. a week. 1 semester.

#### **441.1 (.2) Advanced Macroeconomic Theory**

Prerequisite: Eco 301.2.

Treatment of some major topics in macroeconomic theory at an advanced level. Topics may include welfare economics, static macroeconomic models, demand for and supply of money, theories of interest, inflation, economic growth and business cycles.

Classes 3 hrs. a week. 1 semester.

#### **450.1 (.2) Urban Economics**

Prerequisite: Eco 300.1(.2).

Economics of an urban economy: why it grows and how it copes with growth. Urban policies for transportation, housing, labor markets and public services are examined. Theories of location, city formation and urban spatial structure are examined.

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.

#### **490.1 (.2) Seminar in Economics**

Prerequisite: Eco 300.1(.2) and 301.1(.2).

This course deals with selected topics in economics. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructors.

#### **492.1 (.2) Directed Study**

Prerequisite: Eco 201.1(.2) and 202.1(.2) and consent of instructor.

Intended to supplement or provide an alternative to the regular economics 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.

#### **591.1 (.2) Honors Seminar and Project**

Prerequisite: admission to the honors program.

Students enrolled in the honors program are required to complete a project under the direction of a faculty member. This course is designed to enable the student to fulfill this requirement.

Classes and independent study. 1 semester.

**The following courses are available only to students registered in the Master of Business Administration Program.**

#### **500.1 (.2) Economics of the Enterprise**

An examination of the economic behavior of the consumer and the firm, including market demand and structure and the pricing and employment of factor inputs.

#### **501.1 (.2) Economics of Enterprise Environment**

The course studies the determinants of and changes in the level of national income, monetary and fiscal theory, and international trade and finance theory and policy.

#### **690.1 (.2) Seminar in Economics**

Prerequisite: all 500 level courses or consent of Director of the MBA program.

This course deals with selected topics in economics. It is offered when in sufficient demand, and specific topics covered may vary depending on the interests of students and instructors.

# Education

## Dean

## Professor

## Associate Professors

J. Haysom

B. E. Davis, F. Dockrill

M. Herrick, M. MacMillan

F. Phillips, D. Weeren

B. Hanrahan, G. Duquette

## Assistant 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

From 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.

### 505.0 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.

### 506.0 Analysis and Application of Educational Concepts

Concepts which identify selected aspects of good teaching will be defined 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 application of meaningful learning and human interaction in the teaching situation.

### 506.1 (.2) [Crossed-listed as Fre 510.1(.2)] Computer Assisted Language Learning

Content and Methods of Specific subjects 521.1 through 540.1 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 1½ hours a week, two semesters.

### 521.1 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 Science

Objectives, programs, methods in junior and senior high school science.

### 523.1 Mathematics

Objectives, programs, methods in junior and senior high school mathematics.

### 524.1 Second Language I

Principles and techniques of current methodology for teaching of French, and other modern languages.

### 530.1 Geography

Objectives, programs, methods in junior and senior high school geography.

### 531.1 Junior High School Social Studies

This section focuses on history and civics at the junior high level.

### 534.1 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 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.

### 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

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

Students are required to spend 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

Students are required to spend 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

Students are required to spend 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.

## Master of Arts in Education

All full courses are three hours a week, two semesters except where noted.

### 610.0 Thesis or Action Research

The thesis or action research study provides the student a unique opportunity to choose, design and complete a significant project in the field of education. Assistance in the design and completion of the project is provided in the form of a thesis advisor, a faculty member who works extensively with the student on a one-to-one basis, and in the form of a seminar introducing the student to those technical skills that are frequently used in thesis research.

These seminars meet jointly with course sessions of Edu 611.0. Credit for Edu 610.0 is given upon completion of the thesis or action research study.

Classes 1½ hrs. a week. 2 semesters.

### 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.

### 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 chargés 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 it exists and opportunities to share practical suggestions intended for classroom application.

### 627.0 Curriculum Development: Language for Learning

The aim of this course is to improve teaching and learning effectiveness by dealing with the basic English language interactions of teacher and students; by investigating the process and patterns of oral, written and nonverbal communication, by analyzing the theoretical literature supporting Language for Learning; by planning curricula for the improvement of language as a vehicle for learning in every classroom.

### 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.

### **634.0 Principles of Social Psychology and Education**

A seminar course concerned with those aspects of social psychology which are of particular interest to teachers and administrators. Discussion will focus on such topics as group behavior, leadership, conformity, person perception and attitudes. In addition some of the research findings in social psychology, as they apply to school and classroom, will be examined. Students will be given the opportunity to research areas of particular interest to them.

### **650.0 Comparative Education: Britain and the Commonwealth**

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.

### **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 labor unrest, national identity and regional disparity. Quebec independence and educational opportunities for Acadians, social stability and socio-economic disparity.

### **672.0 Innovations in Education**

A critical examination of selected innovations in education intended to develop in the teacher and school administrator an understanding of and appreciation for significant and promising practices which seem likely to affect the design of future educational 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 repertory 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 Dynamics of Curriculum Through Models of Teaching**

Prerequisite: professional teaching experience

An examination of key philosophical ideas that underpin curriculum will provide an initial survey of its possibilities for teachers. Several promising examples of creative development of curriculum will be analyzed and the successful principles that they embody will be used to devise new lesson and unit schemes.

### **686.0 Instructional Design Based on Models of Teaching**

Prerequisite: Edu 685.0 or equivalent.

Building on the exposure to model theory provided in Edu 685.0, this course aims to enhance instructional design through further examination of the theory and construction of a range of teaching models.

**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.

**690.1 (2) Individual Study**

Prerequisite: registration is only by permission of the professor and the Dean of Education.

The course provides an opportunity for a student to undertake special directed study in a disciplinary area or topic relevant to his 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. This individual study course may be taken more than once, if the syllabus is different. Meets by arrangements.



# Engineering

Director, Professor  
Associate Professors

D. N. Swingler  
W. P. Boyle  
V. Tarnawski  
D. B. Van Dyer

program-control input/output operations to the control of simple external devices. \*

## 201.1 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.

## 201.2 Design and Descriptive Geometry

Principles and applications of descriptive geometry. Application to problems such as roadway cut and fill, contour maps, design of mine 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.

## 201.0 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.

## 201.1 (.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, center of gravity, moments of inertia.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

## 201.1 (.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 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.

## 201.1 (.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 aim is to develop some familiarity with microprocessor architecture and physical hardware; to become proficient in assembler level programming; and to explore the application of

## 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 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.

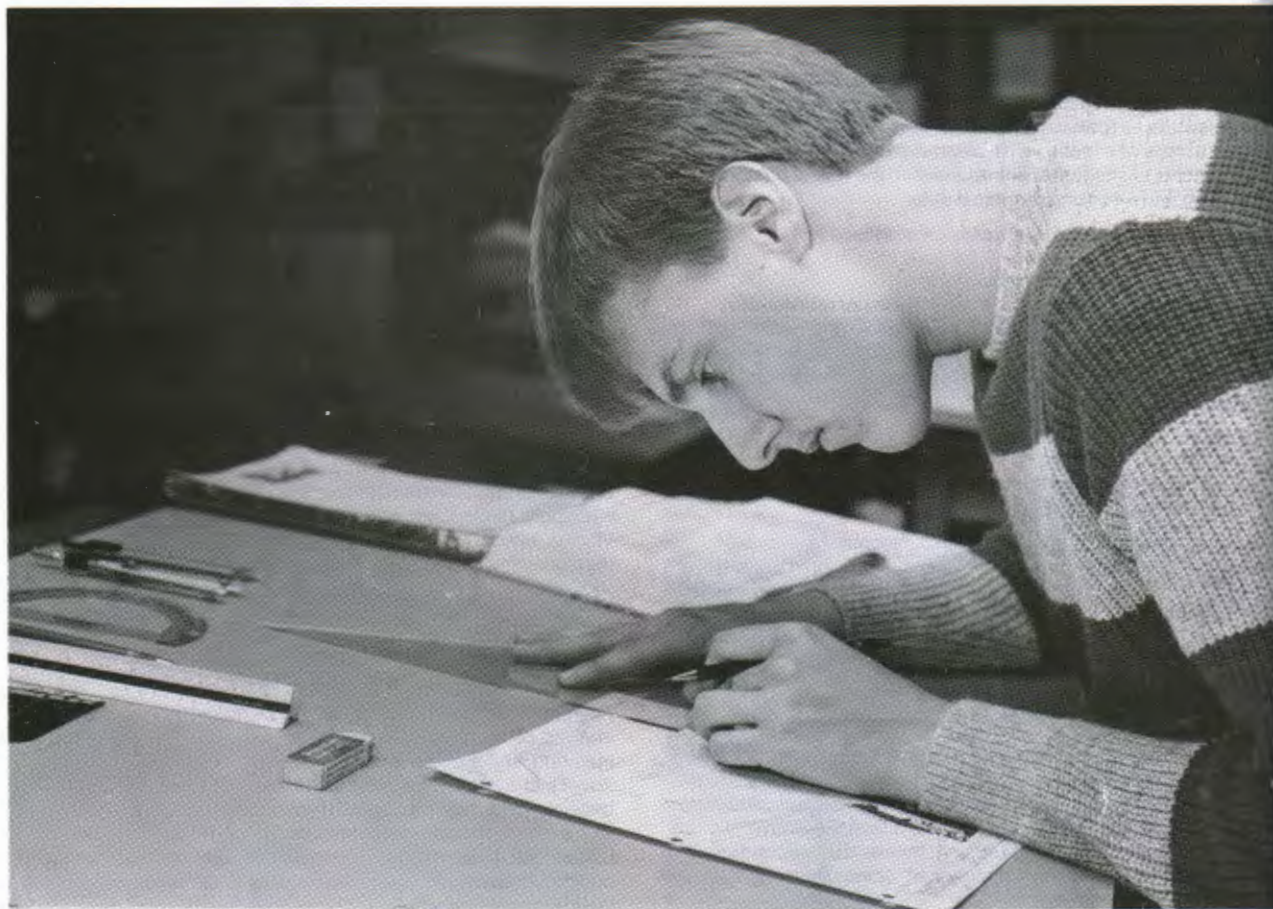
Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

**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

Chairperson, Associate Professor  
Professors

M.J. Larsen  
C.J. Byrne, R.H. Crowther  
K.A. MacKinnon  
R. Perkyns  
K.R. Tudor, T.A. Whalen  
J. Baker, L. Falk  
T.E. Flynn, G.B. Hallett  
W. Katz, R.A. MacDonald  
T. Musial, A.T. Seaman  
J.K. Snyder, G. Thomas  
D. Pigot

Associate Professors

Assistant Professor

## Introductory English

Egl 200.0, Introductory English, is designed to meet the various needs of students entering the University from Junior or Senior articulation. It satisfies the requirement for an English course stipulated by the Faculties of Arts, Commerce and Science. The course is 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 grade-point average of 2.50 in their previous work in English.

The standard prerequisites for entrance to courses above the level of English 200 are a pass in English 200 and a pass in the "Use of English Test," 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) a total of six English courses beyond Egl 200.0, at least four of which must be at the 400 (or a higher) level; (b) Egl 400.0; (c) they must select a faculty advisor in consultation with the department; and (d) they must select their courses in consultation with a departmental faculty advisor.

## The Minor Program

Students may declare a minor in English or Creative Writing.

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 must take eight English courses above the 200 level and meet the requirements of both programs.

## 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 enrollment 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.

1. Ten courses in English (they are listed here in recommended order):
  - a. Egl 200.0
  - b. 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.
  - c. Egl 400.0
  - d. Egl 408.0
  - e. Egl 406.0
  - f. Egl 404.0
  - g. Egl 412.0
  - h. Egl 416.0
  - i. Egl 418.0 or 420.0
  - j. Egl 440.0

2. Prospective honors students must consult with the department 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.

3. Candidates must maintain an average of B (3.00) in their English courses.

4. Candidates may substitute an honors thesis in lieu of one of the 400 level electives. The thesis topic must be approved by the student's honors advisor and a supervisor arranged by the time of registration. The thesis must be ready in its final typed form by the first Monday in April of a given academic year. It must be presented to a thesis board consisting of the thesis supervisor and two other members of the department selected by the student. Honors theses normally will not exceed 20,000 words. The supervisor will consult with colleagues on the student's thesis board in deciding the final grade and the procedure for its determination. The final thesis mark will be reported as the grade for Egl 500.0.

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.

## 200.0 Introductory English

A course designed to develop basic skills in writing and reading through the study of selected essays, fiction, drama and poetry. Grammar, usage, and punctuation form a significant part of the course.

## 250.1 (.2) Business English

Prerequisite: Egl 200.0.

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) may not earn another credit for Egl 250.1(2) and visa 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

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 visa 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 visa 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, Philippa Pearce, Louise Fitzhugh, and Russell Hoban.

#### 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 twentieth 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.

### 395.0 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.

### 397.0 Contemporary Canadian Literature

This course offers a study of Canadian prose and poetry of the period from 1965 until the present time.

#### 397.1 (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.

#### 397.2 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.

#### 397.1 (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.

#### 397.1 (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.

### 398.0 Literature of Atlantic Canada

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.

#### 398.1 (2) A Study of Short Fiction

This course is designed to introduce students to short fiction as well as to the analytical concepts necessary for its critical appreciation and judgement.

#### 398.1 (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 centers 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, centering 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.

**434.0 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.

**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 Gelinis 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.

**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.

**500.0 Honors Thesis**

Additional prerequisite: enrolment in final year of honors program  
See Section 4. of the Honors Program Requirements.

**550.0 Special Author**

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 requires some measure of independence and initiative in the student.

Tutorials by arrangement with supervisor. 2 semesters.

## English As A Second Language

Course descriptions for this subject area are found at the conclusion of the Modern Languages and Classics Department.

### Irish Studies

C. Byrne, Professor

Coordinator

#### 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  
 IRS 335.0 Introduction to Folklore  
 IRS 434.0 The Literature of Modern Ireland

#### 301.1 (.2) An Introduction to Modern Irish

This course provides a survey of the history of the Irish language and of Irish literature from their beginnings to the present.

#### 302.1 (.2) Modern Irish Language

Prerequisite: IRS 301.1(.2) or permission of instructor.

The emphasis in this course will be on the learning of Modern Irish in both its spoken and written forms at an elementary level.

#### 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 Ruah 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, focussing 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.

#### 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.

# Finance and Management Science

Chairperson, Professor  
Associate Professors

C. Dodds  
M. Chew, D. Connelly  
P. Dixon

Assistant Professors

T. Charles, J. Gregory  
K. Rana

Lecturers

D. Fletcher, J. Bartholdy

The Department of Finance and Management Science offers a variety of courses that may be classified as follows:

- those that deal directly with two of the primary functions of business — finance and production management; and
- 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 and capital budgeting.

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.

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.

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.

#### 689.1 (.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.

#### 692.1 (.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:

#### 691.1 (.2) Business Finance

Prerequisite: Eco 500 or 501, Msc 506 or 507, Acc 540 or 548; or consent of Director of the MBA program.

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.

#### 692.1 (.2) Financial Management

Prerequisite: all 500 level courses or consent of Director of the MBA program.

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.

#### 693.1 (.2) Corporate Financing

Prerequisite: Fin 663.1(.2) or equivalent.

The 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.

#### 694.1 (.2) Capital Markets

Prerequisite: all 500 level courses or consent of Director of the MBA Program.

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: all 500 level courses or consent of Director of the MBA Program.

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: all 500 level courses or consent of Director of the MBA program.

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 courses plus consent of Director of the MBA program, department 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 1½ hrs. a week. 1 semester.

#### 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 1½ hrs. a week. 1 semester.

#### 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 1½ hrs. a week. 1 semester.

**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: Bus 280.0 or Mgt 281.1(.2); and 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: Bus 280.0 or Mgt 281.1(.2); and 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 321.1(.2) or Msc 325.1(.2); and Msc 207.1(.2).

Management techniques using the computer to model real world systems; heavy reliance on statistical modeling 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 321.1(.2) or Msc 325.1(.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**

Prerequisite: Mat 113.0 or equivalent, and freshman standing or chairperson's consent.

An introduction to computers and the use of computers in a business environment. Topics covered include: computer concepts, flowcharting, computer logic and BASIC programming, data processing functions, and a study of computer systems.

Classes 3 hrs. and lab 3 hrs. a week. 1 semester.

Note:

(a) Credit for Mat 125.1(.2) towards a Bachelor of Commerce degree will be given only if taken prior to Msc 325.1(.2).

(b) No credit will be given for Msc 325.1(.2) if credit was previously granted for Msc 321.1(.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 424.1(.2) or 431.1(.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 321.1(.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.

**435.1 (.2) Seminar in Data Processing Management**

Prerequisite: second senior year or permission of instructor.

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.

**438.1 (.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.

**442.1 (.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.

**505.1 (.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.

**506.1 (.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 queueing 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: all 500 level courses or consent of Director of the MBA program.

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: all 500 level courses or consent of Director of the MBA program.

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: Msc 521.1(.2).

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: all 500 level courses or consent of Director of the MBA program.

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 plus consent of Director of the MBA program, 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.

# Calendar of Events

1987-88

1987

July

31 Friday

Last day for filing applications for degrees, diplomas, and certificates to be awarded in the Fall, 1987. Application forms are available in the Registrar's Office. (See academic regulation 25). Please note: the graduation fee does not have to be paid when the application is filed.

## Early Registration\*

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August

4 Tuesday

Registration for returning students in Faculty of Commerce only  
10:00 a.m.- 3:00 p.m.

5 Wednesday

Registration for returning students in Faculty of Arts; Science, including Engineering; and Education only  
10:00 a.m.- 3:00 p.m.

6 Thursday

Registration for new students in Faculty of Commerce only  
10:00 a.m.- 3:00 p.m.

7 Friday

Registration for new students in the Faculty of Arts; Science, including Engineering; and Education only  
10:00 a.m.- 3:00 p.m.

10 Monday

11 Tuesday

12 Wednesday

) Registration for all students irrespective of Faculty, Division, or admission bases  
) 2:00- 6:00 p.m.

\*Subject to confirmation by mid-Summer.

Note: The only time for registration for the Bachelor of Education program is during Early Registration or Late Registration.

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12 Wednesday

Last day for receipt of Early Registration forms by mail.  
Note: Students who are on academic probation are not eligible to register by mail.

## Registration and Payment of Fees

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September

9 Wednesday

Registration for part-time students, new and returning, in all faculties and admission bases; also Master's candidates both full and part-time in all faculties.  
6:00- 8:00 p.m.

10 Thursday

(a) Registration for returning undergraduate students, Faculty of Commerce only.  
9:00-11:30 a.m.

(b) Registration for new undergraduate students, Faculty of Commerce only.  
2:00- 4:00 p.m.

(c) Registration for part-time students, new and returning, (irrespective of Faculty, Division or admission bases) except those in graduate programs and in the Bachelor of Education program.  
6:00- 7:00 p.m.

11 Friday

(a) Registration for returning undergraduate students in the Faculties of Arts and Science (including Division of Engineering) only.  
9:00-11:30 a.m.

(b) Registration for new undergraduate students in the Faculties of Arts and Science (including Division of Engineering) only.  
2:00- 4:00 p.m.

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14 Monday

Classes begin.

## Late Registration

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14 Monday	Late Registration begins in the Multi-Purpose Room 9:30-11:00 a.m. 2:00- 4:00 p.m. 5:30- 6:30 p.m.
15 Tuesday	Late Registration continues in the Multi-Purpose Room 9:30-11:00 a.m. 2:00- 4:00 p.m. 5:30- 6:30 p.m.
16 Wednesday	Late Registration continues in the Multi-Purpose Room 9:30-11:00 a.m. 2:00- 4:00 p.m. 5:30- 6:30 p.m.
17 Thursday	Late Registration continues in the Multi-Purpose Room 9:30-11:00 a.m. 2:00- 4:00 p.m.
18 Friday	Late Registration concludes in the Multi-Purpose Room 9:30-11:00 a.m. 2:00- 4:00 p.m.

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18 Friday	Last day for filing applications for degrees, diplomas, and certificates to be awarded in May 1988. Application forms are available in the Registrar's Office. (See academic regulation 25). Please note: The graduation fee does not have to be paid when the application is filed.
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## Change of Registration

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(Course changes: adds, drops, section changes)

16 Wednesday	Change of registration (as noted above) begins in the Multi-Purpose Room. 11:00 a.m.- 2:00 p.m.
17 Thursday	Change of registration continues in the Multi-Purpose Room. 11:00 a.m.- 2:00 p.m.
18 Friday	Change of registration continues in the Multi-Purpose Room. 11:00 a.m.- 2:00 p.m.
21 Monday	Change of registration continues in the Multi-Purpose Room. 3:00- 6:00 p.m.
22 Tuesday	Change of registration concludes in the Multi-Purpose Room. This marks the last day for making any changes to registration with respect to full (i.e., designated .0) and first semester half courses (i.e., designated .1) 3:00- 6:00 p.m.

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23 Wednesday	Last day for final payment of first semester fees. (See Section 6 of the Calendar).
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## October

2 Monday	Thanksgiving Day. No classes.
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## November

1 Wednesday	Remembrance Day. No classes.
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3 Friday	Last day for withdrawing from a first semester course (i.e., designated .1). See academic regulation 16: "Withdrawing from a Course".
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## December

4 Friday	Last day of classes for first semester.
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8 Tuesday	Patronal Feast of the University. University holiday. No examinations are scheduled.
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1-19 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.
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<b>December</b>	
19 Saturday*	First semester ends.*
<b>1988</b>	
<b>January</b>	
4 Monday	Classes resume. Registration and change of registration for second semester courses (i.e., designated .2) begins in Multi-Purpose Room at the following times: 9:30-11:00 a.m. 1:30- 3:00 p.m. 5:00- 6:00 p.m.
4-15 Monday-Friday	Payment of fees for second semester.
5 Tuesday	Registration and change of registration for .2 courses continues in the Multi-Purpose Room at the following times: 9:30-11:00 a.m. 1:30- 3:00 p.m. 5:00- 6:00 p.m.
6 Wednesday	Late registration begins and changes of registration continues with respect to second semester courses in the Multi-Purpose Room at the following times: 9:30-11:00 a.m. 1:30- 3:00 p.m. 5:00- 6:00 p.m.
7 Thursday	Late registration and changes in registration for second semester courses continues in the Multi-Purpose Room at the following times: 9:30-11:00 a.m. 1:30- 3:00 p.m.
8 Friday	Final date for late registration and changes in registration with respect to second semester courses in the Multi-Purpose Room at the following times: 9:30-11:00 a.m. 1:30- 3:00 p.m.
15 Friday	(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 fees. (See Section 6 of the Calendar.)
<b>February</b>	
22-26	Winter Break
<b>March</b>	
10 Thursday	Last day for withdrawing from a second semester course (i.e., designated .2). (See academic regulation 16: "Withdrawing from a Course".)
31 Thursday	Last day of classes for second semester.
<b>April</b>	
1 Friday	Good Friday. No classes or examinations.
4 Monday	Easter Monday. No classes or examinations.
5-23 Tuesday-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 may be written on Saturday and in the evenings. Also the examination period may be extended.
23 Saturday*	Second semester ends.*
29 Friday	Last day to apply to graduate in absentia at Spring Convocation, 1988.
<b>May</b>	
9 Monday	Spring Convocation, 1988.
<b>July</b>	
29 Friday	Last day for filing application for degrees, diplomas, and certificates to be awarded in the Fall of 1988. Application forms are available in the Registrar's Office. (See academic regulation 25.) The graduation fee does not have to be paid when the application is filed.

\* 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 1988, the dates of the First Summer Session are 11 May to 23 June and for the Second Summer Session, 4 July to 16 August. Details are available in the Summer Sessions brochure published annually by the Division of Continuing Education.

# 1987

# 1988

SMTWTFS		SMTWTFS	
<b>JAN</b>	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	<b>JUL</b>	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
<b>FEB</b>	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	<b>AUG</b>	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
<b>MAR</b>	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	<b>SEPT</b>	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
<b>APR</b>	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	<b>OCT</b>	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
<b>MAY</b>	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	<b>NOV</b>	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
<b>JUN</b>	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	<b>DEC</b>	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

SMTWTFS		SMTWTFS	
<b>JAN</b>	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	<b>JUL</b>	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
<b>FEB</b>	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	<b>AUG</b>	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
<b>MAR</b>	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	<b>SEPT</b>	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
<b>APR</b>	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	<b>OCT</b>	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
<b>MAY</b>	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	<b>NOV</b>	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
<b>JUN</b>	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	<b>DEC</b>	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

# Geography

Chairperson, Associate Professor  
Professor  
Associate Professors  
Assistant Professor

R. McCalla  
D. Day  
H. Millward, B. Robinson  
P.J. Ricketts

## 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 three 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. A third major in coastal and marine studies has also been developed.

## Departmental Policy

Note: Students who have taken geography courses formerly offered, or presently cross-listed by anthropology, are not permitted to take for credit the same course under geography.

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) and 400.0; 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 the permission of the instructor.
6. Because of the many program changes to take effect in 1987-88, the following restrictions apply to students with previous credit in courses which have been dropped or altered:
  - a. Students with previous credit for Gpy 306.0 may not obtain further credit for Gpy 326.1(2) or Gpy 336.1(2).
  - b. Students with previous credit for Gpy 316.0 may not obtain further credit for Gpy 356.1(2).
  - c. Students with previous credit for Gpy 202.0 may not obtain further credit for Gpy 302.0.
  - d. Students with previous credit in Gpy 340.0, 403.0, 404.0 and 419.0 may not obtain further credit for the newly created half-credit courses in these subjects.

## 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).

Note: Students may not substitute half courses for courses which were previously full courses. See Department for details.

## 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 *Revised Regulations for Presentation, Submission and Marking of the Honours 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.

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 Coordinator.

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.

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

This 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. and lab 2 hrs. a week. 2 semesters.

### 202.0 The Geography of World Affairs

Prerequisite: at least 5 full credits at the 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.

### 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 (discussing 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 full credits at the 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) [Geo 373.1(.2)] Geomorphology

Prerequisite: Gpy 200.0 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.

#### 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 full credits at the 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 analyse 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.

**323.1 (.2) [Geo 374.1(.2)] Glacial and Periglacial Geomorphology**

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.

**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 full credits at the 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.

**334.1 (.2) Physical Geography of the Oceans**

Prerequisite: Gpy 200.0.

A study of the physical geography of the oceans. Topics include the origin, nature, and distribution of submarine relief features, a study of the principles and patterns of water circulation, and factors affecting the distribution and abundance of marine life.

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.

**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.

**344.1 (.2) Mankind and the Oceans: An Economic Geography**

Prerequisite: Gpy 200.0.

A geographical study of mankind's present and future economic uses of the sea. Topics include offshore oil and gas exploration and production; the exploitation of other mineral deposits; the generation of power from tides, waves, and currents; desalination; fish production and fish farming; seaborne trade; marine pollution; and land reclamation.

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 five full credits at the 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: Gpy 200.0.

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 leveling.

Classes 2 hrs. and lab 2 hrs. a week. 1 semester.

#### **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.

#### **400.0 Regional Analysis and Development**

Prerequisite: Gpy 321.1(.2) and 322.1(.2).

A study of the methods of examining spatial changes at the regional and subregional levels, the spatial dimensions of regional development problems and policies designed to alleviate them in North America, Europe and Communist bloc countries. The

foundation of regional development theory will be critically assessed in light of recent experience.

Classes 3 hrs. a week. 2 semesters.

#### **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.

#### **414.1 (.2) Coastal Management**

Prerequisite: Gpy 304.1(.2) and 334.1(.2) and one other full credit (or equivalent) 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.

#### **424.1 (.2) Fisheries Development**

Prerequisite: Gpy 334.1(.2) and either Gpy 344.1(.2), or 354.1(.2).

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.

#### **429.1 (.2) Urban Historical Geography**

Prerequisite: the equivalent of one full 300 level 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: Gpy 334.1(.2), and either Gpy 344.1(.2) or 354.1(.2).

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.

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.

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)]**

#### **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

Chairperson, Associate Professor J. Dostal  
 Professor Q. A. Siddiqui  
 Associate Professors G. Pe-Piper, J. Waldron

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 the 550.0 and one other credit in geology at the 500 level. Honors students are required to take sufficient additional geology courses for a minimum total of ten credits.

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.

## 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 paleomagnetism, 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.

## 311.0 Igneous and Metamorphic Petrology

Prerequisite: Geo 200.0 and 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 metamorphic rocks. Laboratory work involves hand specimen and microscopic investigation of igneous and metamorphic rocks.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

## 322.0 Paleontology

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 micropaleontology. Elementary vertebrate paleontology. Ecological interpretation.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### 325.1 (.2) [Gpy 325.1(.2)] Stratigraphy and Sedimentation

Prerequisite: If this course is taken as Geo 325.1(.2), the prerequisite is Geo 200.0; if taken as Gpy 325.1(.2), the prerequisite is 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 Micropaleontology

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) [Cross-listed as Gpy 313.1(.2)] Geomorphology

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.

### 374.1 (.2) [Cross-listed as Gpy 323.1(.2)] Glacial and Periglacial Geomorphology

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.

### 413.1 (.2) Structural Geology

Prerequisite: Geo 200.0.

Mechanical behaviour 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 process 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) Micropaleontology 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) [Gpy 426.1(.2)] Sedimentology**

Prerequisite: If this course is taken as Geo 465.1(.2), the prerequisite is Geo 325.1(.2), if taken as Gpy 465.1(.2), the prerequisite is 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.

**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.

**518.1 (.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.

# History

Chairperson, Associate Professor Professors	R.H. Cameron D. O. Carrigan, E. Haigh C. Howell
Associate Professors	R. Bollini B. Kieseckamp W. Mills, J. Reid R. Twomey, G.F.W. Young
Assistant Professor	J. Lee

## Departmental Policy

To obtain 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 normally have at least one university course in history, though it need not necessarily be in the same area of the discipline. 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.

## 202.0 Values and Civilization

This course is cross-cultural in character and will place emphasis on the impact of the Judaic, Greek and Christian value systems on the development of free institutions in the west as compared and contrasted with the corresponding impact of Confucian values on Chinese institutions. The object of the course is to provide an historical perspective on contemporary problems relating to human values.

## 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.

## 211.0 History of Science

This course will cover the major innovations and developments in science from the ancient Babylonian and Egyptian civilizations to the present century. Emphasis will be placed on the interaction between any society and the science and technology it develops.

## 212.0 History of Russia and the U.S.S.R.

An introductory survey beginning with the establishment of Kievan Rus and ending with a glance at Soviet society in the 20th 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 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, labor and agriculture, and the impact of industrialism on liberal democratic thought and culture.

### **270.0 (.2) Latin America: Colonial Period**

A survey of the history of Latin America during the colonial period. Students will consider the pre-Columbian Amerindian civilizations, the Iberian background, the era of exploration and discovery, the emergence and evolution of colonial society, and the coming of the Enlightenment in the 18th century.

Note: Students who have received credit for His 210.0 may not enrol in this course.

### **271.1 (.2) Latin America: National Period**

A survey of the history of Latin America during the national period. Students will consider the movement for independence formation of the several Latin American republics in the 19th century, their political and economic development, and the political and social revolutions of the 20th century.

Note: Students who have received credit for His 210.0 may not enrol in this course.

### **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 (601.0) 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**

Particular emphasis will be placed on the history of France, the 1848 revolution, the unification of Italy and Germany, and the events leading to World Wars I and II.

### **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?

### **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 colors 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, focussing on social, institutional and cultural developments. Emphasis will be on the traditional aspects, but the transformation of Japanese society since the late 19th century will also be explored.

### **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 (635.0) 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.

### **336.0 History of Scotland, 1560-1980**

This course will examine the history of Scotland from the Reformation of the 16th century up until the nationalist debates of the 1970s. Emphasis will be placed on political, economic and cultural developments. The evolution of the concept of Scottish nationhood will be explored as a general theme.

### **337.0 (637.0) Russia in Revolution**

This course will begin with the Decembrist revolt of 1825 and end at the time of Lenin's death when Stalin's rise to absolute power was beginning. It will deal with the social, political and intellectual dissent which swept 19th century Russia in response to autocratic intransigence and finally culminated in the Bolshevik seizure of power. Some primary sources, including a few relevant novels, will be read in addition to secondary materials.

### **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 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.

### **346.0 (646.0) History of Native Peoples in Canada**

This course will examine the history of the Indian and Inuit peoples of Canada, focussing especially on social, economic, and cultural developments. In the early part of the course, attention will be given to aboriginal native societies, and to the consequences for Native Peoples of European colonization and westward expansion. This will be followed by a detailed examination of the relationship between culture and environment in each of the major regions of the country. The course will conclude by considering the more recent history of Native Peoples in Canada, up to and including the development of claims to self-government in the 1970s and 1980s.

### **347.0 (647.0) Blacks in Canada: 1628 to Present**

A course dealing with Black history in Canada with special reference to Nova Scotia from 1628 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 end of the Ancient 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) [692.1(.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 (665.0) The History of Religion and Civil Life in Canada**

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.

**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) (IDS 385.0) The Third World Since 1500**

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 1980's.

**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 relationship 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 Cromwell's dictatorship.

**502.0 Images and European History**

Since its beginning, pictures have accompanied Western cultural development as illustration and vindication. This is a course about pictures and what can be pictured. Students will draw on what is already familiar to them in the light of commentators ranging from St. Augustine through Vasari and Constable to the photographers of the Farm Security Administration.

**508.0 Knowledge, Values and Freedom**

Prerequisite: a course in history, philosophy or religious studies, or permission of instructor.

An inter-disciplinary seminar which will explore the connection between knowledge and values in varying historical and cultural

contexts as well as the impact of Eastern and Western value systems on the development of free institutions. Students will prepare papers under the guidance of specialists in the given field who will attend the meeting of the seminar at which the paper is presented.

#### **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 Historiography**

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.

#### **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 centered 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

## Committee on International Development Studies

H. Veltmeyer, Coordinator

J. Ahlakpor

G. Barrett

G. Boyd

J. Chamard

T. Charles

P. Connelly

L. Christiansen-Ruffman

S. Halebsky

A. Harvey

J. Jabbra

J. Jaquith

J. Lee

J. Morrison

A. Mukhopadhyay

I. Okraku

H. Ralston

H. Schwind

G. Schuyler

Sociology

Economics

Sociology

Political Science

Management

Finance/Management

Science

Sociology

Sociology

Sociology

Economics

Political Science

Anthropology

History

History

Economics

Sociology

Sociology

Management

International Education

Centre

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 also apply to a program in International Development Studies:

a. appropriate first year (200 level) courses, including as per Faculty of Arts regulation 3-d two of the following social science electives: Ant 200.0, Eco 201.1(2)/Eco 202.1(2), Pol 200.0, and Soc 200.0.

b. the equivalent of six full-year courses approved for the program, of which

(i) two must be IDS 300.0 and IDS 400.0;

(ii) the remainder must involve at least two established disciplines within International Development Studies;

(iii) five must be at the 300 level or above, with at least one seminar at the 400 level exclusive of IDS 400.0.

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

a. three must be IDS 300.0, 400.0 and 500.0;

b. a minimum of two courses must be taken in at least two different established disciplines within International Development Studies;

c. eight must be at the 300.0 level or above, with at least one seminar at the 400 level exclusive of IDS 400.0;

d. courses must be approved by a program advisor or the coordinator.

**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
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
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### Economics

*310.1(2)	Development Economics
*311.1(2)	Issues in Economic Development
313.1(2)	International Finance
315.1(2)	Comparative Economic Systems
323.1(2)	Soviet-Type Economies
414.1(2)	International Trade
430.1(2)	Regional Economics

### 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
342.0	China in Revolution 1840 to Present
*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
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### Political Science

305.0	International Relations
316.0	African Government and Politics
322.1(2)	Politics of International Trade
327.0	Government and Politics in the Middle East
*340.0	*The Politics of the Developing Areas
341.0	Government and Politics in East Asia
418.1	International Law
553.0	International Studies Seminar

**Sociology**

- 319.0 Reform and Revolution in Latin America
- 331.1(.2) Modernization and Aging
- 333.0 Social Movements
- 334.0 Studies in Selected Societies and Cultures
- 380.0 Third World Urbanization
- 385.1 Problems of Development
- 386.2 Sociology of Developing Societies
- 403.0 Revolution and Change: A Case Study — Cuba
- 417.0 Religious Movements
- 420.0 Comparative Regional Development
- 425.0 Corporate Power and the World Economy

**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.

**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.

**500.0 Honors Essay in Development Studies**

Prerequisite: IDS 400.0.



# Management

Chairperson, Associate Professor H. Schwind  
 Professors J. Chamard, S.G. Pendse  
 Associate Professors G.A. Badawi, P. Fitzgerald  
 J. Gale, H. Das

The Department of Management offers two programs to business administration majors: Management as well as Personnel 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.

## Personnel and Industrial Program

### Junior Year

Mgt 385(½) Personnel Management  
 Mgt 386(½) Industrial Relations  
 Eco 339(½) Labor Economics  
 Eco 340(½) Human Resources Economics  
 Free elective, 200 level or above (½) — (see note above)

### Senior Year

Mgt 481(½) Organization Theory: Structure, Process, Analysis and Design  
 Mgt 483(½) Interpersonal Behavior I  
 Non-Commerce electives (2)  
 Free electives, 200 level or above (1½)

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 1½ as appropriate.

## Management Program

### Junior Year

Msc 317(½) Introduction to Operations Management  
 Accounting elective (½)  
 Marketing elective (1)  
 Commerce elective (½)

### Senior Year

Mgt 385(½) Personnel Management  
 Mgt 386(½) Industrial Relations  
 Mgt 481(½) Organization Theory: Structure, Process, Analysis and Design  
 Finance elective (½)  
 Non-Commerce electives (2)  
 Free elective, 200 level or above (½)

### 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) Personnel Management

Prerequisite: Mgt 281.1 (.2) and 382.0.

A study of the conceptual and practical aspects of the personnel 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

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 1**

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 manpower 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) Entrepreneurship: Practice and Problems**

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, 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 Mgt, Fin, Mkt, Msc or Acc.

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 department 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 response 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.

#### **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.**

#### **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: all 500 level courses or consent of Director of the MBA program.

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 Director of the MBA program.

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: all 500 level courses or consent of Director of the MBA program.

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: all 500 level courses or consent of Director of the MBA program.

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) Personnel Administration**

Prerequisite: all 500 level courses or consent of Director of the MBA program.

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: all 500 level courses or consent of Director of the MBA program.

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 Management**

Prerequisite: all 500 level courses or consent of Director of the MBA program.

This half course stimulates students to identify, evaluate and plan for a small business opportunity in Atlantic Canada (or elsewhere)

#### **688.1 (.2) Social Issues in Business**

Prerequisite: all 500 level courses or consent of Director of the MBA program.

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: all 500 level courses or consent of Director of the MBA program.

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: all 500 level MBA courses or consent of Director of the MBA program.

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 plus consent of Director of the MBA program, 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.

# Marketing

Chairperson, Associate Professor N. D. Kling  
Associate Professors V. Baydar, Z. Qureshi

The Department of Marketing offers a program for business administration majors which, in addition to the general requirements for 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 (1½ credits). For additional information students should consult the departmental chairperson and/or faculty advisors.

The department administers the Management Communications Course [Cm 293.1(.2)].

## 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: product 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 on 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. 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. Topic 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.**

**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 courses or consent of Director of the MBA program.

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 courses or consent of Director of the MBA program.

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 courses or consent of Director of the MBA program.

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 courses or consent of Director of the MBA program.

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: All 500 level courses or consent of Director of the MBA program.

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 courses or consent of Director of the MBA program.

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.

**679.1 (.2) Marketing Policy**

Prerequisite: completion of all 500 level courses or consent of Director of the MBA program.

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 courses or consent of Director of the MBA program.

An in-depth study of selected 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. Topic 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 courses plus consent of Director of the MBA program, department 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.

# Mathematics and Computing Science

Chairperson, Associate Professor  
Professors  
Associate Professors

P. Scobey  
D. G. Kabe, R. L. Kruse  
A. S. Finbow, W. Finden  
B. L. Hartnell, M.T. Kiang  
Y. P. Singh  
P. Muir  
K. MacLeod

Assistant Professor  
Lecturer

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 125.1(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

CSC 308.1(2); 309.1(2); 325.0; 326.0; 408.1(2); 409.1(2); and

427.1(2); 451.1(2); 452.1(2); 461.1(2); 462.1(2); 471.1(2); 472.1(2); 481.1(2); to 489.1(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 325.0, CSC 326.0, CSC 461.1(2) and CSC 462.1(2). Additional information may be found in the Faculty of Science section in this Calendar.



**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.

**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 1½ 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 1½ 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, trigonometric and hyperbolic 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 the graphs; area under a curve; volumes of revolution; work and arc length. Parametric equations, polar coordinates, L'Hospital's rule. Taylor's and Maclaurin's series for a function of one variable.

Classes 3 hrs. plus recitation sessions 1½ 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 1.5 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.

Classes 3 hrs. plus recitation session 1.5 hrs. a week. 1 semester.

**300.0 Calculus II**

Prerequisite: Mat 200.0.

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 1½ 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.

Classes 3 hrs. a week. 1 semester.

**308.1 (.2) [CSC 308.1 (.2)] Numerical Analysis I**

Prerequisite: Mat 200.0.

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 queueing 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 queueing 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.

#### 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

#### 125.1 (.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 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 listing 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.

### **325.0 Data Structures and Program Design**

Prerequisite: CSC 227.1(.2).

This course emphasizes the importance of data structures in algorithm design and performance. Fundamentals of data structure and algorithm analysis and comparison will be presented. The course will survey several common classes of data structures and discuss a number of searching and sorting techniques based on these structures. Recursion and its applications will also be explored.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### **326.0 Computer Organization and Assembly Language Programming**

Prerequisite: CSC 226.1(.2) and CSC 227.1(.2).

Computer structures (hardware and software), data representation, assembly language programming, data manipulation and data structures, microprogramming, I/O programming, system software, operating systems.

Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

### **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.

### **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.

### **451.1 (.2) An Introduction to Operating Systems**

Prerequisite: CSC 326.0.

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.

### **452.1 (.2) Microcomputer Architecture and Programming**

Prerequisite: CSC 451.1 (.2).

Topics to be covered include: microprocessor technology and evolution, basic microcomputer organization, addressing modes and programming operations, programming and architecture of specific microcomputer systems.

### **461.1 (.2) Database Systems**

Prerequisite: CSC 325.0 and CSC 326.0 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 325.0.

This course will examine the organization of information on external storage devices within a computer system. The course will include an overview of schemes for compact storage of information, a fairly current and extensive survey of single-key access methods, with particular attention given to adaptive methods, and a survey of multi-key access methods. The course will also look at some particular issues in the file structures area such as checkpointing and optimal reorganization strategies, and will possibly include a brief look at some existing file structure systems.

### **471.1 (.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.

### **472.1 (.2) Topics in Theoretical Computing Science II**

Prerequisite: permission of instructor.

This course continues the survey of topics begun in CSC 471.1(.2).

### **481.1 (.2) to 489.1 (.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

**Latin — Greek — Egyptian — Classics — French — German — Spanish — Chinese — Italian — English As a Second Language**

Chairperson, Associate Professor G.T. Thomas

## Classics

Associate Professor G.T. Thomas  
Assistant Professor V. McB. Tobin

## French

Associate Professors P. Bernard, G. LePierres  
J. Mackriss  
Assistant Professors K. Flikeid, A. Murphy

## German

Assistant Professor M. Heufaeufer

## Spanish

Professor A.J. Farrell

## Italian

Associate Professor J. Mackriss

## Egyptian

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 and Italian, and English as a Second Language as well as honors programs in French, German, and Spanish.

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 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.

### 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 202.1(2)	Mythology of Greece and Rome
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 205.1(2)	Women in Antiquity
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 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 centers 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. Honors program in French

Within the regulations of the Faculty of Arts governing honors programs, two courses are compulsory: Fre 300.0 and Fre 500.0.

### c. 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 week 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.

### d. French courses on the 300 and 400 level

These courses are normally taught in French. 400 level courses are offered by rotation.

### e. French courses on the 500 level

These are seminar courses involving research and include formal tutoring for the presentation of a thesis.

**f. Language skill courses in French**

The following courses are especially recommended to students interested in acquiring conversational ability or special skills in French:

Fre 301.0	Composition and Conversation
Fre 321.2	French Grammar
Fre 330.0	French for Business
Fre 421.0	Comparison of English and French Stylistics

**g. Certificate of Proficiency in French**

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), 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.

Students interested in being considered for the certificate should formally declare their status when registering for the first time at Saint Mary's University.

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 to participate in these study-abroad programs. 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****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**

A tutorial course, the content of which may be varied according to the needs and interests of the student. Directed readings and research.

**Greek****100.0 Introductory Greek**

An introductory course covering the major grammatical points of the 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 Greek are not eligible for enrolment in this course.

**200.0 Second Year Greek**

Prerequisite: Gre 100.0.

An application of the major grammatical points of the 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

### 300.0 Classical Egyptian

Prerequisite: permission of instructor or department. Also recommended to have a university course in linguistics or a second language.

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: Egl 300.0.

Students will read, analyse 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: Egl 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

### 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 semester.

### 202.1 (.2) The Mythology of Greece and Rome

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.

### 205.1 (.2) Women in Antiquity

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.

### 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.

## Ancient History

### 303.0 History of Greece

(His 350.0)

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)

Ancient Roman and Italian history from the early Paleolithic 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.

Classes tutorial 3 hrs. a week. 2 semesters.

## Modern Languages — French

### 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. and lab three 1/2 hours a week. 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. and lab 1 hr. a week. 2 semesters.

### 200.0 Introduction to University French

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. Emphasis is placed on the active use of French for self-expression in speaking and writing. Oral reports and short compositions will be required. Students successfully completing this course will have mastered the basic vocabulary and structure of the French language, achieved an appreciation of the breadth of the French-speaking world and become familiar with aspects of contemporary French life.

Classes 3 hrs. plus lab and/or tutorials three ½ hrs. a week. 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 Advanced University French

Prerequisite: Placement Test or Fre 200.0.

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.

N.B. Normal requirement for all majors.

Classes 3 hrs. plus lab and/or tutorials three ½ hrs. a week. 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. plus lab and/or tutorials three ½ hrs. a week. 2 semesters.

### 303.0 Acadian Culture and Society

Non-French majors, see Fre 304.0 below.

A general survey of the birth and evolution of Acadian society through a study of literary genres including poetry, novels, short stories, theatre, chronicles, folklore, oral tradition, and artistic modes of expression other than literature. A variety of texts and



visual material will be used to present the contemporary cultural situation.

Classes 3 hrs. a week. 2 semesters.

### **304.0 Acadian Culture and Society**

See course description for Fre 303.0.

Students who wish to do the readings and assignments for the preceding course in English must register for Fre 304.0. This course, thus taken, cannot count as part of the French major requirements, nor can it count for the 3-b Art requirement. It can, however, count for the 3-c requirement in the Faculty of Arts.

Classes 3 hrs. a week. 2 semesters.

### **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.

N.B. Strongly recommended for students considering a teaching career in French.

Classes 3 hrs. and lab two 1 hr. sessions a week. 1 semester.

### **321.1 (.2) French Grammar**

Prerequisite: Fre 250.0 or equivalent, or permission of department.

An intensive review of French grammar with emphasis on those points which are particularly difficult for the English speaker. The objective is to improve the student's written and, to a lesser extent, spoken language by means of extensive grammatical exercise and written interpretation of short literary passages. Some translation is involved.

Classes 3 hrs. a week. 1 semester.

### **325.1 (.2) French Speech Strategies: Theory and Practice**

Prerequisite: Fre 250.0 or permission of instructor.

This course studies rules and tendencies of language use in diverse settings in order to identify how conversations are managed and how real communication takes place. The theoretical foundation found in discourse analysis provides actual patterns and strategies 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 departmental 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.

### **412.1 (.2) Culture and Society of French Canada**

Prerequisite: Fre 300.0 or Fre 301.0 or permission of department.

This course will provide an overview of various aspects of French Canadian culture, including language, literature, religion, music and art. The course will also examine the historical evolution leading to the particular situation of present-day Quebec and that of French-speaking minority groups throughout Canada.

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 students' 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 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 ethic and ethics of "amour-passion" and marriage 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.

#### 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.

#### 500.0 Literature and Criticism

Prerequisite: admission to the honors program.

Weekly seminars to be given by members of the department on selected literary themes and problems.

#### 501.0 Honors Thesis

The course will involve the preparation of a thesis of approximately fifty pages on a literary subject of the student's choice. A supervisor will be delegated by the department. The thesis must be ready for submission by March 15 of the academic year.

Text: Dasonville, Michel, *Initiation à la recherche littéraire* (Université Laval).

#### 510.1 (.2) [Edu 510.1(.2)] Computer Assisted Language Learning

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

#### 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. 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.

This course presents an intensified study of grammar and syntax and the reading of German texts.

Classes 3 hrs. a week. 2 semesters.

**304.0 German Culture and Civilization**

Prerequisite: permission of instructor or chairperson of department

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. Many short excerpts from the works of famous German authors will be read and discussed. This course is offered in English.

Note: This course fulfills the Arts Humanities 3(c) requirement but does not fulfill the 3(b) requirement.

Classes 3 hrs. a week. 1 semester.

**305.0 Introduction to German Literature**

A study of texts representing the most important periods of German literature since the 18th century. Summaries, compositions and short essays will be written.

Classes 3 hrs. a week. 2 semesters.

**310.0 Modern German Literature**

Prerequisite: Ger 305.0 or equivalent.

A study of trends in modern German literature (Naturalism, Impressionism and Expressionism).

Classes 3 hrs. a week. 2 semesters.

**315.0 The Romantic Age**

Prerequisite: Ger 305.0 or equivalent.

The purpose of this course is to provide the student with an understanding of the characteristic traits of German poetry and prose in the Romantic Age.

Texts: Poems, tales and historic tales by L. Tieck, Novalis, H. von Kleist, C. Brentano, A. von Arnim, A. von Chamisso, E.T.A. Hoffman, L. Uhland, J. von Eichendorff and H. Heine will be read and discussed.

Classes 3 hrs a week. 2 semesters.

**400.0 German Contemporary Literature**

Prerequisite: Ger 305.0 or equivalent.

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****101.0 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. and lab three ½ hrs. a week. 2 semesters.

Note: Students who have an advanced standing credit in Spanish are not eligible for enrolment in this course.

**201.0 Intermediate Spanish**

Prerequisite: Spa 101.0 or Spanish matriculation.

A continuation of elementary Spanish, with emphasis on conversation and reading. The second term offers an introduction to modern Latin American fiction.

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 semester.

**302.0 Advanced Oral and Written Spanish**

Prerequisite: a sound knowledge of Spanish grammar.

This course examines various literary styles with the aims of increasing oral skills and developing competence in written composition.

Classes 3 hrs. a week. 2 semesters.

**402.0 Contemporary Latin-American Literature**

Prerequisite: a 300 level course in Spanish or equivalent. Open to majors and honors 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 Américas), Ruben Dario, *Cantos de vida y esperanza* (Anaya); selections from Julian del Casal and José Asuncion 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.

#### **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.

### **Modern Languages — Chinese**

#### **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 — Italian**

#### **100.0 Introduction to Italian**

A course for students beginning the study of Italian. The basic structures of the language will be studied, with special emphasis on the spoken language.

Classes 3 hrs. a week. 2 semesters.

Note: Students who have an advanced standing credit in Italian are not eligible for enrolment in this course.

#### **200.0 Intermediate Level Italian**

Intermediate level instruction in the language with an emphasis upon idiom and usage in conversation and composition. Readings from Italian prose writers and other texts. This course is for students who have acquired a basic knowledge of Italian or who understand an Italian dialect.

Classes 3 hrs. a week. 2 semesters.

### **Modern Languages — English as a Second Language**

#### **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.

# Philosophy

Chairperson, Professor  
Professor  
Associate Professor  
Assistant Professors

A.P. Monahan  
R.H. Beis  
W. Grennan, R.C. Marshall  
R.N. Ansell, P. March

## 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 requirement.

### 3. 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.

### 4. 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 345.1 and Phi 346.2, Greek Philosophy  
Phi 326.0 Philosophy of Mind  
Phi 314.0 Intermediate Logic  
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, 402.0, 416.0, 469.0.

#### b. Ethics

Courses in ethics deal with the nature of value judgements, 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, 333.1(2), 370.0, and 466.0.

#### 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, 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, 465.0(665.0), 467.1(667.1), 468.2(668.2).

#### e. General

Phi 306.0, 302.0, 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, 370.0, or 326.0, plus one from any group.

#### 5. 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).

#### 6. Honors Program

See "Requirements for the Degree of Bachelor of Arts-Honors", regulations 11-17, section 3 of this Calendar. The student's program will be developed on an individual basis in consultation with the department.

#### 7. Master's Program

Students are referred to the requirements set out in the "Faculty of Arts" section of this Calendar.

#### 8. 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?

#### 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.

#### 320.0 Aesthetics: The Philosophy of Art

Prerequisite: a course in philosophy or permission of instructor.

Humans responds 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

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.

#### 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 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, mercy killing, 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.

**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.

**401.0 Philosophy of Language**

Prerequisite: one full credit in Philosophy at the 300 level.

An examination of the nature of language through the study of such topics as truth, reference, meaning, the relation of language to thought and language to the world, the speech act theory of language use, and the relevance of theories about these matters to selected philosophical issues.

**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 focussed 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 focussed 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.

**466.0 (666.0) Advanced Ethical Theory**

Prerequisite: a course in philosophy or permission of instructor.

A lecture and seminar course that examines certain fundamental problems of contemporary ethics. Attention will be concentrated on metaethical problems which arise from and are discussed in the writings of Moore, Stevenson, Hare, Nowell-Smith, Frankena, and Baier.

Texts: Selected Readings from the authors above.

**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.

**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

Chairperson, Professor  
Professor  
Associate Professor  
Assistant Professors

D. S. Murty  
W. Lonc  
F. V. Tomscha  
B. C. Reed  
K. Fillmore

**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)

Considered to be the most fundamental of the natural sciences, Physics deals with the observation and modeling 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 analysing 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 either of the following core programs:

## 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 accordance with Science Degree Requirements) from

311.1(.2)	431.1(.2)
321.1(.2)	432.1(.2)
322.1(.2)	438.1(.2)
331.1(.2)	439.1(.2)
332.1(.2)	451.1(.2)
353.1(.2)	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

311.1(.2)	332.1(.2)
321.1(.2)	353.1(.2)
322.1(.2)	Mat 300.0
331.1(.2)	

Any departure from a. or b. schemes must receive departmental approval.

The Physics Department, in cooperation with the Astronomy Department, offers an option in astrophysics for physics majors. Students pursuing this option should take Ast 202.0, 301.1, 302.2, 401.1 and 402.2 as electives. Further details are given in the Department of Astronomy section.

An honors program is available in physics consisting of the above physics major courses plus sufficient additional courses approved by the department and satisfying the general requirements for an honors degree.

An honors degree may also be taken in astrophysics. A suitable program will be determined after joint consultation with the Departments of Astronomy and Physics.

All prerequisites will be 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.

## 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 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 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, transfer theory and elementary statistics.

Classes 3 hrs. per week. 1 semester.

### 471.1 (.2) Introduction to Quantum Mechanics

Prerequisite: Phy 438.1(.2) and Phy 451.1(.2) concurrently.

Wave mechanical concepts, wave packets and uncertainty, linear operators, Schroedinger equation, energy eigenfunctions, harmonic oscillator, hydrogen atom, elastic scattering, coordinate, momentum and energy representations.

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

Chairperson, Professor  
Professors  
Associate Professor  
Assistant Professor  
Lecturers

R.G. Landes  
R.G. Boyd, D.J. Higgins  
E.J. McBride  
G. Chauvin  
M. Eagles, D. Nauls

## 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 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 composed of their advisor, and at least two other members selected by the department. (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 Soviet socio-economic and political system which constitutes the most serious and enduring challenge to Western democracy. It includes a survey of history and political institutions — from the old Kievan Rus to the Russian Empire, the Russian Soviet Federal Socialist Republic, and the Union of Soviet Socialist Republics; the development of political institutions and processes from the Revolution to the present, with attention to the largest non-Russian Soviet republics in Europe (Ukraine) and Asia (Kazakhstan, Uzbekistan).

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 detailed comparative analysis of the institutions and functions of the national political systems, primarily of the United Kingdom, France, Western Germany, Switzerland and Austria, with an emphasis on both the long history of, and the recent changes in, the core area of Western civilization.

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 analysis of the theoretical and practical interrelation of law and politics from a distinctively legal perspective; including such areas of concern as law as an instrument of governance, law as a recourse of individuals and interest groups, and law and liberal democratic values. The institutions, processes, traditions and theoretical underpinnings of the Canadian legal system will be thoroughly examined, and a treatment of contemporarily significant themes in the development of (English) common law included.

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.

### **316.0 African Government and Politics**

Prerequisite: Pol 200.0 or permission of instructor.

This course is intended to give the students some understanding of political ideas, institutions and practice in contemporary Africa south of the Sahara. Political development will be looked at in the light of African history but the emphasis will be on post-independence experience and problems.

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. To 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 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 industrialised 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.

**408.1 (.2) Comparative Study of Governments: Eastern Europe**

Prerequisite: Pol 200.0 or permission of instructor.

A survey of political and institutional developments from 1848 to 1918, with special attention to multi-national empires of Austria, Russia and Turkey; a comparative study of contemporary political institutions and processes in Communist party-states of Eastern (or East Central) Europe: Czechoslovakia, East Germany, Poland, Yugoslavia, and others.

Classes 3 hrs. a week. 1 semester.

**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 contents 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.

**550.0 Seminar in the History of Political Thought**

Prerequisite: permission of instructor.

An intensive study of major trends in political thought, ancient and modern, with special attention to contemporary political doctrines and ideologies, their transformation and interrelation in the course of history and their interrelation with social and political conditions.

Classes 2 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 inquiring 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. Public law includes constitutional law, international law, and administrative law.

Classes 2 hrs. a week. 2 semesters.



# Psychology

Chairperson, Professor  
Professors

R. Konopasky  
V. Catano  
J. Chadwick-Jones  
J. Darley, I. Lenzer

Associate Professors

K. Hill, L. Parrott  
P. Street

Assistant Professors

G. Pretty, B. Vulcano

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:

General/Experimental — 401.1(2), 402.0, 406.0, 412.0, 421.1(2), 434.0

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.

## 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 Co-ordinator 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, e.g., behaviorism and interbehaviorism 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 3 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 1½ hrs. a week. 2 semesters.

### 306.0 Psychobiology

Prerequisite: Psy 201.0.

An examinaion 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 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.

### 311.2 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.

### 331.1 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 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, neurophysiology, neuroanatomy, personality, clinical psychology, gerontology and geriatrics.

Classes 3 hrs. a week. 1 semester.

### 348.1 (.2) Psychology of Sex Roles

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, explanation 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.

### 399.1 (.2) Living Adaptation and Growth

Prerequisite: Psy 201.0.

This course will focus on a framework for studying adult development and focus on understanding how life challenges threaten effective functioning and cover 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. 1 semester.

#### **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: Psy 301.0 and 305.0.

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 305.0 or [Psy 201.0 and Msc 207.1(.2)].

The application of psychological concepts to behavioral problems encountered in the work environment. Topics will include group socialization, organizational environments, communication, leadership, decision-making, why people work; job placement,

training and performance; occupational health, accidents and safety, retirement and the problems confronting women, minority and unemployed workers.

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.

#### **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 or 311.2.

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.

#### **417.2 Experimental Social Psychology II**

Prerequisites: Psy 301.0, 305.0, and either 310.1 or 311.2.

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 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.

#### **419.2 Environmental Psychology II**

Prerequisite: Psy 418.1.

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.

#### **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.

#### **431.2 Child Psychology II**

Prerequisite: Psy 301.0 and 331.1 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**

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 Educational and Psychological Tests and Measurements**

Prerequisite: Psy 201.0 and 305.0.

Basic principles of statistical sampling, psychological measurement and the construction of scales. Test construction: standardization, evaluation of validity and reliability. Tests in common use: intelligence, aptitude, ability, personality, educational, and vocational tests. Special tests: language, clerical, perceptual and vocational selection tests. Clinical tests: personality, psychopathology, impairment and traditional psychiatric classification. Ethics.

Classes 3 hrs. and lab 1½ 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, fairytales, 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.

#### **446.1 (.2) The Psychology of Language**

Prerequisite: Psy 301.0.

An introduction to the psychology of language, focussing on the activities of persons as they adapt themselves to other persons and things, either directly by means of local utterances and gestures, or indirectly by means of writing and symbolizing behavior.

Classes 3 hrs. a week. 1 semester.

#### **449.0 Senior Seminar**

Prerequisite: psychology majors with 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.

**450.2 Behavior Problems of Children**

Prerequisite: Psy 301.0 and 331.1.

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.

**460.2 Development in Human Infancy**

Prerequisite: Psy 331.1 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 Behavioral Analysis and Change**

Prerequisite: Psy 301.0.

A review of learning theory as it applies to behavior therapy in humans. Survey of behavior modification techniques including relaxation training, counter conditioning, assertive training, token economies, modeling, shaping, and aversive techniques.

Classes 3 hrs. and lab 1½ hrs. a week. 1 semester.

**486.2 Advanced Behavioral Analysis and Change**

Prerequisite: Psy 301.0 and 485.1.

Cognitive behavior therapy. Self-directed behavior therapy. Special topics in behavior therapy: smoking, alcoholism, drug addiction, obesity, mood change, and improving performance levels.

Classes 3 hrs. and lab 1½ hrs. a week. 1 semester.

**490.1 (.2) Introduction to Health Psychology**

Prerequisites: 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. Preventive 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.

**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.

**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.

**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: Hotellings T<sup>2</sup>, 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.

Behavior in groups. Social psychology of mental health, group therapy. Group dynamics and decision-making. Group selection procedures and leadership studies. Studying groups in the laboratory and in everyday situations. Social skills training: its uses in occupational and clinical situations. Cases in social behavior in organizations, e.g., the nursing profession. The course will utilize the influence of social psychological theory (e.g., field theory) on action research in applied situations.

**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.

**635.1 (.2) Behavior Theory and Philosophy**

Prerequisite: graduate standing.

A critical analysis of the philosophical underpinnings of modern behavioral psychology. Topics will include the role of philosophy in scientific system building, the psychological philosophies of radical behaviorism and interbehaviorism, and the implications of these philosophical positions for the analysis of complex human behaviors.

**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 counselor actually does. Single case methods for evaluating process and outcome will be reviewed. Consideration will be given to contemporary issues concerning values and ethics.

**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, modeling, 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 and 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.

**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.

# Religious Studies

Chairperson, Associate Professor	S. A. Armstrong
Professors	E. Stiegman
	L. F. Murphy, S.J.
Associate Professor	P. Bowlby

The Religious Studies Department offers courses at the introductory level and in three general areas:

*Religion in Western Civilization*  
*History of Religions (Comparative Religion)*  
*Religion in Contemporary Society*

Both the introductory courses and those offered in the three areas satisfy degree requirements in Arts, Commerce, and Science.

## Electives

Students seeking an elective may take any religious studies course at the 200 or 300-level.

## Degree Requirements

Religious studies courses at the 200 or 300-level satisfy a humanities requirement in the Arts Faculty; free electives in the Commerce Faculty and the two humanities requirements in the Faculty of Science.

## A Minor in Religious Studies

A minor in religious studies may be declared by taking four religious studies courses. Two of the courses must be at the 300-level. An overall grade-point average of 2.00 must be maintained in the four courses.

## A Major in Religious Studies

Students majoring in religious studies must fulfill the following requirements:

1. the equivalent of six full courses in the department;
2. two of the six courses at the 400-level;
3. an overall grade-point average of 2.50 in the courses counted toward the major;
4. at least one course from each of the three general areas in the department: Religion in Western Civilization, History of Religions (Comparative Religion), and Religion in Contemporary Society.

## Advanced 400-level courses for Majors and Honors Students in Religious Studies

All religious studies courses at the 300 level are also given a 400 number. The 400 number is to be used only by religious studies majors and honors students to indicate the courses in their program taken at an advanced level. Requirements for these 400 level advanced courses are approved by the department and normally involve reading a supplementary bibliography and preparing more advanced writing assignments than are required of students taking courses at the 300 level. A student may not receive credit for a course at both the 300 and 400 levels.

## Honors in Religious Studies

Religious Studies offers an honors program in conformity with the Faculty of Arts requirements for an honors degree. In addition to

those requirements, an honors student must complete four full courses (or half-course equivalents) at the 400 level and a department honors seminar (590.0-595.0). An honors essay will be written in conjunction with the honors seminar.

Admission to an honors program normally requires departmental approval no later than the beginning of a student's junior year. A 3.00 average in religious studies courses is required for admission to and continuation in the honors program.

## Student Counselling

Majors and honors students must have their religious studies courses approved by the department chairperson on an annual basis. In some instances, majors and honors students will be requested to take prerequisites for departmental courses. Suggested prerequisites are kept on file in the department.

## 200.0 The Religious Dimension of Human Life: Introduction to Religious Studies

There are many common life experiences (for instance, the quest for personal identity, the encounter with death, suffering, loneliness, sexuality, wonder, good and evil) which most men and women have sought to address in the context of an organized religion. In addition to studying these experiences which point toward the religious dimension in human life and the ways in which several religions have dealt with them, we shall also look at some secular approaches to the same experiences.

Classes 3 hrs. a week. 2 semesters.

## 203.1 (.2) Introduction to the Bible: Old Testament

A critical approach to the Bible, involving an inquiry into the cultural and historical context of biblical literature, the meaning and relevance of the Bible for today.

Classes 3 hrs. a week. 1 semester.

## 204.1 (.2) Introduction to the Bible: New Testament

A critical approach to the New Testament of the Bible, involving an inquiry into the cultural and historical context of biblical literature, the meaning and relevance of the Bible for today.

Classes 3 hrs. a week. 1 semester.

## 215.0 Moral Problems in Contemporary Society

An introduction to the meaning of Christian ethics through selected contemporary problems: Is morality a private affair (abortion)? Can religion and politics be separated (revolution)? Do moral norms change (the proper distribution of wealth)?

Classes 3 hrs. a week. 2 semesters.

## 230.0 The Measure of Man

Who am I? Who do the experts say I am? Who do I think, feel, wish, fear I am? Am I one or many? Am I alone? Scientists, historians, psychoanalysts, artists, philosophers, theologians have struggled with these and related questions. We will seek the relevance of their views of what man is to our own questioning of who we are.

Classes 3 hrs. a week. 2 semesters.

## 240.0 When Great Religions Meet

The biblical faiths of Judaism and Christianity took shape against the background of other Near-Eastern religions. Zen Buddhism

emerged out of the encounter between Chinese religious traditions and Indian Buddhism. After looking at various examples of meetings between religions, the course will examine how religions develop in the encounter with other traditions and how living religions interpret the faiths of other men. These themes will form an introduction to comparative religion.

Classes 3 hrs. a week. 2 semesters.

### **301.1 (.2) [401.1 (.2)] Power and Weakness**

All power may corrupt, but who wants to be powerless? This course will explore and contrast Biblical and contemporary notions of power. Concepts of the nature and use of power in human experience are crucial for every religious and quasi-religious approach to life. In this course, special attention will be given to the ways in which Biblical notions of power and weakness represent a reversal of more ordinary understandings.

Classes 3 hrs. a week. 1 semester.

### **302.1 (.2) [402.1 (.2)] Wisdom and Foolishness**

No one likes to be thought a fool — still less to be one. This course will explore and contrast Biblical and contemporary notions of foolishness. An understanding of where and how wisdom is to be found is central to most religious and quasi-religious approaches to life. In this course, special attention will be given to the ways in which Biblical notions of wisdom and foolishness represent a reversal of more ordinary understandings.

Classes 3 hrs. a week. 1 semester.

### **303.1 (.2) Christian Origins**

This course treats the formation and development of Christianity as seen through the New Testament and other early Christian texts. It studies the life of Jesus, the origin of the Church, its separation from Judaism, its struggle against Hellenistic religion and philosophy, its early beliefs, morals, and worship.

Classes 3 hrs. a week. 1 semester.

### **304.1 (.2) The New Testament and the End of the World**

The New Testament speaks about the destruction of the world, antichrist, judgment, resurrection, a new heaven and a new earth. The course studies Apocalyptic themes in the Gospels, Letters, and Revelation and various interpretations of this literature. Is it possible to know when the end of the world is to come? Or what the next world will be like?

Classes 3 hrs. a week. 1 semester.

### **305.0 (405.0) Drama and Religion**

A close reading of great plays from world literature, emphasizing Greek tragedy, Shakespeare, and the modern stage. The course strives for an awareness of religious dimensions in the fictional universe which every play creates, and of the mythical character of the play's central action. Attention is drawn to the origin of both classical and modern drama in religious ritual, and to the dramatic essence of Judaism and Christianity as religions of event.

Classes 3 hrs. a week. 2 semesters.

### **306.0 (406.0) Myth and History: The Problem of Interpreting Human Existence**

His 334.0 to be taken concurrently

Man's search for meaning. The life of man in relation to his past and that of his communities: the question put to Marc Bloc: "Papa, what good is history?"

Classes 3 hrs. a week. 2 semesters.

### **308.1 (408.1) The God Question**

Two problems are studied in this course: the idea of God and the existence of God. Contemporary approaches to these questions will involve the student also in such issues as the nature of language about the sacred, and mythology in religious Scriptures.

Classes 3 hrs. a week. 1 semester.

### **309.0 (409.0) History of Israel**

(Cia 310.0)

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.

### **310.1 (.2) (410.2) Reason or Belief?**

The question of religious faith is approached here by placing the subject, or the religious mind itself, under study: What problems have the social sciences presented to the believer? How can one interpret human experience? How might one know if a God revealed himself or herself? Is natural science an obstacle to faith?

Classes 3 hrs. a week. 1 semester.

### **311.1 (.2) [411.1 (.2)] Jesus of Nazareth**

Jesus of Nazareth: Did Jesus really exist? What did he teach? Why was he killed? What does the resurrection mean? In examining these questions, the course will survey the many responses to Jesus' question "Who do men say that I am?"

Classes 3 hrs. a week. 1 semester.

### **312.1 (.2) [412.1(.2)] Jesus and Liberation**

How has the life and teaching of Jesus made justice the central issue in Christianity today? What is liberation theology in the third world? Is capitalism opposed to the teaching of Jesus? What is Jesus' teaching about the poor, the oppressed, human rights and violent revolution?

Classes 3 hrs. a week. 1 semester.

### **315.0 (415.0) The Christian in Society**

What sense does it make to speak of a Christian response to social and political problems in present-day Canada? An examination of the impact of earlier Christian groups on Canadian life, e.g., the Winnipeg General Strike of 1919, the Antigonish Movement, and the theology that led them to act. An analysis of at least one contemporary national problem and one local problem with respect to a possible Christian response.

Classes 3 hrs. a week. 2 semesters.

### **316.0 (416.0) Cross-listed as Anthropology 350.0**

### **317.0 (417.0) Cross-listed as Sociology 317.0**

### **319.1 (.2) [419.1(.2)] God and Evil**

What are we to make of evil? If God is both all-powerful and all-good, why is there evil in the world? Must there be evil in order for there to be good? Is there any way to make sense of evil? We will examine Christian and non-Christian approaches to the problem of evil as expressed in a variety of works of fiction and non-fiction.

Classes 3 hrs. a week. 1 semester.

**320.0 Cross-listed as Anthropology 349.0****321.1 (.2) [421.1(.2)] Marriage: Contemporary Experience and Religious Meaning**

The course explores religious meanings in marriage, seen as contemporary experience more than as classic symbol. Besides treating the foundations of love, communication, and partnership between the sexes, it may study present-day departures from established patterns. At the centre is a theology of marriage, but also an explicit consideration of the crisis in this area of religious thought.

Classes 3 hrs. a week. 1 semester.

**322.2 (422.2) 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.

**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 Sidhartha. 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.

**330.0 (430.0) Other People: The Religious Significance of Human Relationships**

Friends, acquaintances, strangers, enemies, fools — how are we to understand ourselves in relation to each of these? Is it wise to depend upon other people? Is there anything more valuable than friendship? Do only fools love their enemies? We will examine these and related questions from a variety of religious and secular perspectives. A principal thesis to be explored is that there is a major typological distinction between and within religions according to the seriousness with which they regard the singular other person.

Classes 3 hrs. a week. 2 semesters.

**331.0 (431.0) Key Concepts of Christianity: God, Man, and Human Destiny**

Stressing biblical sources, this comprehensive overview traces the development of the dominant themes in Christianity and studies their relevance to present-day moral questions. Each of the two courses (see 332.0, below) is self-contained and may be taken independently. The first 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.

**332.0 (432.0) Key Concepts of Christianity: Christ, Sin, and Christian Life**

Each of the two parts (see 331.0 above) of this comprehensive overview of Christianity is self-contained and may be taken independently. Rel 332.0 asks how a contemporary Christian conceives of human evil, of human community and religious institutions, and of Christ. The course stresses biblical sources, traces the development of dominant themes, and studies their relevance to present-day moral questions.

Classes 3 hrs. a week. 2 semesters.

**333.1 (.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) 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.

**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 (446.1) 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.

**347.2 (447.2) 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 (451.1) 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.

**352.2 (452.2) 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.

**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: fifth-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:

**Religion in Contemporary Society**

200.0	328.1(.2) [428.1(2)]
215.0	329.1(.2) [429.1(2)]
230.0	330.0 (430.0)
301.1(.2) [401.1(2)]	336.1(.2) [436.1(2)]
302.1(.2) [402.1(2)]	346.1 (446.1)
308.1(.2) [408.1(2)]	347.2 (447.2)
310.1(.2) [410.1(2)]	350.0 (450.0)
315.0 (415.0)	351.1 (451.1)
316.0 (416.0)	352.2 (452.2)
317.0 (417.0)	
321.1(.2) [421.1(2)]	
322.1(.2) [422.1(2)]	

**History of Religions (Comparative Religion)**

240.0	326.1(.2) [426.1(2)]
324.0 (424.0)	327.1(.2) [427.1(2)]
325.1(.2) [425.1(2)]	341.1(.2) [641.1(2)]

**Religion in Western Civilization**

203.1(2)	311.1(2) [411.1(2)]
204.1(2)	312.1(2) [412.1(2)]
303.1(2) [403.1(2)]	319.1(2) [419.1(2)]
304.1(2) [404.1(2)]	331.0 (431.0)
305.0 (405.0)	332.0 (432.0)
306.0 (406.0)	333.1(2) [433.1(2)]
309.0 (409.0)	334.1(2) [434.1(2)]
310.0 (410.0)	



# Sociology

Chairperson, Professor  
Professors

P. Connelly  
L. Christiansen-Ruffman  
R. Cosper, S. Halebsky  
M. Overington, H. Veltmeyer  
J. McMullan, I. Okraku  
D. Perrier, H. Ralston  
L. G. Barrett  
D.G. Kellough

Associate Professors

Assistant Professor  
Lecturer

## Departmental Statement

Soc 200.0 is the introductory course and is a prerequisite for most 300 level courses.

To major in sociology, a student must complete a core program as follows: (a) Introductory Sociology (Soc 200.0); (b) Research Methods (Soc 300.0) and Sociological Theory (Soc 301.0) — both of which will normally be taken in the year following Introductory Sociology; and (c) 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: Soc 303.0, Soc 315.0 and Soc 455.0. 400 level seminar courses require credit in Soc 300.0 and Soc 301.0 as they apply questions of theory and method to the sociological analysis of a specific problem. Those 400 level courses which do not fulfill requirement (c) are marked 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); Research Methods (Soc 300.0) or Sociological Theory (Soc 301.0); and two Sociology courses at the 300 level or above.

Effective 1 September 1987, the department no longer offers a minor in criminology.

There is an honors program in sociology which follows general university requirements. Each honors student's program is supervised by the department.

Note: courses are all 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.

## 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.

## 300.0 Research Methods

Prerequisite: Soc 200.0.

An examination of basic methods and techniques in social research. Topics to be discussed include science and sociology, theory, conceptualization, research design, and methods of data collection and analysis. The student is introduced to sampling, measurement and statistical analysis of quantitative data. Students also get intensive experience in data collection and analysis through laboratories and independent research.

## 301.0 Sociological Theory

Prerequisite: Soc 200.0 or permission of instructor.

A critical examination of some classical statements in sociological theory, giving particular emphasis to key concepts in the development of contemporary notions in sociological analysis. The circumstances giving rise to sociology as a special field are considered as are the relationships of specific theorists and their ideas in modern times.

## 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.

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 or registration in Criminology Certificate Program.

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**

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.

### 325.0 Social Service and Welfare

Prerequisite: Soc 200.0 or related work experience.

In the context of sociological concepts and theory the course will examine the field of social welfare, income security, the organization and function of welfare systems, and the political and ideological implications of welfare organizations and regulations.

### 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: Student 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, labour, 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.

### 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.

Seminar 3 hrs. a week. 2 semesters.

### 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.

### 360.1 (.2)/460.1 (.2) Quantitative Methodology

Prerequisite: Soc 300.0.

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 300.0.

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.

### 371.1 (.2) Evaluating Social Programs

Prerequisite: Soc 300.0 (or its equivalent) 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 300.0 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) [IDS 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) [IDS 386.1 (.2)] Sociology of Developing Societies**

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.

### **403.0 Revolution and Change: A Case Study — Cuba**

Prerequisite: Soc 300.0, 301.0, 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 300.0, 301.0, 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.

### **407.0-408.0-409.1 (.2)-410.1 (.2) Directed Reading in Sociology**

Prerequisite: Soc 300.0, 301.0 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 fulfillment of requirement (c) for majors.

### **412.0 Sociology of Aging**

Prerequisite: Soc 300.0, Soc 301.0 or permission of instructor.

This seminar course will present in-depth analysis of sociological perspectives in aging. Theoretical as well as methodological issues in aging research will be examined.

### **413.0 Sociology of Identity**

Prerequisite: Soc 300.0, 301.0 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.

### **417.0 Religious Movements**

Prerequisite: Soc 300.0, Soc 301.0 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 300.0, 301.0 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.

### **425.0 Corporate Power and the World Economy**

Prerequisite: Soc 300.0, 301.0 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 (IDS 429.0) Rural Sociology**

Prerequisite: Soc 300.0 and 301.0, 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 300.0, 301.0 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 300.0, 301.0 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 300.0, 301.0 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**

Prerequisite: Soc 300.0 and 301.0 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 300.0, 301.0 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 300.0, 301.0 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 300.0 and 301.0 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 200.0 and Soc 303.0 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 200.0; Soc 303.0 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 300.0, 301.0 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 300.0, 301.0 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.





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## Section 6

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# Financial Information



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Internal Revenue Service

It's Different. It's Better.  
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# Financial Information

It is the responsibility of all students to be familiar with University regulations pertaining to financial matters.

At the time of this Calendar's publication, fees for the 1987-88 academic year had not yet been determined. Fees listed below were those in effect for 1986-87 and are therefore subject to change prior to 1 September 1987. 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	\$762.50	\$1,525.00
3 courses or less		
Full Course	\$152.50 per course	\$305.00 per course
Half Course	\$152.50 per course	N/A

**Note:** Students carrying more than the required program load (normally five full credits) will be assessed an additional \$305.00 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	\$28.00	\$56.00
less than 3 courses	\$5.00	\$10.00

### c. Medical Insurance Fees

All students registered in 3 or more courses will be assessed a compulsory, non-refundable medical insurance fee. The fee is payable in full prior to September 30 for students who have completed early registration or at the time of regular or late registration for all other students.

	Single Coverage	Family
<b>Canadian Students</b>		
— extended health care plan	\$65.00	\$144.00
<b>Non-Canadian Students</b>		
— add equivalent to Nova Scotia's Medical Services Insurance (M.S.I.)	\$247.00	\$504.00
<b>Total Non-Canadian:</b>	<b>\$312.00</b>	<b>\$648.00</b>

**Note:** 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 September 30 for students who

have completed early registration or at the time of regular or late registration for all other students.

(i) For students continuing their studies in the same degree or diploma program as in the 1984-85 academic year:

Course Load	Per Academic Year
3 courses or more	\$1,500.00
Less than 3 courses	
Full Course	\$300.00 per course
Half Course	\$150.00 per course

(ii) For those students who begin their studies or change degree or diploma programs in the 1985-86 academic year or later.

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 delineating its application and financial implications is available from the Business Office.

### 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 their 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)	24.00
Official Transcript	2.00
Special Examination	10.00
Late Registration	10.00

## 2. Residence Accommodation and Meal Plan Fees

	Per Semester	Per Academic Year
<b>Single Room</b>		
Meal Plan I	\$1,482.50	\$2,965.00
Meal Plan II	\$1,522.50	\$3,045.00
Meal Plan III	\$1,537.50	\$3,075.00
<b>Double Room</b>		
Meal Plan I	\$1,360.00	\$2,720.00
Meal Plan II	\$1,400.00	\$2,800.00
Meal Plan III	\$1,415.00	\$2,830.00
Apartments, Edmund Rice Residence (room only)	\$707.50	\$1,415.00

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. **Early Registration** — Students are permitted to register for courses during stipulated time periods in August. The minimum payments required for early registration are:

3 courses or more in the first semester	\$ 100.00
less than 3 courses in the first semester	\$ 50.00

The balance of first semester fees are due September 30 and second semester fees are due by January 15.

### b. Regular and Late Registration

First semester fees are due at the time of initial registration and second semester fees are due by no later than January 15. In special circumstances, the University reserves the right to require pre-payment 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 (1987-88)

Tuition only (3 courses or more)	\$245.00
Tuition + Single Room/Meal Plan I	\$835.00
Tuition + Single Room/Meal Plan II	\$865.00
Tuition + Single Room/Meal Plan III	\$880.00
Tuition + Double Room/Meal Plan I	\$790.00
Tuition + Double Room/Meal Plan II	\$825.00
Tuition + Double Room/Meal Plan III	\$840.00
Tuition + Apartment	\$520.00
Single Room/Meal Plan I	\$590.00
Single Room/Meal Plan II	\$620.00
Single Room/Meal Plan III	\$635.00
Double Room/Meal Plan I	\$540.00
Double Room/Meal Plan II	\$580.00
Double Room/Meal Plan III	\$595.00
Apartment	\$275.00

The balance of the first semester fees are due September 30/87.

d. Students who have not paid all fees in accordance with 3-a, 3-b or 3-c above, may have their registration cancelled at the discretion of the University.

e. Students who have an unpaid account with the University will be permitted to register only upon settlement of the outstanding account.

f. A student whose registration has been cancelled for non-payment of fees, must pay all outstanding fees as well as a re-instatement fee of \$50.00 prior to any consideration of re-instatement by the Registrar.

g. Cheques or money orders should be made payable at par in Canadian funds to Saint Mary's University.

Visa and Master Card are accepted.

### 4. Late Payment

a. Students who do not pay their first semester fees by September 30 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 January 15 will be subject to the same penalty.

b. In addition to the late penalty outlined in Section 4-a, any account outstanding after September 30 in the first semester and

January 15 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.

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 November 15 or February 28, whichever is appropriate.) No fee adjustment is granted after November 15 in the first semester or February 28 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 November 15 or February 28, whichever is appropriate.) No fee adjustment is granted after November 15 in the first semester or February 28 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 November 15 for the first semester excess and after February 28 for the second semester excess.

b. Students whose fees are to be paid by government or some other sponsoring agency are required to present a signed statement, certificate or other appropriate supporting material.

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 Master Card. 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, 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	\$35.00 per year
Motorcycles	\$35.00 per year
Other Parking	\$30.00 per year

### Student Awards and Financial Aid Programs

The scholarships and bursaries administered by Saint Mary's University may be 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 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. Other Entrance Scholarships

Condition: Candidate must be a resident of Canada.

Value: \$200.00 to \$2,000.00.

Duration: One year.

#### 3. Achievement Scholarships

Conditions: Candidates must qualify according to the Regulations for Scholarship Holders outlined below.

Value: \$200.00 to \$1,800.00.

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 May 25 candidates for scholarships must apply each year to the Financial Counsellor.

b. Each award is granted for one year only. However, scholarships may be renewed each year on a competitive basis, providing the students apply and qualify.

c. Students are responsible for notifying the Financial 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 Counsellor by May 25.

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 May 25 or that the student notifies the Financial 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.

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.

#### 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 tangible 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 Development 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 Counsellor.

Alumni Christian Brothers of Ireland Scholarship  
 Alumni Jesuit Scholarship  
 Alumni Leadership Awards  
 Alumni Scholarship Trust  
 Ashwood Scholarship  
 Beta Sigma Phi Scholarship  
 Birks Family Foundation Bursary  
 Samuel and Mary Butler Scholarship  
 Dr. John Campbell Scholarship  
 Canadian Institute of Management Scholarship  
 Alder and Josephine Cannon Memorial Scholarship  
 William Chisholm Scholarship  
 Edward and Edith Christian Endowment Trust  
 Rebecca Cohn Bursary  
 Mary C. Daley Scholarship  
 William J. Dalton Memorial Scholarship  
 James E. Donahue Memorial Scholarship  
 Joseph Edmund Donahue Scholarship  
 Barbara Flanders Goldberg Memorial Bursary  
 Everett Flemming Memorial Scholarship  
 Eleanor M. Florian Scholarship  
 John Glenister Memorial Scholarship  
 Austin E. Hayes Memorial Scholarship  
 Owen J. Hayes and Mary C. Hayes Memorial Scholarship  
 Robert Hayes Memorial Scholarship  
 Father J.J. Hennessy, S.J., Memorial Trust  
 Charles Hinman Memorial Bursary  
 The Homburg Scholarship  
 Reuben and Helen Hornstein Bursary  
 Joy Estate Trust  
 Jamil Karam Scholarship Trust  
 Lavalin Engineering Scholarship  
 Tony Law Scholarship Fund  
 Duncan W. Lynch Memorial Bursary  
 Father Frederick J. Lynch, S.J. Bursary  
 Mahon's Stationery Limited Scholarship  
 Wayne Myers Memorial Bursary  
 National Bank of Canada Scholarship  
 Nova Scotia Savings and Loan Award  
 Nova Scotia Teachers College Scholarship  
 Bruce S. Oland Scholarship  
 Colonel Sidney C. Oland Scholarship  
 Kenneth and Elizabeth Ozmon Family Scholarship  
 V11 Pan American Wheelchair Games Bursary  
 Mary Perrier and the late Conrad Daniel Perrier Scholarship  
 Dr. C. Henry Reardon Memorial Bursary  
 Regis College Prize  
 Gary W. Richardson Memorial Bursary  
 Royal Lepage Scholarship  
 Saint Mary's Faculty Union Scholarship  
 Saint Mary's Faculty Women's Association Scholarship: Mildred

Harrington Award  
 Saint Mary's University Staff Union Scholarship  
 Laurie W. Smith Memorial Scholarship  
 Norman Stanbury Scholarship in English  
 Brother Stirling Scholarship  
 Thorne, Ernst and Whinney Scholarship  
 Harry Woods Memorial Scholarship  
 Bernard Zwicker Memorial Bursary

The scholarship application deadline for the 1987-88 academic year is May 25, 1987.

Bursary applications will be available between October 1 and March 1. Award decisions will be made throughout the academic year. Provincial student aid assessment forms must be submitted with the bursary applications.

#### 4. Scholarships for Part-Time Students

There are 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.

#### 5. 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  
 The Donald E. Curren Scholarship Fund  
 Department of Education — Scholarship for Black Students  
 Digital Equipment of Canada Ltd. Award of Merit  
 Imperial Oil Higher Education Awards (Entrance and renewal)  
 I.O.D.E. Provincial Chapter Bursaries  
 The Nova Scotia Federation of Labour — The Joe Gannon Memorial Scholarship  
 Petro Canada Education Awards for Native Students  
 Pillsbury Undergraduate Scholarship Program  
 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 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 bona fide 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. Nova Scotia students complete an additional application form which is used to calculate the Bursary awards. In most other cases students complete one student aid application form which is used to calculate the Canada Student Loan and Bursary/Grant awards.

#### Canada Student Loans Program: Part-Time Loans Plan

Guaranteed loans for part-time students attending postsecondary 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 the Saint Mary's Financial Counselling Office, Canada Employment Centers and in local banks.

Detailed information regarding financial aid eligibility, application procedures and appeals may be obtained by contacting the Financial Counsellor at Saint Mary's University, or by writing to the appropriate Provincial Student Aid Office as listed below.

Nova Scotia	Student Aid Committee Department of Education Box 578 Suite 437, 2021 Brunswick Street Halifax, Nova Scotia B3J 2S9 Telephone (902) 424-7737
New Brunswick	Department of Youth P.O. Box 6000 Fredericton, New Brunswick E3B 5H1
Newfoundland	Student Aid Division Department of Education Conference Building P.O. Box 2017 St. John's, Newfoundland A1C 5R9
Ontario	Student Awards Branch Ministry of Colleges and Universities Mowat Block, Queen's Park Toronto, Ontario M7A 2B4
Prince Edward Island	Canada Student Loan Committee Department of Education P.O. Box 2000 Charlottetown Prince Edward Island C1A 7N8
Quebec	Director generale de l'aide financiere aux etudiants 1035, De la chevrotiere Quebec, Quebec G1R 5A5

**Note:** Addresses for Student Aid Officers in other provinces are available on request from the Financial Counsellor.

#### United States Guaranteed Loans Program

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 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.

#### 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.

#### 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:

- have completed five (5) M.B.A. credits at Saint Mary's University on a full-time basis;
- be enrolled in the M.B.A. program on a full-time basis;
- be a Canadian citizen who has lived in Nova Scotia for at least ten (10) years;
- show evidence of financial need, academic ability, and possess those qualities of character and initiative which indicate potential leadership in the business world.

#### Xerox Canada Scholarship

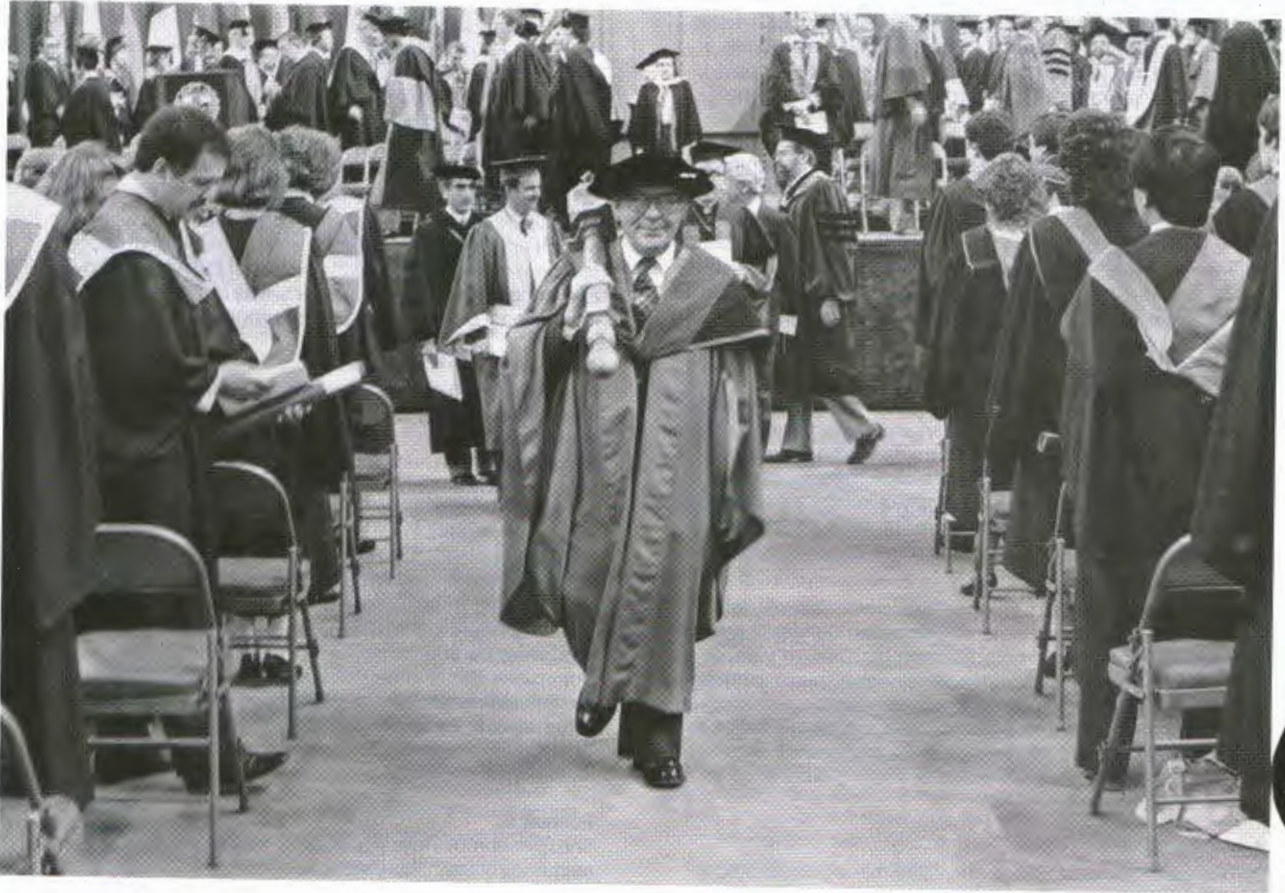
Established in 1977, through the generosity of Xerox of Canada, to support a graduate student in the general area of Business Administration. Applications should be submitted to the Chairman of the Graduate Awards Committee.

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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 the above mentioned 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 Training Centre (CCLC) Beijing Normal University, having previously been located at the University of International Business and Economics in Beijing. 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 detailed 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 at The Oaks, 5920 Gorsebrook Avenue. It is administered by a Director, a National Coordinator, an In-China Director, an Administrator, two secretaries and an accountant.

## 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 from within 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

The International Education Centre was established at Saint Mary's University in 1972. The Centre's principal activities include research, education, and community service programs relative to multicultural and international development issues.

### Research

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 the educational problems associated with ethnicity, race relations, and related issues. Through these activities, the Centre contributes to understanding Canadian society and culture. To this end the Centre publishes a series of monographs on Ethnic Heritage in Nova Scotia. To date ten have been published, together with a bibliography of sources for ethnic studies.

### Education

The Centre plans and arranges in-services and programs for educators. In cooperation with the Department of Education, the Centre works with schools in the area of multicultural studies. An Ethnic Directory is published listing various ethnic organizations in the province.

The Centre also promotes public awareness of international development issues. 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. The Centre is currently reorganizing its resource materials and will continue to add to this important collection. Slide shows, films, video tapes, and other materials necessary for an informed perspective on world issues are among the frequently used resources.

In addition to its programs, the I.E.C. also houses the Atlantic Regional 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.

### Speakers

People from many parts of the world, now resident in Nova Scotia, make up a list of qualified individuals who have expressed their willingness to travel and speak on behalf of the Centre. They make presentations to schools, churches, business and labor organizations, and to other individuals or groups interested in obtaining a better understanding of our multicultural heritage and Canada's relationship to other peoples and their cultures.

### Community Service

The Centre promotes cooperation and interaction between the academic community and ethnic minority groups by helping to make the resources of each available to the other. The Centre makes its facilities available to ethnic organizations, and frequently hosts meetings and conferences. The Centre also welcomes international students and their involvement in its program.

### Organization

A fifteen-member Board oversees the activities of the Centre. The Board is mainly drawn from members of the University community who are professionally involved in international education. In addition, there is representation from the Nova Scotia Human Rights Commission, ethnic groups, universities, and from the community at large. The Centre's permanent, full-time staff includes a Director, an Education Coordinator, an Education Program Officer, a Community Program Coordinator, and a Secretary-Receptionist.

### Facilities

The International Education Centre is located in the Burke Education Building at Saint Mary's University. Its main area serves as a display, assembly, and administrative centre. In addition, a large foyer adjoining the Centre is used for assembly, performances, refreshments and displays. On both sides of the foyer there are theatres, one accommodating 175 persons and the other 275 persons, which the University makes available for I.E.C. functions.

The International Education Centre has slide projectors, cassette recorders, an overhead projector, 16mm projector, video tape equipment, screens, films, slide tape shows and film strips. The Centre also has maps, artifacts and literature on the international community and Canada's multinational ethnic mosaic.

Some of this material is located in the Multi-Media Room of Saint Mary's University. The University's Media Services section also makes its equipment, amenities and services available to the International Education Centre. The extensive holdings of the University Library complement the printed materials of the Centre.

### 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 organization and its members seek 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.

The Association provides each year for the awarding of 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 through the University 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 McDonell.

## 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 in one or more aspects of the total program. 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

### Club (Men)

Rugby  
Cricket

### Intramural (League)

Softball  
Football  
Soccer  
Volleyball  
Hockey  
Basketball

### Varsity (Women)

Field Hockey  
Basketball  
Soccer

### Club (Men and Women)

Curling  
Track and Field

### Intramural (Tournament)

Broomball  
Tennis  
Volleyball  
Golf  
Curling  
Badminton

## Intramural (Club)

Table Tennis  
Badminton

## Recreation (Unstructured)

Swimming  
Skating  
Jogging  
Basketball  
Volleyball  
Hockey  
Badminton  
Weight Training  
Table Tennis

## Recreation (Instructional)

Aerobics  
Fencing  
Tennis  
Skating  
Swimming  
Weight Training

## On-Campus Facilities

Alumni Arena  
Huskies Stadium (artificial track and field)  
Gymnasium  
Swimming Pool  
Tennis Courts  
Weight Room

The new Fitness and Recreation Centre under construction on the Saint Mary's campus is expected to be completed in the spring of '87. This centre will house a triple-sized gymnasium with retractable seating, running track, racquetball and squash courts, Nautilus weight training room, multi-use exercise room, sauna, whirlpool, steam room, lecture/classroom, offices, lounge/restaurant, locker rooms, pro shop, physiotherapy/medical area, and equipment distribution area.

## Bookstore

Situated on the second floor of the O'Donnell-Hennessey Student Centre, the bookstore utilizes 3600 square feet of retail space to serve the University community.

The bookstore's prime role is to supply textbooks for current course offerings. All titles, requisitioned well in advance by course instructors, are processed for both the first and second semester during the regular academic term and for both the first and second summer sessions.

In addition to textbooks, the bookstore carries an array of supplies, from pens to calculators, as well as an assortment of sundry items, including records, 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 only 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 at Saint Mary's is a Digital Equipment Corporation VAX11/780 running the VAX/VMS operating system. This computer system includes three line printer/plotters, one dual density (800/1600 b.p.i.) magnetic tape drive, multiple disk drives with 952 million bytes on-line disk storage, and a 8 color drum plotter. The languages supported include BASIC, FORTRAN, COBOL, PASCAL and MACRO assembly language. The EDT editor can be used for both line and full screen composition and updating of files. The system also supports an electronic mail facility. Some of the statistical packages available include SPSS, SPSS graphics, SAS, Minitab, TSP (Time Series Processor) and Shazam Econometric programs. Other software packages available include: Oxford Concordance program, a financial system (G/LA/P), an investment analysis program, Kermit communications program, TEX software for a LASER printer, a UNIX BSD 4.1 emulation package (EUNICE), and the Writers Workbench (text composition, mechanics, cohesion and structure) set of programs. There is also a QMS 800 LASERGRAFIC printer, maintained by the Department of Mathematics and Computing Science.

High speed (300/1200/1400 baud) dial-up ports, centralized on a Develcon Dataswitch front end communications processor, are available for both on-campus and off-campus use. There are several computer systems connected to the Develcon Dataswitch, including a ZILOG model 12 multi-user UNIX (ZEUS) based system.

Other Develcon Dataswitch destinations include the academic VAX 11/780, various computer systems located at other universities, dial-out communications re: DataPaC, Envoy 100 etc.

There are approximately 158 computer terminals (video, hardcopy, and graphics) and 151 micro computer systems available for instructional and research purposes. Some of the vendors are Atari, Apple, Commodore, Digital Equipment Corporation, IBM, Hewlett-Packard, Tandy/Radio Shack, Terak, Sinclair, etc. There are also 7 plotters, 42 micro boards; an IBM based CAD/CAM system including plotter, digitizing tablet, etc.

In addition to the micros and terminals previously mentioned, there are also 3 public access micro labs. One micro-computer lab consists of 26 IBM-PC micros, each with 640 thousand bytes (kb) or ram memory and IBM color graphic boards, connected together as a local area network (LAN), using the JANET network software. System software includes LOTUS 1-2-3, dBase II, Wordstar, MS-DOS 2.1, Basic, Personal Pearl, financial analysis package, Word Perfect, Vedit editor etc.

The second general access lab consists of 24 MacIntosh Plus micro-computers with 4 ImageWriter II printers and an Apple Laser printer. The systems are connected together and use the Hypernet local area network software. Several applications packages covering word processing, graphics, statistics, drawing, charting, CAD/CAM are available.

A third general access lab contains 30 IBM pc compatibles. Each has 640kb ram memory, dual floppy drives, Hercules compatible graphics, 4.77/8 MHz cpu. Each micro can access the academic Vax and also function as a stand alone system.

Several classrooms are equipped with special facilities for teaching computer related courses.

The computer centre staff provide a variety of services for its users, including tours through the University's computing facilities, assistance in using the VAX 11/780, and programming advice. The latter is in addition to the liberal assistance available to students through their courses and labs. 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 uses. Authorized faculty and students may make use of computer resources (CAD/CAM, PLATO, unique software and hardware, etc.) located at these universities.

### Patrick Power Library

A new \$3,000,000 library was officially opened on campus in June 1976 and named in honor of the late Patrick Power, a generous benefactor of Saint Mary's since the 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, texts of important speeches, and various press releases and brochures.

The library subscribes to a number of information retrieval systems including CAN/OLE, DIALOG, ORBIT, and INFOGLOBE. 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 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 several 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 Magnilink offers visually impaired persons the highest quality closed circuit television system available. The Magnilink is engineered for the special needs of low vision individuals. It is capable of enlarging the text some 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.

To facilitate expeditious acquisition and cataloguing of books, the library utilizes the on-line University of Toronto Library Automation System (UTLAS), a data base of more than twenty million records.

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 two chapels of the residence complex. 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 Chaplain and from clergymen of all major denominations.

### Counselling Services

Saint Mary's University Counselling Centre staff provide free professional counselling and psychological 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 420-5615 and making an appointment. Evening appointments can be arranged. Students may use the services of the Centre on their own initiative, or they may be referred by a member of the academic 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 services 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:

#### Group Programs

**Study Skills** — This program examines study methods. Video-tapes are shown on concentration, time-scheduling, motivation, note-taking, learning from textbooks, and writing papers and exams. Information presented in the video-tapes is supported with discussion and practice of ideas presented.

**Assertiveness Training** — This program focuses on how to effectively communicate one's thoughts, feelings, and opinions. Assertive communication often leads to co-operation among people and having needs met. Communication skills are taught through lecture, role-playing, and practice 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. A special program for test anxiety is also offered.

The above groups involved six to eight classes, lasting for one to one and half hours each.

#### Individual Counselling

**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 test. The aim is to help the students define suitable career goals and enable them to select courses consistent with their career goals.

**Personal Counselling** — Students are counselled concerning a wide range of personal problems including physical disabilities, learning problems, conflicts with professors, study skills, family problems, marriage and sexual problems, depression, anxiety, drug and alcohol abuse and other issues.

**Freshman Orientation** — New students are offered assistance in planning courses, making adjustments to residence living, obtaining accurate information on entry into professions, occupations, etc.

**Services to the Disabled** — Staff of the Centre, in conjunction with other individuals and groups, work with disabled persons. Every effort is made to assure that equal opportunity education is reality. In this endeavour, the Centre focuses on identifying, modifying, and if necessary, establishing the support services required by disabled students while they pursue their education at Saint Mary's University.

### 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. Under the agreement with the Secretary of State, the Centre will receive core funding for a period of two years, ending in March of 1987. Although the Centre has a mandate to provide support services to disabled students, the major focus, until 1987, will be 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 types of technical aids will ensure that the campus is better 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 successfully 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 (1985-86), was offered at Saint Mary's to develop entry-level interpreters capable of working in the university classroom. Also in 1985-86, the Sign Language and Interpreting Curriculum Development Project, under the auspices of the Atlantic Centre, but located at the University of New Brunswick, was involved with researching and developing curricula for use with such programs in the future. This manual will be the first of its kind in North America.

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 intends to hire a deaf Educator/Counsellor who will be qualified to provide counselling services to hearing impaired students. The Educator/Counsellor will also be available to faculty members for advice and intervention on behalf of faculty members or the hearing impaired student.

The Special Education Faculty at Dalhousie University has sponsored workshops and seminars under the auspices of the Atlantic Centre, drawing upon the expertise of internationally known deaf educators. To date, we have held several workshops aimed at faculty, educators, and Government personnel and all were extremely successful.

The creation of the "Centres of Excellence" by the federal Government has begun a new era in the Canadian post-secondary education system. All three Centres — the Atlantic Centre, the Centre at the University of Western Ontario, and the Western Centre of Specialization in Deafness at the University of Alberta — are linked electronically to ensure an ongoing exchange of research information.

Prior to the establishment of the three Canadian Centres, the vast majority of Canadian hearing impaired students were compelled to attend Gallaudet College for the Deaf in Washington, D.C. There students received degrees which were all too often not recognized in Canada.

In the mid-50s, the United States began a concerted effort to open up their post-secondary system to deaf and hearing impaired students. According to experts in the field, there were approximately 365 hearing impaired students enrolled at the post-secondary level in 1955. Since that time, through the provision of services such as oral and sign interpreters, tutor/notetakers, and specialized equipment, the number has risen to over 11,000. It has been suggested that Canada in the 1980's is in a similar position to that of the United States in the mid-50's.

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.

### Student Health Services

Students are required to submit a completed medical questionnaire to Health Services by 1 September of the year of first registration. This questionnaire is treated confidentially and will not be available to anyone else without the students' written permission. It is the responsibility of all students to see that they have adequate medical coverage.

The Health Services Department is located on the 4th floor of the Student Centre. 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.-12 noon and 1:30-5:00 p.m. Monday through Friday. A nurse and secretary are in the office during office hours. The Doctor's office hours are 1:30-4:30 in the afternoon only. It is preferable that students make an appointment.

During the evening or night a physician may be reached at 425-6230. For emergency service call 428-2042 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.

### Medical Insurance

Each year the Students' Representative Council decides which insurance company will carry the health plan and they, along with the insurance company, are responsible for the administration of the plan.

#### 1. Full-Time Students (Canadian and Non-Canadian)

An extended health care plan arranged by the Students' Representative Council is compulsory for all full-time students. This plan includes such benefits as prescription drugs, ambulance service, accidental dental, private duty nursing, private or semi-private hospital not covered by provincial plans. 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 Lorensen 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 labor 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 are available in the Residence Handbook. The Handbook is available from the Director of University Residences.

#### **Married Student Apartments (Ignatius Loyola Residence)**

One and two bedroom apartments for married students are available on a 12-month lease only. Stove and refrigerator are provided.

#### **Application for Residence Accommodation**

Application for residence accommodation, together with a \$50.00 residence deposit, should be made to the Director of University Residences. When the applications are accepted, the deposits are retained and applied as payment of the caution deposit after students have entered residence. The caution deposit is to cover any damage costs assessed to a residence student during the academic year. Any outstanding balance in the student's caution deposit is refunded at the end of the academic year providing no indebtedness to the University exists. \$40.00 of this deposit will be refunded if notice of cancellation in writing is received by the Director of Residences by August 15. Deposits on applications accepted after August 15 are not refundable.

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 Behavior**

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 behavior 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, as individuals and

through their own organized disciplinary system. 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 behavior 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 demeanor consistent with the normally accepted standards of conduct required of students at the University. The force is under the general supervision of the Conference Coordinator of the University. Applications for Campus Security Force membership are to be directed to that officer.

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 between 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**

#### **Major Societies**

Arts Students Assembly (ASA)  
Commerce Students Society

Science Assembly  
 Residence Society  
 Off-Campus Society  
 Part-time Students Association — SMU-APS

#### Societies

Accounting  
 A.I.E.S.E.C.  
 Anthropology  
 K. Thomas Biology  
 Caribbean  
 Chemistry  
 Chinese  
 Classics  
 Debating  
 Economics  
 Engineering  
 English  
 Education  
 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  
 Freshman Society  
 Senior Class

#### Clubs

Dramatic Society  
 Debating Society  
 Amateur Radio and Electronic — VEISMU  
 Sports Parachute  
 Maroon and White Booster Club

