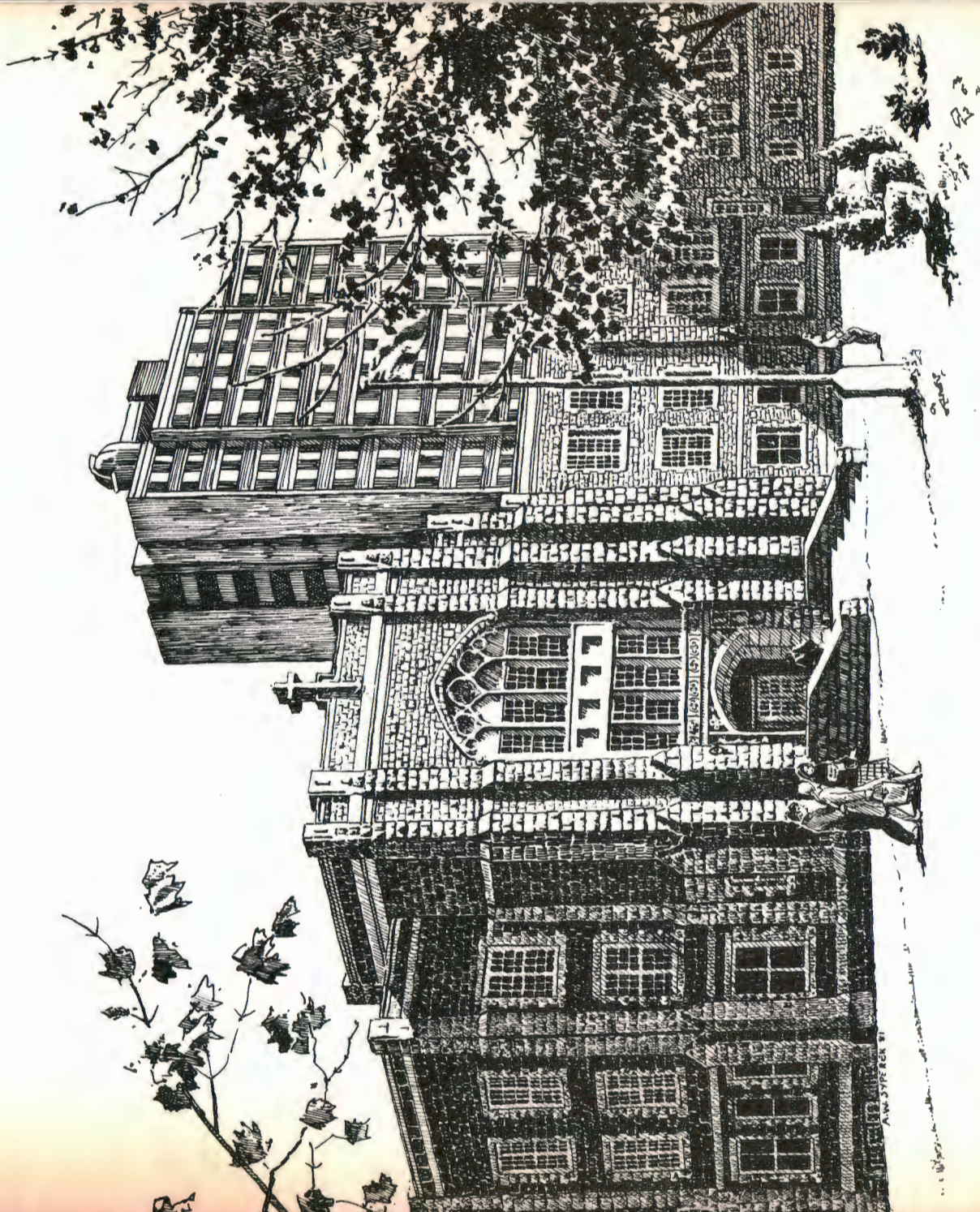


Saint Mary's University

Academic Calendar
1982-83





The academic year to which this Academic Calendar refers begins on 8 September 1982. The University hereby gives notice that while the information contained in this Calendar is considered to be accurate at the time of its preparation, there may be changes made subsequent to publication without prior notice. Publication date: 31 December 1981.

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 1982-83 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 1982-83 academic 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**

1982-1983

Saint Mary's University
Halifax, Nova Scotia
Canada
B3H 3C3
(902) 429-9780

Using This Calendar

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

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

Bachelor of Arts
 Bachelor of Science
 Bachelor of Commerce
 Diploma in Engineering
 Bachelor of Education
 Bachelor of Education (Vocational Education)
 Master of Arts (in History, Philosophy, or Education)
 Master of Science (in Astronomy or Applied Psychology)
 Master of Business Administration

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

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

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

Academic Policies and Records
 Registrar's Office

Admission of Students
 Admissions Office or Continuing Education Office

Alumni Affairs
 Alumni Office

Fees and Student Loans
 Comptroller's Office

Student Employment and Job Placement
 Canada Employment Centre on Campus

Residence Accommodation
 Office of the Director of University Residences

Scholarships
 Financial Aid Director
 Student Affairs
 Office of the Director of Student Services
 Summer School
 Continuing Education Office

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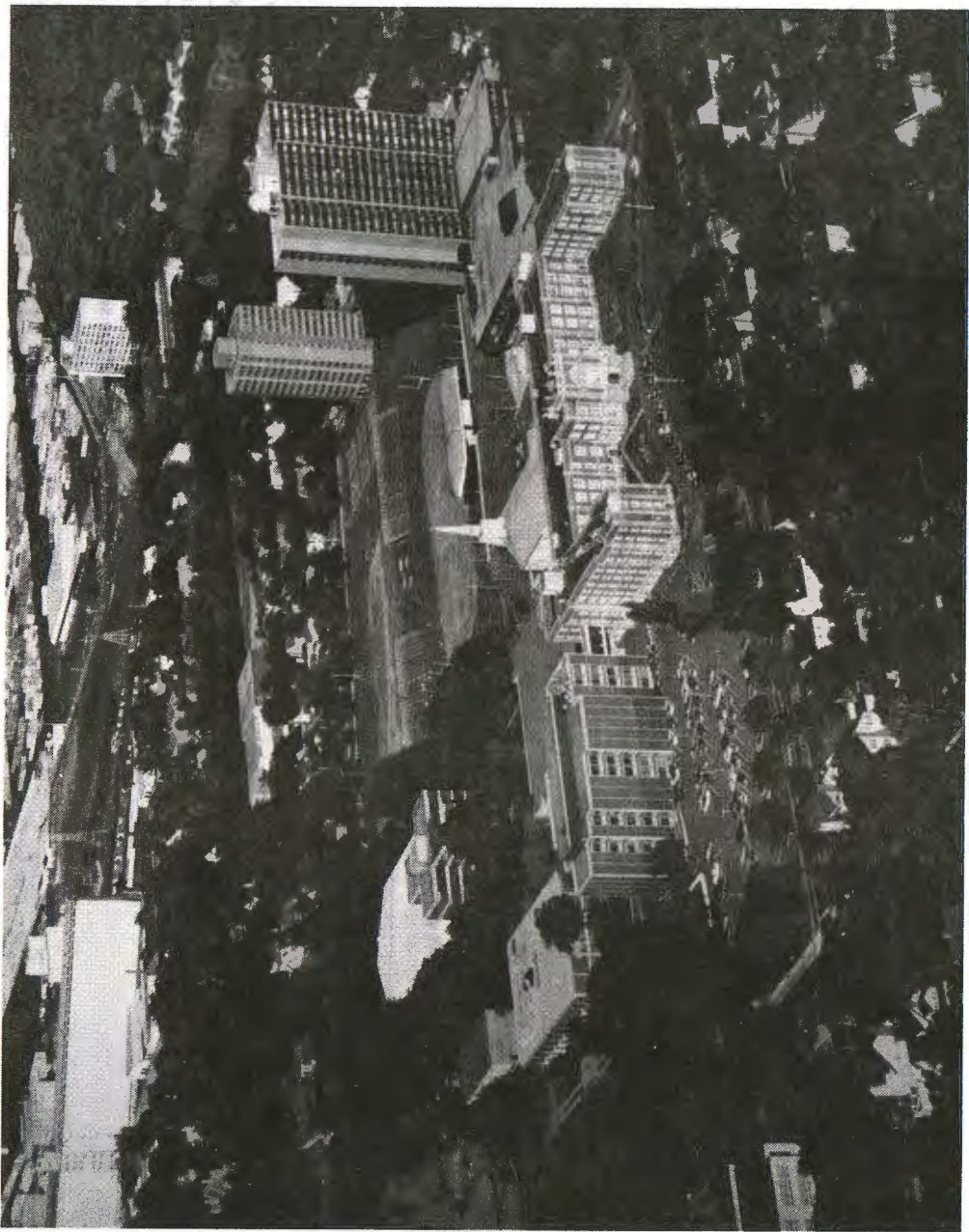
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Board of Governors and Senate

Board of Governors

Chairperson

Reverend Monsignor Colin Campbell

Vice-Chairperson

Mr. R. W. Ferguson

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

Members Appointed by the Roman Catholic

Episcopal Corporation

Reverend Monsignor Colin Campbell

to July 31, 1983

Mr. Lorne MacDougall, Q.C.

to July 31, 1982

Dr. Henry Reardon

to July 31, 1984

Members Elected by the Alumni Association

Judge Patrick H. Curran

to July 31, 1983

Mr. Edward Fitzgerald

to July 31, 1984

Dr. David Murphy

to July 31, 1983

Mr. J. Patrick O'Neill

to July 31, 1982

Mr. Terrence Sullivan

to July 31, 1984

to July 31, 1982

Academic Senate

Chairperson

Prof. D. Mulrooney

Vice-Chairperson

Mr. Ronald A. Lewis

Secretary

Mr. Kevin J. Cleary

Members Ex-Officio

Dr. Kenneth L. Ozmon, President

Dr. Joseph G. Jabbra, Academic Vice-President

Dr. Douglas H. Williamson, Dean of Science

Dr. Samuel H. Jopling, Dean of Commerce

Dr. Thomas J. Musial, 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. R. H. Beis

to July 31, 1984

Dr. V. M. Catano

to July 31, 1982

Dr. K. A. MacKinnon

to July 31, 1982

Prof. D. Mulrooney

to July 31, 1983

Mr. Perry Ronayne

to July 31, 1983

Dr. K. Vaughan

to July 31, 1984

Members Elected by the Students

To be announced

Member Appointed by the Upper Canada Province of the

Society of Jesus

Dr. W. Lonc, S.J.

to July 31, 1982

Members Elected by the Board of Governors

Mr. L. F. Kirkpatrick

to July 31, 1982

Mr. Harry Paton, Q.C.

to July 31, 1982

Mr. David Thompson

to July 31, 1982

Members Appointed by the Lieutenant-Governor in Council

Mr. R. W. Ferguson

to February 28, 1984

Mr. L. J. Redmond

to February 28, 1984

Members Elected

To June 1984

Dr. C. J. Byrne

to June 1983

Dr. V. M. Catano

Dr. P. Bowlby

Dr. J. L. Ginsburg

Dr. P. A. Fitzgerald

Dr. W. Grennan

Dr. F. C. Miner

Dr. T. O'Neill

Member to be elected

Dr. H. R. Schwind

To June 1982

Dr. D. L. DuPuy

Student Senators

To be announced

Dr. C. D. Howell

Dr. K. MacKinnon

Dr. G. Mitchell

Prof. D. Mulrooney

Faculty

Deans and Faculty Emeriti

- Beazley, Harold G.**, B. Comm., Hon. D. Litt. (Saint Mary's), Dean and Professor Emeritus in Commerce
- Murphy, James W.**, S.J., B.A. (St. Joseph's), M.A., Ph.D. (Toronto), Professor Emeritus in Chemistry
- Ryan, James L.**, B. Eng. (Nova Scotia Technical College), B. Sc. (Saint Mary's), Hon. D. Litt. (Saint Mary's), Dean Emeritus in Engineering
- Stewart, William A.**, S.J., B.A. (Montreal), S.T.L., Ph.L. (Immaculate Conception), D.D. (Toronto), Professor Emeritus in Philosophy
- Swianiewicz, Stanislas**, LL.B., Dr. Jur. (Vienna), Habilitation in Economics, Professor Emeritus in Economics
- ### Faculty
- Ahiakpor, James C. W.**, B.Sc., M.Sc. (Ghana), M.A. (British Columbia), Ph.D. (Toronto), 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 of Religious Studies
- Badawi, Gamal A.**, B. Comm. (Ain Shams), M.B.A., Ph.D. (Indiana), Associate Professor of Management
- Bajic, Vladimir**, B.A., M.A. (Belgrade), M.S. (Williams), Ph.D. (Toronto), Assistant Professor of Economics
- 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), Lecturer in Sociology
- 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
- Bobr-Tylingo, Halina**, DYP, INZ, ROL (S.S.S.W.-Warsaw), D.E.A. (Paris), Doct. Sc. Biol. (Paris), Associate Professor of Biology.
- Bobr-Tylingo, Stanislaw**, L.ès L., D.ès L. (Paris), Professor of History
- Bollini, Robert J.**, B.A. (Cornell), M.S. (Georgetown), Ph.D. (California, Berkeley), Associate Professor of History (on leave 1982-83)
- Bowlby, Paul W. R.**, B.A., M.A., Ph.D. (McMaster), Associate Professor and Chairperson of the Department of Religious Studies (on leave 1982-83)
- Boyd, R. Gavin**, B.A. (Melbourne), Professor of Political Science
- Boyle, W. Peter**, B.Sc., Ph.D. (Queen's, Belfast), Associate Professor and Director of the Division 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), Associate Professor of English
- Cameron, R. Hugh**, B.A. (Toronto), Ph.D. (London), Associate Professor of History
- Carrigan, D. Owen**, B.A. (St. Francis Xavier), M.A. (Boston), Ph.D. (Maine), Professor of History
- Catano, Victor M.**, B.S. (Drexel), M.S., Ph.D. (Lehigh), Associate Professor and Chairperson of the Department of Psychology
- Chadwick-Jones, John K.**, B.A., M.A. (Oxford), Ph.D., D.Sc. (Wales), F.A.P.A., Professor of Psychology
- Chamard, John C.**, B.A. (Saskatchewan), M.B.A. (Harvard), Associate Professor of Management
- Chauvin, Guy**, B. Comm. (McGill), M.A. (Dalhousie), Ph.D. (Trinity College, Dublin), Assistant Professor and Chairperson of the Department 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), Associate Professor of Sociology
- Cluctura, Theodore B.**, M.A. (Columbia), Dr. Jur. (Munich), Professor of Political Science
- Connell, Ronald D.**, B.Sc. (Alberta), M.B.A. (Queen's), C.D., Associate Professor of Management
- 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), Associate Professor of Sociology (on leave 1982-83)
- Cosper, Ronald L.**, B.A. (Purdue), M.A. (Cornell), Ph.D. (Rutgers), Associate Professor of Sociology
- Crowther, Roger H.**, B.A., M.A. (Cambridge), Professor of English
- Dar, Atul A.**, B.A., M.A. (Delhi), M.A., Ph.D. (McMaster), Assistant Professor of Economics
- Darley, James A.**, B.A., M.Sc., Ph.D. (Western Ontario), Associate Professor of Psychology
- 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 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), Assistant 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
- Dostal, Jaroslav**, Dip. Geol. (Prague), Ph.D. (McMaster), Associate Professor of Geology
- Dougherty, Frank P.**, B. Comm. (Sir George Williams), M.Sc. (Clarkson College of Technology), Ph.D. (Pennsylvania State), C.A., Associate Professor of Accounting
- DuPuy, David L.**, A.B. (King's College, Tennessee), M.A. (Wesleyan), Ph.D. (Toronto), Associate Professor and Chairperson of the Department of Astronomy
- Elkhazin, Izzy**, B.Sc. (Khartoum), B.A. (Hons), M.B.A. (Western Ontario), Assistant Professor of Accounting
- Eison, Clive M.**, B.Sc. (Toronto), Ph.D. (Queen's), Associate Professor and Chairperson of the Department of Chemistry
- Emerson, H. Bryan**, B.B.A. (Oklahoma), M.B.A. (Chicago), Assistant Professor and Chairperson of the Department of Accounting (on leave 1982-83)
- Erickson, Paul A.**, B.A. (Michigan), M.A. (Indiana), M.A. (Wayne State), Ph.D. (Connecticut), Associate Professor and Chairperson of the Department of Anthropology (on leave 1982-83)
- 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), Associate Professor of Spanish and Chairperson of the Department of Modern Languages and Classics
- Fillmore, Keith G.**, B.Sc. (Queen's), M.A. (Princeton), Ph.D. (British Columbia), Assistant Professor and Chairperson of the Department of Physics
- Finbow, Arthur S.**, B.Sc., M.A. (Dalhousie), Ph.D. (Washington), Assistant Professor of Mathematics
- Finden, Walter**, B.Sc., M.Sc., Ph.D. (Waterloo), Associate Professor of Mathematics (on leave 1982-83)
- Fitzgerald, Patricia A.**, B.B.A. (St. Francis Xavier), M.A. (North Dakota), Ph.D. (Northern Colorado), Associate Professor and Chairperson of the Department of Management
- Flynn, T. Edward**, B.A. (Memorial), M.A. (Dalhousie), Ph.D. (London), Associate Professor of English (on leave 1982-83)
- Gale, John R.**, B.A. (McGill), M.B.A. (Dalhousie), Assistant Professor of Management
- Gillis, D. Hugh**, B.A. (St. Francis Xavier), Ph.D. (London), Professor of Political Science
- Ginsburg, Jack L.**, B.A. (Temple), Ph.D. (Rutgers), Associate Professor of Chemistry (on leave 1982-83)
- Gregory, Janet**, B.A. Sc. (Waterloo), M.Sc., B.Ed. (Dalhousie), Assistant Professor of Finance/Management Science
- Grennan, Wayne**, B.Eng. (Nova Scotia Technical College), B.A., M.A. (Dalhousie), D. Phil. (Oxford), Assistant Professor and Chairperson of the Department of Philosophy
- Haigh, Elizabeth V.**, B.Sc., M.Sc. (Alberta), Ph.D. (Wisconsin), Associate Professor and Chairperson of the Department of History
- Halebsky, Sandor**, B.A. (City College of New York), Ph.D. (Cornell), Associate 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
- Hari Das, T.P.**, B. Comm. (Madras), M.B.A. (Indian Institute of Management), M.Sc., Ph.D. (British Columbia), Assistant Professor of Management and Director of Master of Business Administration Program
- Hartnell, B.L.**, B.Math., M.Math., Ph.D. (Waterloo), Associate Professor and Chairperson of the Department of Mathematics
- Haysom, John T.**, B.Sc. (London), Ph.D. (Cambridge), Professor of Education
- Herrick, Michael J.**, B.A., (College of Steubenville) M.A. (John Carroll), Ph.D. (Texas), Associate Professor of Education (on leave 1982-83)
- Higgins, Donald J.**, B.A. (Queen's), M.A. (Victoria, N.Z.), Ph.D. (Carleton), Associate Professor of Political Science
- Hill, Kenneth A.**, B.A. (California State College), M.A., Ph.D. (Alberta), Associate Professor of Psychology (on leave 1982-83)
- Hope, David A.**, B.Comm. (Saint Mary's), M.B.A. (Harvard), C.A., Associate Professor of Accounting
- Howell, Colin D.**, B.A., M.A. (Dalhousie), Ph.D. (Cincinnati), Associate Professor of History
- Imam, M. Hasan**, B.A., M.A. (Dacca), M.Sc. (London School of Economics), Lecturer in Economics
- Jacobs, William J. III**, B.A. (Washington), M.A., Ph.D. (Dalhousie), NSERC University Fellow in Psychology
- Jaquith, James R.**, B.A. (Mexico City College), M.A., Ph.D. (Indiana), Professor of Anthropology
- 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
- Kiang, Mo-Tak**, B.Sc., M.A., Ph.D. (Dalhousie), Associate 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 (on leave 1982-83)
- Konopasky, Robert J.**, M.A. (Western Ontario), B.A., Ph.D. (Windsor), Associate Professor of Psychology
- Kruse, Robert L.**, B.A. (Pomona College), M.S., Ph.D. (California Institute of Technology), Professor of Mathematics (on leave 1982-83)
- Landes, Ronald G.**, B.Sc. (Oregon), M.A., Ph.D. (York), Associate Professor of Political Science
- Larsen, Michael J.**, B.A. (Saint Mary's), M.A. (Dalhousie), Ph.D. (Toronto), Associate Professor of English
- Lenzer, Irmingard I.**, B.A. (California), Ph.D. (Indiana), Professor of Psychology (on leave 1982-83)

- LePierres, Guy**, B.A., L.ès 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), Associate Professor of Physics
- MacCormack, John R.**, B.A., M.A. (Dalhousie), Ph.D. (Toronto), Professor of History
- MacDonald, Roger A.**, B.A. (St. Dunstan's), M.A. (Dalhousie), Ph.D. (New Brunswick), Associate Professor and Chairperson of the Department of English
- MacKinnon, Kenneth A.**, B.Sc. (St. Dunstan's), M.A. (Dalhousie), Ph.D. (Toronto), Associate Professor of English and Coordinator of Atlantic Canada Studies (on leave 1982-83)
- Mackriss, John**, B.L.S. (McGill), B.A., M.A. (Toronto), D.E.A. (Paris-Sorbonne), Associate Professor of French
- 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 (on leave 1982-83)
- McCallia, 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), Associate Professor of Anthropology
- Maier, Kathleen**, B.Sc. (Toronto), M.Sc. (St. Francis Xavier), Ph.D. (British Columbia), Assistant Professor of Chemistry
- Merdsoy, Urban S.**, B.Sc., M.Sc. (Rochester), Associate Professor of Physics
- Mills, Wallace G.**, B.A., M.A. (Queen's), Ph.D. (California, Los Angeles), Associate Professor of History (on leave 1982-83)
- Millward, Hugh A.**, B.A. (Lanchester Polytechnic), M.A., Ph.D. (Western Ontario), Associate Professor of Geography (on leave 1982-83) *
- Miner, Frederick C.**, B.A. (Gettysburg College), M.B.A. (Utah), Ph.D. (Minnesota), Associate Professor of Management (on leave 1982-83)
- Mitchell, George F.**, B.Sc. (McMaster), M.A., Ph.D. (Toronto), Associate Professor of Astronomy (on leave 1982-83)
- Monahan, Arthur P.**, B.A., M.A., Ph.D. (Toronto), M.S.L. (Pontifical Institute of Medieval Studies), Professor of Philosophy
- Mukhopadhyay, Arun K.**, M.A. (Calcutta), M.A., Ph.D. (Brown), Assistant Professor of Economics
- Muirrooney, Dermot L.**, B.Eng., M.Eng. (Nova Scotia Technical College), Associate Professor of Engineering
- Murphy, Arthur**, B.A. (Saint Mary's), 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), Associate 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 of Physics
- Nahrebecky, Roman**, M.A., Ph.D. (McGill), Dr. Jur. (Prague), Professor of German
- Okraku, 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), Assistant Professor of Economics
- Overington, Michael A.**, B.A. (Clark), MA., Ph.D. (Wisconsin), F.L.A., Associate Professor of Sociology
- Pendse, Shripad**, B.A. (Knox College, Illinois), M.S. (Massachusetts Institute of Technology), Ph.D. (Stanford), Associate Professor of Management
- Perkyns, Richard J.H.**, B.A., Ph.D. (London), Associate 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 C.**, B.A., M.A. (Dalhousie), Assistant Professor of English
- Pye, Carol**, B.A., B.Ed. (Acadia), M.A., Ph.D. (Queen's), 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
- Rayko, Donald**, B.A. (Toronto), M.A., Ph.D. (Queen's), Assistant Professor of Psychology
- Ricketts, Peter J.**, B.A. (Hons) (Nottingham), Lecturer in Geography
- Robinson, Brian S.**, B.A. (Queen's, Belfast), M.A. (Alberta), Associate Professor of Geography
- Robinson, Earl J.**, A.B. (Davidson College), M.S. (Bucknell), Ph.D. (Georgia), Associate Professor and Chairperson of the Department of Finance/Management Science
- Rojo, Alfonso**, B.Sc. (Valladolid), M.Sc., D.Sc. (Madrid), Professor of Biology
- Rojo, Enriqueta Unturbe**, B.Sc., M.Sc. (Madrid), D. de C. Biologicas (Madrid), Associate Professor of Biology
- Sabeau, Allan T.**, B.A., B.Sc. (Saint Mary's), M.Sc. (McGill), Professor of Chemistry
- Schroeder, Harold J.**, B.Comm. (Manitoba), M.B.A. (British Columbia), Ph.D. (Southern California), Associate Professor of Management (on leave 1982-83)
- Schwind, Hermann F.**, B.B.A., M.B.A. (Washington), Ph.D. (British Columbia), Associate Professor of Management (on leave 1982-83)
- Scobey, Porter**, B.Sc., M.A., Ph.D. (Dalhousie), Associate Professor of Mathematics
- Seaman, Andrew T.**, B.A. (Mount Allison), M.A. (Dalhousie), Ph.D. (Dublin), Associate Professor of English
- Seringhaus, Rolf F. H.**, B.A., M.B.A. (York), Assistant Professor of Marketing

- Siddiqui, Quadeer A.**, M.Sc. (Lucknow), M.Sc. (Birmingham), Ph.D. (Leicester), Associate Professor and Chairperson of the Department of Geology
- Singh, Kirtan P.**, B.A., M.A. (Punjab), M.Sc. (Indian Institute of Science), Ph.D. (Pennsylvania State), Associate Professor of Mathematics
- Singh, Yash Pal**, M.Sc. (Rajasthan), Ph.D. (Birla Institute of Technology and Science), Associate Professor of Mathematics
- Snyder, J. Kennedy**, B.A., M.A. (Brown), Associate Professor of English
- Sparkman, Richard**, B.S.I.E. (Northwestern), M.B.A. (College of William and Mary), Ph.D. (Houston), Assistant Professor of Marketing
- Stegman, Emero S.**, B.A. (Don Bosco College), S.T.L. (Salesian Pontifical), M.A., Ph.D. (Fordham), Professor of Religious Studies
- Street, Philip A.**, B.A. (Windsor), M.A., Ph.D. (York), Associate Professor of Psychology
- Sun, Mary**, B.A., M.A. (Hong Kong), Ph.D. (London), Associate Professor of History and Coordinator of Asian Studies
- Swingler, David N.**, B.Eng., Ph.D. (Sheffield), Associate Professor of Engineering
- Thomas, Geraldine T.**, B.A., B.Ed., M.A., Ph.D. (Dalhousie), Associate Professor of Classics
- Thomas, Gillian M.V.**, B.A., M.A. (Sussex), Ph.D. (London), Associate Professor of English
- Thomas, Kurian K.**, B.Sc., M.Sc. (Travancore), Ph.D. (Florida), Professor of Biology (on leave 1982-83)
- Tobin, Vincent McB.**, B.A., M.A. (Dalhousie), Assistant Professor of Classics (on leave 1982-83)
- Tomscha, Franz V.**, B.A., B.Sc., M.Sc. (Johann-Wolfgang-Goethe), Associate Professor of Physics
- Tudor, Kathleen R.**, B.A. (Sir George Williams), M.A. (Montreal), Ph.D. (Toronto), Associate Professor of English
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- Vorstermans, Joseph J.**, Dr. Econ. (Tilburg), Professor and Chairperson of the Department of Economics
- Waldron, John W. F.**, B.A. (Cambridge), Ph.D. (Edinburgh), Assistant Professor of Geology
- Walsh, Gregory M.**, B. Comm. (Saint Mary's), Lecturer in Accounting
- Walter, M. Susan**, B.A., M.A., Phil.M. (Toronto), Assistant Professor of Anthropology
- Weeren, Donald J.**, B.A., (Montreal), M.S. (Fordham), Ph.D. (Columbia), Associate Professor of Education
- Weich, Gary A.**, B.S. (Harvey Mudd College), M.S., Ph.D. (Washington), Associate Professor of Astronomy
- Whalen, Terrence A.**, B.A. (Saint Mary's), M.A. (Melbourne), Ph.D. (Ottawa), Associate Professor of English
- Wiles, Michael**, B.Sc., Ph.D. (Leeds), Professor and Chairperson of the Department of Biology
- Young, G. Fred W.**, B.A. (Harvard), Ph.D. (Chicago), Associate Professor of History
- Young, John C.**, B.Sc., Ph.D. (London), M.B.A. (New York), Professor of Chemistry

Administrative Offices

Academic Vice-President

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

Admissions Office

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Greg C. Ferguson, B.Comm. (Saint Mary's), Assistant Director

Alumni

L. W. Smith, B.A. (Saint Mary's), B.Ed. (Dalhousie), M.A. (Fordham), Director
Belinda Gallagher, B.A. (Dalhousie), Assistant Director

Athletics

Robert G. Hayes, B.A. (Saint Mary's), Director
Brian M. O'Byrne, B.A., M.A. (Saint Mary's), Hockey Coordinator
Helen Castonguay, B.P.E. (Dalhousie), Basketball Coordinator
Roy Clements, Soccer and Volleyball Coordinator
Gary Heald, B.S. (Maine at Portland), M.S. (Maine), Basketball Coordinator

Allan Keith, B.A. (Saint Mary's), B.P.E. (McMaster), B.Ed. (Queen's), Football Coordinator
Kathleen Mullane, B.P.E. (Dalhousie), Field Hockey Coordinator

Audio Visual Services

Paul E. Rooney, Head

Bookstore

Donald Harper, B.Sc. (Saint Mary's), Manager

Business Office

Raymond A. Folkins, B.Sc. (Dalhousie), C.A., Comptroller
Ronald L. Cochrane, B. Comm. (Saint Mary's), Chief Accountant

Matthew Gallagher, Purchasing Officer
Debbie Cooper, Receiving and Stores
Lynn Welsh, Financial Aid Officer

Computer Services

A. M. Tingley, B.E., M.E. (Nova Scotia Technical College), Head

Conference Office

Patricia Lyall, B.Sc. (Saint Mary's), Coordinator

Continuing Education

Alan J. Gordon, B.Sc. (McGill), Ph.D. (Edinburgh), Director

Deans' Offices

Faculty of Arts

Thomas J. Musial, B.A. (Notre Dame), M.S. (Wisconsin), Ph.D. (Notre Dame), Dean and Associate Professor of English

Faculty of Commerce

Samuel H. Jopling, B.Mech. Eng. (Georgia Institute of Technology), M.S., Ph.D. (Pennsylvania State), Dean and Associate Professor of Accounting

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 Associate Professor of Geology

Development

Donald P. Keleher, Dip. Eng., B.Sc. (Saint Mary's), B.E. (Technical University of Nova Scotia), Director

Information and Public Relations

Elizabeth Stevens, B.A. (Dalhousie), Director

International Education Centre

James H. Morrison, B.A., B. Ed. (Acadia), Ph.D. (Ibadan), Executive Director

Library

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E. Jane Archibald, B.A., M.A. (Queen's), M.L.S. (Dalhousie), Head of Collections Development/Library Instruction
Robert Cook, B.A. (Hons) (Wales), M.A. (Lancaster), M.A. (Saskatchewan), M.L.S. (Dalhousie), Head of Bibliographic Search Unit

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M. Schenk, B.ScN. (Western Ontario), M.L.S. (Dalhousie), Head of Public Services

R. Tayyeb, B.A. (Karachi), B.L.S., M.L.S. (Toronto), Head of Technical Services

D. Vaisey, B.A. (Trent), M.L.S. (Dalhousie), Head of Reference

Personnel

Daniel G. Stone, Personnel Officer

President's Office

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Irene Campbell, S.C.A. (Acadia), Executive Secretary

Registrar's Office

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Murray Wilson, B.A., B.Ed. (Saint Mary's), Assistant Registrar
Theresa Brennan, B.A. (Saint Mary's), Assistant to the Registrar

Residence

Keith Hotchkiss, B.A. (Saint Mary's), Director
P. Clay Fowler, B.A. (Saint Mary's), Assistant Director

Senate Office

Kevin J. Cleary, B.A., B.Ed., M.A. (Saint Mary's), Secretary to the Senate

Student Services

Keith Hotchkiss, B.A. (Saint Mary's), Director
Lyn Andrews, B.A. (Saint Mary's), M.Sc. (Memorial), Counsellor
Rev. J. J. Hennessey, S.J., B.A., M.A. (Gonzaga), Counsellor
David Leitch, B.A., B.Ed., B.Sc., M.A. (Dalhousie), Head of Counselling
Rev. John Mills, B.A. (St. Anthony's College), B.D. (Mary Immaculate Seminary), M.A. (Maryknoll Seminary), Chaplain
Kathleen Mullane, B.P.E. (Dalhousie), Counsellor
J. R. Leighton Davis, B.F.A. (N.S.C.A.D.), Director/Curator, Art Gallery
Don Lawrence, Manager, Canada Employment Centre on Campus

University Services

Guy L. Noel, B. Eng. (Nova Scotia Technical College), Director
G. H. Somers, Dip. Eng. (Saint Mary's), Director of Physical Plant
Peter Weal, Manager, Printing Centre

Section 1

General Information



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.

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 focussing 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 8 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 new association between the Toronto School of Theology and Regis College.

Section 2

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) 429-9780

This section is indexed for easy reference:

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1. Procedures for Admission to Undergraduate Programs

- Completed application forms should reach the Admissions Office by 1 April for fall admission (1 August for January admission) in the case of overseas applicants, and 1 September for all other students. Provincial certificates or other accredited school certificates giving final grades or marks, plus a non-returnable processing fee of \$5.00 must accompany the application forms.
- 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.
- All students registering for the first time must present, at or before the time of registration, a certificate of medical fitness signed by an authorized medical practitioner. Failure to file the required medical documents will result in the students' acceptances and subsequent registrations being considered conditional and subject to cancellation. Saint Mary's is quite prepared to accept students having particular physical handicaps if these applicants provide a suitably signed medical certificate.
- 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.

- 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.

- 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).

- 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. Note

- 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 re-admitted to the University. The University reserves the right to accept or reject any applicant.

(ii) Definitions:

- "Satisfactory grades" means an average in five subjects of 60 per cent with no mark below 50 per cent.
- "Academically recognized subjects" means subjects offered in the university preparatory program of an approved school system.

b. Nova Scotia

- Students entering from the 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.

- 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.

- 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.

- 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.

- 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 a 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 sciences at the 441 level plus one subject at the 441 or 341 level;
- (c) Division of Engineering — English 441, Math 441, Physics 441, Chemistry 441 plus one subject at either the 441 or 341 level;
- (d) Faculty of Commerce — English 441, Math 441, and three other academic subjects, one of which may be coded 341.

c. New Brunswick and Prince Edward Island

- (i) Students entering from the New Brunswick or Prince Edward Island school system who have completed Grade XII are subject generally to the provisions outlined for Nova Scotia Grade XII students.
- (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 XI in the Newfoundland school system may be admitted to a four year degree program in arts and science or a five 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 16 points — 4 in English and 12 in other academic subjects — will be considered for admission. Students seeking admission to engineering and science must have 3 points in mathematics and at least 3 points in science subjects. Students seeking admission to commerce must have 3 points in mathematics.
 - (ii) Students must arrange to provide the Admissions Office with a high school transcript, 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. Passes must be obtained, at the minimum, in five subjects including English for arts, and English, mathematics and two science subjects for engineering and science. Commerce students must have English, mathematics and three other subjects.
 - (ii) Students who have completed the Advanced Level GCE tests must be considered for advanced standing.
 - (iii) Students whose first language is not English, or who have not attended an English language secondary school, will normally be required to take an English language test. These tests are administered by the University of Michigan, the College Entrance Examination Board, and the University of

Cambridge. The University of Michigan English Proficiency Test is administered by the Language Institute at Ann Arbor, Michigan, U.S.A., 48104, and is given on request in any country in the world at any time during the academic year. The normal Test of English as a Foreign Language (TOEFL) score required is a minimum of 550.

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-i).

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) 429-9780

(ii) The completed application form should be sent together with the regular application fee of \$5.00, 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

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.

Academic Regulations

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.

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.

Admission

Acceptance of an applicant as a student.

Advanced standing

Credit granted for work completed before admission to Saint Mary's University.

Audit

Non-credit registration in a credit course.

Chairperson

Faculty member responsible for a department or area of study.

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

Credit

A completed unit of university work or recognized equivalent. One credit is granted for each successfully completed full-year course; a half credit is granted for a successfully completed one semester course.

Dean

Also called Dean of the Faculty; the chief academic administrator of a Faculty.

Elective

A course not specifically required by a student's program of studies.

Faculty

When spelled with capital F, refers to an academic unit offering its own degree program; when spelled with small f, refers to instructors in a Faculty.

Grade

The letter indicating an instructor's evaluation of a student.

Instructor

A member of faculty teaching either full or part time.

Major

A subject or area of concentration.

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.

Prerequisite

A stated regulation which must be fulfilled prior to registration in a particular course.

Probation

A conditional status assigned to a student who has shown evidence of academic weakness.

Program

An approved group of courses leading to a degree or diploma.

Registration

Enrolment of a student in a course, courses, or program, including the payment of fees

Satisfactory academic standing (standard)

Maintaining a quality point average of at least 1.50.

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.

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	Chi
Chinese	Chi
Classics	Cla
Commercial Law	Cml
Economics	Eco
Education	Edu
Engineering	Egn
English	Egl
Finance	Fin
French	Fre
General Business Studies	GBS
Geography	Gpy
Geology	Geo
German	Ger
Greek	Gre
Hebrew	Heb
History	His
Independent Study Program	ISP
Italian	Ita
Latin	Lat
Management	Mgt
Management Science	Misc
Marketing	Mkt
Mathematics	Mat
Philosophy	Phi
Photography	Pho
Physics	Phy
Political Science	Pol
Psychology	Psy
Religious Studies	Rel
Sociology	Soc
Spanish	Spa
West European Studies	WES

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1. Number of Courses in a Year

- a) Students must formally register for all courses. In the Faculties of Arts, Commerce and Science (exclusive of Engineering) the normal load in the regular session for a full-time undergraduate is five full courses (or the equivalent), while in the Division of Engineering and in the Bachelor of Education program six full courses (or the equivalent) 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.
- b) Students may apply to the Dean of their Faculty for permission to carry an extra half or full course. Permission will be granted only in exceptional circumstances 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. No additional fee is required for overload courses, unless these are to be taken at another institution.
- c) Students are normally permitted to take only one full course or equivalent during a summer session. In exceptional circumstances and where students have attained a quality point average of 3.00 during the previous academic year of full-time study, or proven consistent performance at least at the 3.00 level in the case of part-time study, two courses may be authorized at the discretion of the Dean of the Faculty. No more than three full courses or equivalent may be taken by students during the two

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.

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 13(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.

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

- b) Formal academic counselling is required of the following students:
1. all students who are on academic probation as defined in regulation 7 (d);
 2. 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;
 3. all students who do not attain a quality point average of at least 1.50 in any given semester;
 4. all students who are resuming their studies after having been required to withdraw from the University because of academic weakness [see regulation 7h(iii)];
 5. all full-time students who have received two or more grades of W, WP, WF, or F in any given semester;
 6. all full-time students who are resuming their studies after having voluntarily withdrawn from the University;
 7. all part-time students who withdraw from two or more of any five consecutive full courses or the equivalent.
- c) Students who are required to confer with their academic advisor will be notified by their Dean and will be expected 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. Students who are required to confer with their academic advisor and fail to do so, or who fail to make appropriate efforts to resolve problems which are affecting their academic performance may be placed on probation by the Committee on Academic Standing with the approval of the Dean.

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

5. Undergraduate Rating, Grades and Quality Points

a) The rating of undergraduate students' performance 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). There are no recognized percentage equivalents for these grades.

Rating	Grades	Quality Points
Excellent	= A	= 4.00
Very Good	= B+	= 3.50
Good	= B	= 3.00
Satisfactory	= C+	= 2.50
	= C	= 2.00
	= C-	= 1.50
Marginal Pass	= D	= 1.00

Fail or withdrawal after deadline (see No. 16)

Withdrawal Failure = F = 0.00
= WF = 0.00

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 WP or 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 of IC (incomplete) by the instructor, if no final grade has been submitted to the Registrar by the instructor within six weeks of the last day of classes in the semester, a grade of F will automatically be substituted for IC, except in the following cases:
 - (i) Honors level courses;
 - (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 quality point average is used to determine the standard of students' performance for the academic year.
 - Each letter grade is given a quality point equivalent as described in 5(a) above.
 - 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.
 - The cumulative quality point average 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 of 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.
 - 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**
- 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.
 - 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**
- To qualify for a Bachelor's degree in Arts, Science, or Commerce or a Diploma in Engineering, 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 — or a quality point average below 1.50 in any given semester is considered unsatisfactory.
 - 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.
 - 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 F in the section of this Academic Calendar dealing with the Master's Degree).

d) Probationary Status

- Probationary status is incurred
- if at the end of any academic year full-time students have not attained a quality point average of 1.50 for that year;
 - 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;
 - on readmission after being required to withdraw because of academic weakness (see (h) below).
 - 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

- 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.
- 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:

- Transfer to a different Faculty does not remove probationary status.
 - 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:
- if students fail to obtain a 1.50 quality point average during the first year of full-time study after being placed on probation;
 - 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**
- Students who are not eligible for readmission to their former institution are normally not admissible to Saint Mary's University.
 - 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).]

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 (a) and (b) above, and laboratory periods may be used only for laboratory work, laboratory tests or laboratory examinations.
- d) 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.
- e) 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.
- 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 to the University Library system.
- f) Grades given at the end of a semester shall not be made known to students except 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.

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 or 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.

4ii) 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 (aeqrotat). 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 the final ten credits.

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

15. Procedure for Changing Faculty

In order to register an official change of Faculty, students must file with the Registrar a Change of Registration Form which has been signed by the Dean of the Faculty into which the students intend to transfer.

Upon receipt of such a Change of Registration Form, the Registrar, on the advice of the Dean of the Faculty, will inform the students of the number of credits (including advanced standing credits) being transferred to their new degree program.

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

16. Withdrawing from a Course

a) After the time limits indicated in 13(b) above have expired, and provided the course still has one quarter of the instruction time remaining, students may be authorized by their faculty advisors to withdraw from the course. Students who do not have a faculty advisor must obtain this permission from the Dean of their Faculty.

b) If authorization is granted, students will be responsible for submitting the authorization on a prescribed Change of Registration Form to the Registrar, who will then inform the appropriate instructor and request a grade. The instructor will assign a grade of WP (withdrawal when passing) if up to that point the students have completed all required work and achieved at least the minimum passing grade as defined in 5(c) above; WF (withdrawal when failing) if all required work has not been completed and/or the minimum passing grade has not been achieved; or W (withdrawal) if no work has been required of the student and no assessment is therefore possible.

c) After the time limits indicated in 13(b) above have expired, the only basis for a grade of W will be under the provisions outlined in 16(b) above.

- d) Students cannot withdraw from a course after it has entered its last quarter of instruction except with the grade of "F".
- e) A student who registers for a course and does not withdraw is considered to be taking the course, and if no grade is assigned by the instructor, a grade of "F" will be recorded.

17. Retaking a Course

- a) Students may retake any course, with the prior written permission of his or her faculty advisor. Although all grades, including failing grades count in computing quality points for the year and for the degree, each course counts only once as a credit in the degree program.
- b) Students will not ordinarily be given credit for a course taken at another educational institution which they have already taken and failed at Saint Mary's.

18. Withdrawal for Academic Reasons

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

19. Academic Responsibility

- a) University students are expected to have a reasonable measure of self-discipline and maturity. While the University's teaching resources are available for help and guidance in the programs of study undertaken by students, and every effort will be made by instructors and staff to assist students with academic or other problems, the final responsibility for success or failure in academic studies rests on the students.
- b) While the University does not compel attendance at every class, students should realize that failure to attend regularly may seriously jeopardize their chances of success. [See No. 4(b)].
- c) Students who do not adhere to traditional ethical standards in the conduct of their academic work will be subject to penalty, including the possibility of being expelled from the University.

20. Advanced Standing

- a) **High School**
Students from Nova Scotia Grade XII (or the equivalent) seeking advanced standing must forward their final transcript or certificate of marks to the Director of Admissions. A maximum of five credits can be awarded in respect of work completed in high school.
- b) **University and Post-Secondary Institutions**
After an official transcript has been received by the Registrar, students transferring from other recognized universities or other post-secondary institutions to a degree program at Saint Mary's will be given advanced credit as judged appropriate by the Dean of the Faculty. To obtain a first baccalaureate degree or a diploma they must fulfill all requirements for that degree or diploma and successfully complete a minimum of seven full courses (or the equivalent) at Saint Mary's of which a minimum of three full courses (or the equivalent) must be in the students' major subject or area of concentration. In the case of students in an honors program the minimum number of courses required at Saint Mary's is twelve of which a minimum of eight full courses must be in the subject(s) of honors.

Note:

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

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

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

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

21. Transfer Credit

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

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

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

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

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

f) No transfer credit will be given for courses with grades of D (or the equivalent). Students should also note that in some departments a grade of C or higher is required if the course is to be considered as part of the students' major.

g) Except under the above provisions, students may not register concurrently at Saint Mary's and at another academic institution.

22. Advanced Standing Credit by Examination

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

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

c) For a course with an accompanying laboratory, the Department may require demonstration of appropriate laboratory skills as a prerequisite to taking the advanced Standing Credit Examination.

d) Grading

- i) Advanced Standing Credit Examinations will be graded either P (pass) or F (fail).
- ii) Advanced Standing Credit Examination failures will not be recorded on students' transcripts.
- iii) If the Advanced Standing Credit Examination is passed, credit for the course will be recorded on the students' transcripts along with an indication that credit was obtained by passing an Advanced Standing Credit Examination.

e) Conditions

- i) A request for Advanced Standing Credit Examinations will not be considered after one year from the date of the students' first registration in a degree program at Saint Mary's University.
- ii) The Advanced Standing Credit Examination for a given course may be taken only once.
- iii) Advanced Standing Credit Examination cannot be taken in courses for which the student has already received grades of AU, WF, or F.
- iv) Credits obtained from Advanced Standing Credit Examinations cannot be used to reduce a twenty-course program to less than a fifteen-course program or a twenty-five course program to less than a twenty-course program.
- v) Advanced Standing Credit Examination credits in excess of the above allowance will be entered as credits on the students' transcripts but will not be used to reduce the number of courses required for a degree.

f) Registration Procedures

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

g) Fees

Information available from the Registrar.

23. Second Undergraduate Degree

a) Students who hold a first baccalaureate degree from Saint Mary's University may earn a second baccalaureate degree in a different Faculty by completing all the requirements for that degree, as specified by the Dean of that Faculty. In so doing, they must obtain credit for at least five additional full courses (or the equivalent), and may not use the same major program or concentration to complete the requirements for both degrees. All of the courses required for the second baccalaureate degree must be taken at Saint Mary's.

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

c) All students who wish to register in a program leading to a second baccalaureate degree must complete the appropriate application in the Admissions Office at least three months prior to the term in which they expect to enter the second degree program. The admission of students who earned their first

degree at a post-secondary institution other than Saint Mary's, or students who earned their first degree at 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 chosen major. Dual degree students may receive both of their degrees at the same Convocation.

24. 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.

25. 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 Events (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 regular 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 that all the degree requirements have been completed.

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 of Education	B.Ed.
Bachelor of Education (Vocational Education)	B.Ed. (Voc.)
Master of Arts	M.A.
Master of Business Administration	M.B.A.
Master of Science	M.Sc.
Doctor of Laws, Honoris Causa	LL.D.
Doctor of Letters, Honoris Causa	D. Litt.

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

26. 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.

27. 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.

B.A., B.Sc., & B.Comm.	Quality Point Average
summa cum laude	3.91-4.00
magna cum laude	3.76-3.90
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. Students who have taken fewer than twelve courses at Saint Mary's are not eligible for distinctions.

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.

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. and the M.A. (Education) graduate programs.

Note: The cumulative quality point averages will be calculated on the same basis as that for determining distinctions (see No. 27). In the case of a tie, Senate will determine the recipient of the medal.

29. 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.

30. Transcripts

Students' transcript 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.

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:

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

Where appropriate reference is also made to:

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

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.

28. University Medals

At each Convocation the following are presented:

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 as noted herewith:

First two weeks of August (2 to 13)

Monday, Tuesday, Thursday, Friday
Wednesday

9:00 a.m.-12:00 noon
9:00 a.m.-12:00 noon

and

5:00 p.m.-7:00 p.m.

Second two weeks of August (16 to 27)

Monday, Tuesday, Thursday, Friday
Wednesday

1:00 p.m.-4:00 p.m.

1:00 p.m.-4:00 p.m.

and

5:00 p.m.-7:00 p.m.

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. This amounts to at least \$100.00 for full-time students and one half the full year's fees for part-time students. Those who register early are required to make satisfactory arrangements with the Business Office no later than 29 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 three weeks of August (2 to 20).

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 University Calendar of Events (see centre pages of this Calendar).

4. Late Registration

On payment of a late fee of \$10.00, students may register after the final day for regular registration but before the expiration of the time limits specified in Academic Regulation 13B.

5. 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.

6. Cancellation of Courses

If the number of students registered for a course is insufficient to warrant it 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.

7. 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 sent to the students' permanent addresses.

8. Identification Cards

At the time of first registration students are required to purchase an I.D. card at a cost of \$2.00. 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 \$5.00, 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.

Students who withdraw from the University must return their I.D. card to the Registrar before the withdrawal can become effective. Should such students subsequently be readmitted, they must purchase new I.D. cards.

Section 3

Faculties and Programs

Arts

Commerce

Science

Engineering

Education

Masters

Special Program

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 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 facility 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 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.

Credits for Grade XII work may not be used in fulfillment of any of these requirements. Most full-time students will find it to their advantage to attempt to satisfy 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.

Note: Full-time students must attempt to fulfill these requirements in their first year. Students with special interests can, with the Dean's permission, fulfill some of these in their second year.

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 West European Studies (for details consult the Dean of Arts) 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 requirement 3, each candidate must receive credit for the equivalent of not fewer than six full University courses in the subject of the major or in the chosen area of concentration; but may count among these six any relevant course or courses taken in fulfillment of requirement 3. Not fewer than four of the six courses must be at the 300-level or above. No department may require more than the equivalent of eight full courses in the major subject.

6. Within the limits imposed by these regulations, any candidate may count towards his B.A. degree the equivalent of up to three full courses from outside the range of recognized

Arts subjects as specified in requirement 4. The Dean of the Faculty may authorize an extension of this upper limit to meet special program requirements or where there are sound academic reasons for doing so.

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 fulfill 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 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 fulfill 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, 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 and sociology. 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 Continuation 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 courses which relate academic studies to practical working experience which can be taken to fulfill 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 fulfillment 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.

***Pending approval by the Maritime Provinces Higher Education Commission**

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 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 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. Students with a general B.A. will normally enter the two-year program. The course requirements are as follows:

Year I — A 500 level seminar and 3 other courses at the 500 or 600 level.

Year II — His 690.0 and 3 other courses at the 500 or 600 level. Students with a B.A. (Honors) or equivalent qualification may be permitted, at the discretion of the Department, to enter a one-year program, in which the course requirements will be a 500

- level seminar, His 690.0 and 3 other courses at the 500 or 600 level.
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.

Degree of Master of Arts in Philosophy

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

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

Faculty of Commerce

General Information

The Faculty of Commerce offers programs of study leading to the degrees of Commerce, Bachelor of Commerce (Honors) 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, economics, finance, management, management science, marketing, and personnel administration and industrial relations.

Both the honors and 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 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, finance, management, management science and marketing.

Requirements for the Degree of Bachelor of Commerce

The following requirements apply to all entering commerce students. Those enrolled in the previous Bachelor of Commerce program at Saint Mary's University should refer to the 1977-78 Academic Calendar pages 36 and 37 for specific eligibility requirements.

1. The Bachelor of Commerce program consists of the equivalent of twenty full courses beyond Nova Scotia Grade XII (or equivalent) or a total of twenty-five full courses (or equivalent) for those entering from Nova Scotia Grade XI 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.

25.0 Course Program

Freshman 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

Sophomore 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 321(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 electives (1) (see note c below)

Junior 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 electives 1 (see note d below)

Free elective (½) (see note e below)

First Senior Year

Acc 348(½) Planning and Control

Fin 360(½) Business Finance I

Fin 361(½) Business Finance II

Written and oral communications (1) (see note f below)

Courses as listed for major (2½) (see requirement 5).

Second Senior Year

Mgt 489(½) Business Policy

Courses as listed for major (4½) (see requirement 5)

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 freshman year and substitute a non-commerce elective for Egl 200.0 in their sophomore 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.

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) Students may choose to take a full free elective and defer a credit of economics or commerce law until later in their program. A free elective may be chosen from any Faculty.

f) Further information regarding this requirement will be available from the Dean of Commerce at the time of registration.

5. Students are also required to complete a major in accounting, business administration, or economics. During the latter part of their junior year, students are expected to choose a major (i.e. accounting, business administration, or economics). At this time, business administration majors are also expected to choose their program (finance, management, management science, marketing, personnel and industrial relations or general business studies). The first and second senior year requirements are listed below by major, and programs where applicable.

a) Accounting Major

First Senior 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

Second 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.

b) Economics Major

First Senior Year

Economics electives 300 level or above (1½) — see note below
Non commerce electives (1)

Second Senior Year

Economics electives (1½)
Non commerce elective (1)
Free electives (2)

c) Business Administration Major (Finance Program)

First Senior Year

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

Second 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)

d) Business Administration Major (Management Program)

First Senior Year

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

Second 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)

e) Business Administration Major (Management Science Program)

First Senior Year

Msc 301(½) Operations Research
Msc 303(½) Statistical Analysis for Business and Economics
Msc 317(½) Introduction to Operations Management
Non commerce electives (1)

Second Senior Year

Msc 302(½) Principles of Mathematical Programming
Msc 322(½) Computer Simulation
Msc 409(½) Seminar in Operations Research and Statistics
Commerce electives in a non-quantitative area (1)
Non commerce electives (1)
Free electives, 200 level or above (1)

f) Business Administration Major (Marketing Program)

First Senior Year

Mkt 376(½) Consumer Behavior
Marketing electives (1)
Non commerce electives (1)

Second Senior Year

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

g) Business Administration (Personnel and Industrial Relations Program)

First Senior 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

Second 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 junior year, the number of free electives is increased to (1) or (1½) as appropriate.

h) Business Administration Major (General Business Studies)

First Senior Year
Commerce electives, 300 level or above (1½)
Non commerce electives (1)

Second Senior Year

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

Requirements for the Degree of Bachelor of Commerce (Honors)

- 1) **Admission Requirements:**
 - a) Minimum cumulative quality point average of 3.00 at the end of the junior year.
 - b) Candidates must make application for admission to the honors program on the special form obtainable from the Registrar no later than the last day of registration at the beginning of their first senior year. They must obtain the approval of the chairperson of the appropriate department and of the Dean of Commerce.

2) Requirements for Continuance and Graduation:

- a) To continue in the program and to graduate, students must maintain a minimum cumulative quality point average of 3.00.
- b) 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 and any additional requirements of the relevant department.
- c) 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 department may permit the substitution of up to two courses from a related subject area as part of the ten courses required.
- d) 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).

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:

- a) Students must satisfy the applicable requirements for a major in economics as outlined on the preceding pages.
- b) The ten full courses or equivalent in economics presented for honors must include:
 - i) Eco 201.1 (2), Eco 202.1 (2), Eco (or Msc) 206.1 (2), and 207.1 (2)
 - 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) two of the following three courses: Eco 302.1 (2), Eco 303.1 (2) and Eco 309.1 (2) or an equivalent full credit (two semesters) from the Department of Mathematics with the approval of the Chairperson of the Department of Economics.

v) an honors project, which is the equivalent of ½ credit, done under the supervision of a faculty member.

c) 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.

Dual Bachelor Degree Programs

Since it is possible to obtain 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;
- two letters of recommendation;
- GMAT results (Note: 0958 is the appropriate code for the MBA program at Saint Mary's University);
- for overseas students whose native language is not English, a test in English (TOEFL);
- a non-returnable application fee of \$5.00.

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

Financial Aid

In addition to Canada Student and other loans, financial aid is

available through University scholarships and assistantships. (See Section 6 for additional information.)

Part-Time Basis

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

Teaching Methodology

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

The faculty believes that management education is essentially a process of personal development which must be student-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 I

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

Basic Disciplines

- Economics of the Enterprise
- Economics of the Enterprise Environment
- Management Science
- Computers in Business
- Organizational Behavior

Functional Areas

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

Year II

The second year of the program is designed such that the students maintain a broad managerial perspective, but can concentrate in a more specialized area. Students are required to take Mgt 689 (Management Policy and Strategy Formulation)

and MBA 691 (Management Research Project) as part of their second year program. In addition, students must take at least one second year course in accounting, finance, management, management science, and marketing. Beyond this, students have four second year courses (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

Credits

Course	
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
	5½

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
	5½	

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 Enterprise Environment
Msc 506.1	Introductory Decision Analysis I
Msc 507.2	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 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

Msc 603.1 (.2)	Statistical Applications in Management Science I
Msc 604.1 (.2)	Statistical Applications in Management Science II
Msc 615.1 (.2)	Operations Management
Msc 616.1 (.2)	Production Applications in Management Science
Msc 690.1 (.2)	Seminar in Management Science
Msc 692.1 (.2)	Directed Study

Marketing

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

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

Faculty of Science

General Information

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

Honors

The honors program demands a B grade 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 year. Students can apply subsequently for admission to the 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 performance and motivation develop in that way.

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

- 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.
- The candidate will normally take five full courses during the regular academic year.
- Each candidate for the degree of Bachelor of Science must receive credit for:
 - 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.
 - 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-ii) 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 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 Grade XI or 20 full courses following grade XII. 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 the first year 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 9(b) and an average of not less than B in the same courses. A student receiving a mark of less than C in any honors course will be permitted to continue in the honors program only with the approval of the department.

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

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 N.S. 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/organizational 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 including those with degrees in areas other than psychology, 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 (of 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

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 course from history, geology, geography, ancient and modern languages.

Nova Scotia Grade XI, or equivalent, with satisfactory grades in English and mathematics, and three other academically recognized subjects. The enrolment in the first year of the diploma program is limited to 100 students.

Note: 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.

Requirements for the Diploma in Engineering

(1) Two Year Diploma after N.S. 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

(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) beyond the diploma level
 Chemistry elective (1 credit) beyond the diploma level
 Physics elective (1 credit) beyond the diploma level
 Elective (humanities, social sciences), 1 credit
 Elective (humanities, social sciences), 1 credit

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

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

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

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

(ii) Bachelor of Science in Engineering Management

Students currently enrolled in this degree program are advised that they must complete all requirements no later than 31 August 1983. There is no further admission to this particular program.

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.

(a) 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 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.

(b) 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, but in any case, applications received after August 1 may not be processed in time for registration in September.

(c) 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 General Methods of Teaching
- Edu 504.0 History of Education
- Edu 505.0 Practice Teaching
- Edu 550.1 Special Education

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 the Department of Education 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 505, 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 candidacy, terminate candidacy, or continue candidacy on a probationary basis.

Master of Arts Degree (in Education)

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 program 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 the Master of Arts (in Education). 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 of Arts (Education) 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 courses at the Master of Arts level. On successful completion of the course(s), students may then apply to be admitted to the Master of Arts (Education) program. The qualifying or make-up course(s) will not be credited towards the Master of Arts (Education) 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. Three diverse optional routes open to the degree are as follows:

- (a) four full courses and the normal research thesis requirement;
 - (b) four full courses and an action research study (classroom oriented);
 - (c) a five full course program selected in consultation with the Dean of Education.
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 (Master of Arts) for upgrading purposes, in order to enroll for a second graduate (Master of Arts) course, an individual student must apply for admission to the regular Master of Arts (Education) program and be accepted.

Master's Degree

General Requirements

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

Master of Arts in History
 Master of Arts in Philosophy
 Master of Arts in 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.

a. Qualifications for Admission

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

b. Procedure for Admission

- Procedure for admission shall be made to the Director of Admissions. The applicant shall arrange to have forwarded to the Director of Admissions an official transcript of his academic record and letters of recommendation from at least two persons in a position to judge the applicant's capacity for graduate study. The application form 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.
- Successful applicants will be notified by the Director of Admissions.

c. Registration

- Registration of students in graduate studies shall take place at times indicated in this Calendar.
- No student is permitted to register until he has received notification of acceptance.

d. Program of Study and Research

- 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.

- A candidate may be required to audit a course as part of the program of study.
- 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.
- Changes in either the program of courses or the topic of the thesis require the approval of the department.
- Period of Study**
 The maximum period of a Master's degree program shall be four years (six years in the case of part-time students). 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.

f. 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
WF	=	0.00	=	Withdrawal 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 or WP

g. Thesis (if required)

- 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.
- 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 refused by the candidate before the thesis can be accepted.
- One original and two carbon copies, or clean photocopies of the accepted thesis must be submitted to the Registrar. These will be done on good quality bond paper, 8½ x 11 inches. The

typing shall be double spaced. There will be left hand margins of 1½ inches. All other margins will be 1 inch. The thesis must be free of typographical and other errors. Each copy of the thesis must have a page designed to contain the signatures of the members of the Examining Committee.

4. A Saint Mary's University Thesis Presentation Form, signed by the student must accompany the deposited copies, giving permission for microfilming.

5. Each copy of the thesis must be accompanied by a typed abstract of approximately 300 words. It will bear the title "Abstract" and will include the name of the author, title of the thesis and the date of submission.

6. Theses shall be prepared in accordance with the conventions governing the presentation of scholarly works as specified by the department.

h. Departmental Regulations

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

Special Program

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.

Pre-Professional Programs

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.

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) 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.

(f) 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 the qualified students for admission to the School of architecture is carried out by a selection committee of the Faculty of the School of Architecture.

(g) 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

admission 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.



Section 4

Continuing Education



Continuing Education

The Division of Continuing Education assists the University's academic community in offering varied programs of credit and non-credit courses designed for:

- a) students wanting to take a specific course, or embarking on studies leading to a degree obtained on a part-time basis;
- b) teachers who wish to up-grade their professional standing;
- c) managers in government, industry, and commerce who wish to acquire new background and skills judged appropriate to their careers;
- d) technicians and other professionals choosing to up-grade their qualifications; and
- e) adults seeking to enrich their educational experiences and lives.

Degree Program

Saint Mary's University has developed an extensive program to serve those who wish to take courses or study towards a degree on a part-time basis. An increasing number of courses are being scheduled in late afternoon, evening and weekend time periods so that persons who have to work for a living can continue to pursue their education if they wish to do so.

Late afternoon, evening and Saturday classes, and summer sessions, enable the part-time student to work towards a degree at the University. Evening and Saturday courses follow the academic timetable, beginning in September and ending with April examinations. Part-time students enjoy the same privileges as full-time students attending day classes. The Office of Student Services will assist them in matters of personal, social, educational or vocational concern. Issued with an ID card, the part-time student has normal access to the resources of the University Library, and may visit the Art Gallery and attend concerts at student rates. Each year, more and more adults of all ages are finding the University's part-time program a way of achieving academic and professional goals while engaged in other employment.

Every effort is made to offer during the evening hours and in the summer sessions a sufficiently varied and predictable selection of credit courses to enable a person who can attend classes only in the evenings to plan and carry through studies towards a degree in a systematic way and within a reasonable period of time.

Off-campus Locations

In response to an increasing demand from communities outside Halifax, courses are offered at off-campus locations: Dartmouth, Truro, Kentville, Sackville, Bridgewater and Shearwater. Courses will be offered in other locations if there is sufficient interest. Individuals wishing to explore the possibility of having off-campus courses in their community should communicate with the Director of Continuing Education.

Summer Sessions

Two summer sessions are held each year: one from mid-May to the end of June, and the other from the beginning of July to mid-August. A student is permitted to take one course in each session and, in exceptional cases with the Dean of Faculty's approval, two courses in one of the summer sessions. Course offerings in the summer sessions have recently been expanded

to permit students to begin and complete programs of study leading to a degree.

Mature Applicants

Details concerning the qualifications for mature admission together with the application procedures are found in the Admissions portion of Section 2 of this Calendar.

Criminology Certificate Program

This program is designed to provide broad theoretical and practical foundations for persons who deal in their daily work with problems of delinquency, criminal behavior and the treatment of offenders. These aims are accomplished through a combination of degree and non-degree courses drawn from a variety of academic fields.

Applicants are expected to have high school graduation, or equivalent. The program is intended primarily for working officers in the police forces, in federal and provincial correctional services and custodial institutions, and for court workers. It is open, however, to interested and qualified persons.

Year 1
Criminology (Soc 303.0)
Interpersonal Relations (Soc 202.1)
Criminal Law

Year 2
Corrections (Soc. 315.0)
The Judicial System
Community Relations and Public Issues
(Soc 201.1)

Personnel-Industrial Relations Program

This program, offered in cooperation with the Maritime Personnel Association, is designed to provide training in the fundamentals of personnel management and industrial relations for practitioners who wish to upgrade their qualifications.

The Certificate is also one of the prerequisites for membership in the Association.

To earn the Certificate, students must complete the equivalent of eight full course degree credits, 3½ being compulsory, while the remaining 4½ can be chosen from a selection of elective courses.

Compulsory Courses

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

Elective Courses

As the list of elective courses is a very lengthy one, interested applicants are requested to contact the Division of Continuing Education for this information.

Coordinated Programs for Business and Industry

The coordinated programs described below are offered by the University in cooperation with various professional organizations.

Upon completion of a specific program, the student is normally eligible for the award of a certificate from the sponsoring organizations.

Canadian Institute of Management

The Canadian Institute of Management offers a four-year program of management development intended to improve the effectiveness of middle and senior level managers employed in manufacturing, transportation, wholesaling, retailing, the service industry and the public service. The program has resulted from the identification of management needs through extensive research. This program is designed to promote skill-development in general management combined with specialization in functional areas or organizational sectors.

The Canadian Institute of Management program comprises eight instructional units:

Year 1	Canadian Business Concepts Organizational and Human Behavior
Year 2	Canadian Business Law Managerial Accounting
Year 3	Marketing Elective
Year 4	Finance Policy Formulation and Administration

Students who complete successfully the eight units listed above, and who maintain membership status in The Canadian Institute of Management, will be entitled to use the professional designation C.I.M.

Fellows' Program of the Institute of Canadian Bankers

The Fellows' Program in Banking is designed to provide formal education for men and women who wish to prepare themselves for more responsible positions in banking. The program requirements may be satisfied through successful completion of either degree-credit or non-credit courses. In the case of degree-credit courses, students are advised to consult individual course descriptions for information concerning prerequisites.

Candidates seeking admission to the program should make application both to the University and to the Personnel Department of the Bank in which they are employed.

The Fellow's Program comprises nine compulsory and one elective course. Diplomas are granted in the following sequence as the student completes the required courses in each component:

Letter of Accomplishment
Communications
Business Administration
Fundamentals of Accounting
Associate of the Institute of Canadian Bankers (AICB)
Organizational Behavior
Economics
Marketing
Business Finance
Business Strategy
Fellow of the Institute of Canadian Bankers (FICB)
Banking Management
One of:
Financial Institutions
International Banking and Finance
Financial Issues in Banking
Law and the Practice of Banking

Fellows' Program of the Real Estate Institute

This program, offered in cooperation with the Nova Scotia Real Estate Association, is designed for those who are practitioners in the real estate industry or who are planning to enter it, as well as for those who are concerned with real estate as a professional interest or an investment. Special real estate courses are combined with basic business courses to provide a broad background. The program leads to the professional designation F.R.I. (Fellow of the Real Estate Institute of Canada) and, with further study C.P.M. (Certified Property Manager).

Applicants are expected to have high school graduation or equivalent, to be associated with the real estate industry or planning to enter it, and to have business experience.

To complete the academic requirements for the professional designation F.R.I. a candidate must successfully complete the courses set out below:

Year 1	Real Estate Financing Introduction to Marketing Real Estate Marketing Land Planning and Development
Year 2	Appraisal Principles Land Law I Land Law II
Year 3	Principals of Economics Building Design and Construction Urban Land Use

As many of these courses can also be taken for degree credit, students should direct their inquiries to the Division of Continuing Education.

Appraisal Institute of Canada Canadian Credit Union Institute Insurance Institute of Canada Trust Companies Institute

Further information on the programs offered in cooperation with each of these institutes can be obtained from the Office of Continuing Education.

Courses for Personal Development and Leisure Enjoyment

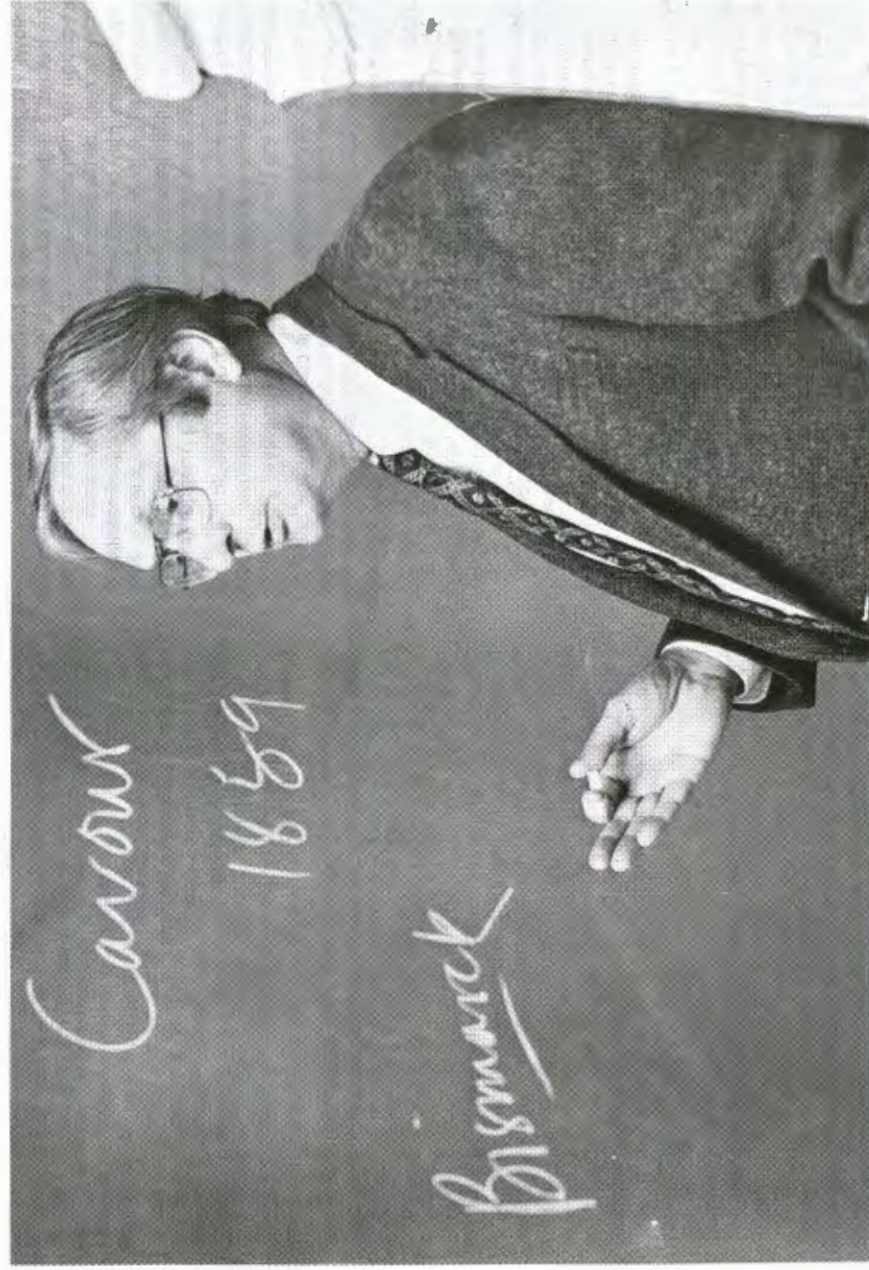
Each year a variety of general interest courses are offered.

Each class meets one evening each week for a two-hour period. There are no entrance requirements except a sincere desire to learn.

Details can be found in the 1982-83 Evening Brochure, available from the Office of Continuing Education.

Section 5

Description of Courses



Accounting

Chairperson, Assistant Professor
Associate Professors
Assistant Professor
Lecturer

B. Emerson
D. Hope, F. Dougherty
I. Elkhazin
G. Walsh

The Department of Accounting offers a program for majors which aids in preparation for careers in professional accounting, industry, and government. 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:

First Senior Year

Acc 323(1/2) Information Systems 1
Acc 341(1/2) Intermediate Financial Accounting I
Acc 342(1/2) Intermediate Financial Accounting II
Acc 345(1/2) Financial Accounting Theory
Acc 346(1/2) Introductory Cost Accounting

Second Senior Year

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

Note: Msc 324(1/2) may be used to partially satisfy this requirement.

Students with a grade of D in Acc 242, Acc 341 or Acc 342 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 balance sheet and income statement accounts.

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 corporate equity and debt, the statement of changes in financial position, 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), Acc 242.1 (2) 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 to shareholders. This course is to be followed by Intermediate Financial Accounting Part II.

Classes 3 hrs. a week. 1 semester.

342.2 Intermediate Financial Accounting Part II

Prerequisite: Acc 341.1 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 to shareholders.

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 342.2.

Classes 3 hrs. a week. 1 semester.

346.2 Introductory Cost Accounting

Prerequisite: Acc 348.1 (2).

This is a basic course in cost accounting principles, techniques and procedures, dealing primarily with normal and standard, job-order and process, product-costing.

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.

455.1 (2) Accounting Seminar

Prerequisite: Acc 342.2 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.

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 Advanced Financial Accounting I — Corporate Accounting

Prerequisite: Acc 342.2.

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

Classes 3 hrs. a week. 1 semester.

444.2 Advanced Financial Accounting II — Special Topics

Prerequisite: Acc 342.2.

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.

449.1 (2) Management Control Systems

Prerequisite: Acc 348.1 (2).

An advanced study of the management control system which examines problems of effective and efficient control from the perspective of the total system: expense centers, profit centers, investment centers, programming planning, budgeting, performance appraisal.

Classes 3 hrs. a week. 1 semester.

450.1 (2) Auditing

Prerequisite: Acc 342.2.

A study of the basic concepts and theory of auditing including the auditing environment; the auditor's role; the structure of the profession; responsibilities of auditors; nature and theory of evidence; the auditor's report and other related material.

Classes 3 hrs. a week. 1 semester.

453.1 (2) Taxation

Prerequisite: Acc 342.2 or Fin 361.2.

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

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 data.

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 courses or the consent of Director of the MBA program.

This course focuses on the problems inherent in the process of communicating financial information to various interested groups outside the business organization. Commencing with an examination of the basic objectives of financial statements and the information requirements of various financial statement users, the course provides an opportunity to evaluate generally accepted accounting principles currently in use. Alternative asset valuation and income measurement models are considered as well as current financial reporting issues.

648.1 (.2) Management Control Systems

Prerequisite: completion of all 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 departmental chairperson, and instructor.

Intended to supplement or provide an alternative to the regular accounting courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.



Anthropology

Chairperson, Associate Professor
P. Erickson

J. R. Jaquith

Associate Professor

H. McGee, Jr.

Assistant Professors

S. Davis, S. Walter

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, communities, and the dialectic.

310.0 Applied Anthropology: Culture Change and Development

Prerequisite: a social science course or permission of instructor.

An introduction to the applications of sociocultural anthropology. Consideration is given to the nature of society and culture as well as to anthropological and other theories of culture change, including development.

315.0 Peasant Society and Culture

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 Cultural Ecology

(Gpy 319.0)

An introduction to the study of the relationship between man and his environment, ranging from hunting and gathering societies to the dawn of civilization.

320.0 World Ethnography

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.

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.

325.0 Ethnology: Oceania

Prerequisite: a socio-cultural anthropology course or permission of instructor.

Ethnological survey of selected (representative) societies of Polynesia, Micronesia, Melanesia and Australia.

330.1 (2) Anthropological Approaches to Folklore

Prerequisite: an introductory anthropology course, a folklore course 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.

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 and four 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, 360.0, 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, 371.0 and 372.0 do not have prerequisites.

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 Woman: Anthropology's Other Half

Sex differences in the lower primates. Early man and woman. Female roles in evolutionary stages. Female roles in other cultures: Enculturation of values and sex roles. Biological basis for sex differences, including personality. The developmental cycle in the life of women. Application to modern woman.

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.

221.0 Native Peoples of Atlantic Canada and Maine

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.

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.

331.1 (.2) Expressive Aspects of Culture

Prerequisite: an introductory course in anthropology or permission of instructor.

A consideration of the role of the arts in the maintenance of social organization. Special attention will be given to plastic and graphic arts, rituals and games.

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.

345.0 Evolution and Human Behavior

Prerequisite: Ant 200.0 or permission of instructor.

An examination of physical anthropology's contribution to the nature-nurture debate, with attention to animal models for human behavior.

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.

370.0 Archaeology of North America

Prerequisite: Ant 200.0 or permission of instructor.

A survey of North American prehistoric culture, the course considers man's first entry into North America and the subsequent cultures which developed here.

371.0 Biblical Archaeology

A survey of ancient Near Eastern civilization with emphasis on the special contribution of Near Eastern archaeology to anthropology as well as to Biblical studies.

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.

391.0 Ethnography of Communication

Prerequisite: a social science course (including psychology) or permission of instructor.

A wide-ranging consideration of the nature, forms and functioning of human communication. Lecture and laboratory facilities will be utilized in examining the way in which anthropologists study and describe human communication.

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 and Fieldwork in Socio-cultural Anthropology

Prerequisite: Ant 200.0 or permission of instructor.

This course applies concepts already familiar to the student in actual fieldwork within the Province of Nova Scotia, as far as circumstances permit.

411.0 Anthropological Statistics

Prerequisite: Ant 200.0 and N.S. 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.

421.1 Native Peoples of Atlantic Canada and Maine: Seminar

Corequisite or prerequisite Ant 221.0

This course consists of series of seminar topics concerned with the culture history of Wabanaki Peoples prepared by each student and a major research paper based on primary sources or personal research.

Note: Classes in this half course will be spread over the entire academic year.

430.1 (2) Political Anthropology

Prerequisite: Ant 200.0 or permission of instructor.

A consideration of the structure and processes of decision-making concerning public goals. Emphasis will be placed on strategic deployment of personnel, material, and information in a variety of settings.

435.1 (2) Communication in Social Transaction

Prerequisite: one of Ant 200.0, Mgt 382.0, Pol 200.0, or Soc 200.0.

An information theory approach to the study of human interaction will be examined in this course. Emphasis will be placed on examination of economics or quasi-economic transactions. Limitations and strengths of the communications approach will be discussed.

440.1 (2) Social Boundaries

Prerequisite: an introductory anthropology course 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.

450.0 History of Anthropological Theory

Prerequisite: Ant 200.0, and two additional courses in anthropology.

The development of anthropological theory from the Enlightenment to the present with reference to current theoretical issues.

460.0 Fieldwork in Archaeology

Prerequisite: Ant 200.0, 360.0 or 370.0.

The first half of the course involves detailed instruction in, and practical application of, archeological field techniques in the excavation of a site in Nova Scotia. The second half of the course involves intensive on-campus 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.

461.0 Advanced Fieldwork in Archaeology

Prerequisite: Ant 460.0.

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 Directed Honors Research

Supervised preparation of a significant research paper for honors students in anthropology.

Asian Studies

Committee on Asian Studies

M. Sun, Coordinator
 History
 P. Bowlby
 Religious Studies
 G. Boyd
 Political Science
 A. Mukhopadhyay
 Economics
 B. Robinson
 Geography
 H. Schwind
 Management
 S. DeMille Walter
 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.

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

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 Geograph of China
 409.0 The Birth of the City

History

209.0 Modern East Asia
 291.0 History of India, 1500-1947
 323.0 Dynastic History of China
 324.0 Cultural History of Japan

342.0 China in Revolution
 391.0 China and the West
 511.0 Seminar on Modernization in East Asia

Modern Languages and Classics

Chinese
 100.0 Elementary Chinese
 200.0 Intermediate Chinese

Political Science

440.0 Politics of the Developing Areas
 441.0 Government and Politics in East Asia
 533.0 International Studies Seminar

Religious Studies

240.0 When Great Religions Meet
 323.0 Buddhist and Hindu Religious Traditions
 324.0 Religions of China

400.0 China's Developmental Experience

Prerequisite: a course in Asian Studies, or equivalent.

An unusual travel-and-learn opportunity, this course takes students into China to personally view developments in that country. It is offered in the summer and requires six weeks full time. Students are given an intensive week of orientation in Hong Kong prior to entering the People's Republic of China; and, on departure, another week in Hong Kong is devoted to analysis and interpretation of individual experiences. This study of China's development under communism is undertaken from a variety of disciplines, including history, economics, geography, politics, the arts, and sociology.

Time in China is approximately four weeks. This offering is dependent on adequate enrolment and travel arrangements.

Six weeks full time.

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.

Astronomy

Chairperson, Associate Professor

D. L. DuPuy

Observatory Director

D. L. DuPuy

Associate Professors

G. F. Mitchell, 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 listed are graduate courses and are not usually open to undergraduate students. The Master's program attempts to provide the student with a broad background in physical science, to foster research ability, and to develop in the student an understanding of modern astronomy at the professional level. The graduate will be sufficiently versatile to enter a doctoral program elsewhere, pursue a technological career, or choose a career in teaching.

The program is two years in length (or up to six years for part-time students) and includes course work and a thesis. The number of courses required will depend on the qualifications of the student, but will normally be four plus thesis. The major effort of the first year will be in acquiring a basic knowledge of astronomy through courses, seminars, and general reading. Three courses will normally be taken. During this first year a thesis topic will be chosen in consultation with the department. In the second year the student will normally take one course and complete a thesis. The thesis work will be carried out under the supervision of a faculty member and will involve original research.

Admission and degree requirements are given in the Graduate Studies section of this Calendar.

201.0 Introduction to Contemporary Astronomy

This course is designed especially for the non-science student. It will provide the practical background necessary to enjoy amateur astronomy, and will introduce some of the exciting recent astronomical discoveries. Practical topics will include the

methods of locating celestial objects, the principles of telescopes, celestial navigation, and methods used to uncover the true characteristics of astronomical objects. Observing sessions will be conducted at the Burke-Gaffney Observatory. Contemporary astronomical discoveries will be discussed in relation to the origin of the solar system, birth and aging processes in stars, the question of other life in the universe, the nature of the Milky Way and the possible fate of the universe.

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 Mat 300.0.

This course will provide an introduction to the sun, the solar magnetic field, and solar activity, as related to solar system phenomena. Also included will be topics in the origins and characteristics of comets, meteors, asteroids, the interplanetary material, and a discussion of the interiors and atmospheres of the terrestrial and Jovian planets. Recent results from the Mariner interplanetary probes and Viking experiments will be discussed.

Classes 3 hrs. a week. 1 semester.

402.2 Stars and Stellar Systems

Prerequisite: Phy 221.0 and Mat 300.0.

This course begins with an introduction to observational properties of open clusters, associations, and globular clusters, including the luminosity function and galactic distributions. Topics include interstellar reddening, zero-age main-sequence determination, metal abundances, and spectroscopic parallaxes. A discussion of stellar populations in galaxies and the Local Group of galaxies will be included.

Classes 3 hrs. a week. 1 semester.

601.1 (2) Radio Astronomy

This course will begin with a treatment of radio emission mechanisms including thermal radiation, synchrotron radiation, and line radiation. Design of radio receiving systems and the techniques of interferometry and aperture synthesis will be discussed. The theoretical methods will then be used to interpret observations of a wide variety of radio sources. Specific application of modern observing techniques will be investigated.

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

Prerequisite: Phy 432.2 and 439.2 and Mat 401.1 and 402.2 (may be taken concurrently).

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

Prerequisite: Phy 432.2 and 439.2 and Mat 401.1 and 402.2 (may be taken concurrently).

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.

607.1 (2) Binary and Variable Stars

Prerequisite: Phy 438. and Mat 410.0 (may be taken concurrently).

This course will provide basic methods of analyzing binary and variable star data to deduce physical properties of stars. Topics will include visual binaries, Zwier's versus Thiele-Innes methods, spectroscopic binaries, eclipsing binaries, and classes of variable stars. Application will include newly discovered x-ray binary systems, the search for black holes in multiple systems, Wesselink's method, and the period-density relation.

Classes 3 hrs. and lab 2 hrs. a week. 1 semester.

609.1 (2) Extragalactic Astronomy

Prerequisite: Ast 606.1 or permission of instructor.

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

Prerequisite: second year graduate standing.

Normally taken during the second year of enrolment in the M. Sc. program, this course will formalize the efforts of the student and the thesis advisor to choose a topic, initiate research, and organize material for the dissertation.

611.1 (2) Directed Readings in Current Literature

Prerequisite: graduate standing in astronomy.

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

K. MacKinnon, Coordinator
 J. Archibald
 J. Baker
 L.G. Barrett
 C.J. Byrne
 L. Christiansen-Ruffman
 P. Connelly
 S. Davis
 D. Day
 P. Fitzgerald
 D. Higgins
 D. Hope-Simpson
 C.D. Howell
 J.G. Jabbra
 B. Kieseckamp
 P. Lamby
 D. MacInnes
 R. McCalla
 H.F. McGee
 F.C. Miner
 J. Morrison
 T. O'Neill
 B. Robinson
 A.T. Seaman
 G. Thomas
 K.R. Tudor
 D. Vaisey
 H. Veltmeyer
 T.A. Whalen
 M. Wiles

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 in 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.

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

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.

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

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 ACS 300.0, ACS 400.0, Ant 300.0, Ant 315.0, Ant 321.0, Ant 330.1 (2), Ant 332.1 (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 I
- ACS 302.2 Selected Topics in Atlantic Canada II
- 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 221.0 Native Peoples of Atlantic Canada and Maine
 Ant 421.1 Native Peoples of Atlantic Canada and Maine:
 Seminar

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

Egl 450.0 Special Subject

Egl 451.0 Special Author

- Fre 303.0 Acadian Civilization
- Gpy 210.0 The Atlantic Provinces
- Gpy 314.0 Fisheries Development
- Gpy 324.0 Ports and Shipping
- 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
- 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 334.0 Society of the Scots in Scotland and Canada

Biology

Chairperson, Professor
Professors

M. Wiles
B. Kapoor, A. Rojo,
K. Thomas
H. Bobr-Tylingo,
E. Unturbe

Associate Professors

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.

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.

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 305.0
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 305.0
Bio 309.0
Bio 310.0
Bio 317.0
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 their honors supervisor for the selection of courses.

- One course from the following:
Bio 401.1 & 408.2
Bio 401.1 & 412.2
Bio 403.1 & 412.2
Bio 411.1 & 412.2
Bio 549.0
- Two courses from the following:
Bio 501.0
Bio 554.0
Bio 550.0
Bio 552.0
Bio 553.0
Bio 590.0

Note: In any biology course, the instructor may decide to substitute a one hour seminar or discussion period for one of the lectures.

Honors Program with a Combined Major in Biology and Chemistry**First Year**

- General Biology (111.0)
- General Chemistry (101.0)
- Mathematics (100.0)
- English
- Elective (Science or Arts)*

Second Year

- Chemistry (201.0 or 202.0)
- Biology (204.0)
- Biology (205.0)
- Mathematics (200.0)
- English (200.0)

Third Year

- Biology (307.1/308.2)
- Biology 300.0 level, other than above)
- Chemistry 241.0 (or 343.0 in special cases)
- Chemistry 331.0 (or 311.0)
- Mathematics 300.0

Fourth Year

- Biology (400.0 level)
- Biology (400.0 level)
- Chemistry 311.0 (or 331.0)
- Chemistry 321.0
- Chemistry (one of 342.0, 441.0 or 411.0)

Fifth Year

- Chemistry 500.0 or Biology 590.0
- Biology 549.0
- One Chemistry or Biology course at 500 level
- 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. Classes 3 hrs. a week. 2 semesters.

104.0 Plants and Human Affairs

Prerequisite: permission of instructor.

A study of the plants beneficial or harmful to humans; their history, geographical origins, their role in ancient and contemporary cultures and civilizations and in politics. Major food plants, medicinal plants, forest plants and their products, latex products and perfume sources will be considered in detail. Attention will be drawn to the plant sources of industrial products such as natural rubber, insecticides, organic chemicals, etc., the use of which is expected to rise as their synthetic sources (petrochemicals) become increasingly expensive in the future.

Note: This course is restricted to non-science students for whom it constitutes a science elective. It may not be used as a credit towards a science degree.

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.

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

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 supports them. A detailed study will also be made on the methods of fisheries science which are the basis of fish stock assessments by government scientists. Roughly the last third of the course will examine the effects on the livelihood of fishermen of government policies respecting the fisheries and the regional, national and international political forces which are behind federal government fisheries regulations.

Classes 3 hrs. a week. 2 semesters.

Note: This course cannot be used to satisfy the Bachelor of Science requirements 4(a), 4(b), 5(a), or 5(b). It also cannot be used to satisfy the 3(b) requirement of the Faculty of Arts.

249.1 Introduction to Marine Biology

Prerequisite: Bio 111.0 or equivalent.

A three-week summer course organized by, and offered at, the Huntsman Marine Laboratory, St. Andrews, New Brunswick, during July. The course is an introduction to the principles and methods of marine biology with an emphasis on field studies. Admission is by application. Students are expected to defray their own travel costs to and from the Laboratory.

36 hrs. including lab and field work during 1 summer session.

302.0 Cytology

Prerequisite: Bio 204.0 and 205.0.

Structure and function of the cell organelles, cell reproduction, meiosis, reproductive cytology, architecture of the chromosome, function of the chromosomes, chromosomal rearrangements, polyploidy, sex-chromosomes, karyotype evolution, cytology in relation to taxonomy.

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

305.0 General Physiology

Prerequisite: Bio 204.0, 205.0, and Che 343.0 or permission of department.

An introduction to the essential aspects of cellular physiology and a discussion of the physiology of the major organ systems of the vertebrate body. The topics discussed include: circulation, respiration, digestion, nutrition, metabolism, muscles, nervous system and endocrine system.

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

307.1 (.2) Genetics

Prerequisite: Bio 111.0, 204.0 and 205.0, or one concurrently; Che 101.0 or 202.0.

A study of the principles of inheritance in plants and animals, by consideration of the genetic code, protein synthesis, mutations, polyploidy and Mendel's Laws.

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

308.1 (.2) Biostatistics

Prerequisite: Bio 111.0, 204.0 or 205.0 concurrently; Mat 100.0.

Introduction to the principles and methods of analyzing and using quantitative data in the biological sciences. The emphasis

will be on practical applications of statistics in biology rather than on statistical theory. Material covered includes graphical presentation of data, transformation of data, handling of data. Descriptive statistics, distributions, regressions, correlation, probability theory, comparisons of sets of data and sampling methods will be studied. Calculator usage will be undertaken. Classes 3 hrs. and calculator 3 hrs. a week. 1 semester.

309.0 Botany of Domesticated Plants

Prerequisite: Bio 111.0, 204.0.

An introduction to the study of economically important plants, their origin, domestication, botany, cultivation, harvesting, uses, diseases, breeding and their role in modern world economy. Plants and plant products of industrial importance, medicinal plants, food plants and food adjuncts will be treated in detail.

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

310.0 Ecology

Prerequisite: Bio 204.0 and 205.0, or one concurrently.

A study of the fundamental concepts and principles of modern ecology, consideration of physiological ecology, population ecology, and community ecology. A brief treatment of speciation, applied ecology, conservation and management. Renewable and nonrenewable natural resources; the earth's biosphere as a dynamic, balanced system.

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

317.0 Evolutionary Biology

Prerequisite: Bio 204.0, 205.0, 307.1 and 308.2 or permission of instructor and department.

A study of the history of the concept of evolution, the process whereby present species came into being, the mechanisms operating in nature, the factors affecting evolution and the final result as we witness it. Main areas of study are population genetics, history of the earth, fossil records and the evolution of man.

Text: P.A. Moody, *Introduction to Evolution*, Third Edition, Harper and Row; D. Pilbeam, *The Ascent of Man*, MacMillan and Company.

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

320.0 Comparative Chordate Anatomy

Prerequisite: Bio 205.0.

A comprehensive study of gross anatomy of the various systems of animal representatives of major classes, beginning with Amphioxus and culminating with mammals.

Text: A. J. Romer, *The Vertebrate Body* (4th edition), W.B. Saunders, 1970. Laboratory Manual: S. Wischnitzer, *Atlas and Dissection Guide for Comparative Anatomy*, Freeman, 1967.

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

401.1 Morphology of Vascular Plants

Prerequisite: Bio 204.0 and 205.0 or permission of department.

Structure, development and evolution of major taxa of vascular plants: pteridophytes, gymnosperms and flowering plants, both extinct and extant.

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

403.2 Plant Taxonomy

Prerequisite: Bio 204.0 and 205.0.

An introduction to the principles of plant variation, origin, distribution, evolution and classification; major emphasis will be to identify and classify vascular plants of Nova Scotia.

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

405.0 Biology of Fishes

Prerequisite: Bio 205.0, 308.2, or permission of instructor.

A study of the embryology, anatomy, physiology and classification of fishes. In classification and geographical distribution, emphasis will be placed on the marine north-west Atlantic fishes and the fresh-water fishes of Nova Scotia.

Text: K.F. Lagler, J.E. Bardach and R.R. Miller, *Ichthyology* (Wiley, 1962).

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

406.0 Microbiology

Prerequisite: any two 300 level biology courses preferably from 302.0, 305.0, 307.1 and one university chemistry course or permission of instructor.

Morphology, biochemical activity and classification of microorganisms: viruses, bacteria, molds, yeasts, and other microscopic life forms. Special emphasis will be placed on bacterial variations and their resistance.

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

407.1 Histological Techniques

Prerequisite: Bio 111.0, 204.0, 205.0, Che 101.0.

A study of the microscopic structure of tissues and organs with special emphasis on the vertebrate body. Principles and practice of microtechnique including basic histochemistry and autoradiography will be discussed. Laboratory work will consist of performing a wide range of histological and histochemical techniques using mainly animal cells, tissues and organs.

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

408.2 Vertebrate Embryology

Prerequisite: Bio 204.0, 205.0 or permission of department.

Early developmental processes involved in the transformation of the fertilized egg into a new individual.

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

411.1 Principles of Animal Parasitology

Prerequisite: Bio 205.0.

Relation between parasites and their hosts, emphasizing protozoa and helminths of aquatic vertebrates and of man. Aspects studied are biology, ecology and evolution of parasites, and physiology and immunology of parasitism. Laboratory work is on living and prepared materials, maintenance of life cycles and infectivity of aquatic vertebrates.

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

412.2 Human Genetics

Prerequisite: Bio 307.1 and 308.2.

The chemical and physical nature of genes. The study of population genetics in plants and animals using a statistical

approach. Emphasis will be on human mutations through study of chromosomes and analysis of pedigrees.

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

501.0 Advanced Bacteriology

Prerequisite: Bio 406.0.

Morphology, taxonomy and genetics of bacteria with special emphasis on their ecology and biochemical activities.

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

549.0 Honors Seminar

Prerequisite: fifth year honors standing.

Seminars followed by discussions based on recent advances in biology. In consultation with the honors advisors, the honors students will select and prepare the topics for presentation to biology faculty and students. All biology professors will evaluate the seminars.

Classes 3 hrs. a week. 2 semesters.

550.0 Mycology

Prerequisites: Bio 204.0, 305.0, 302.0; Che 202.0 or 343.0.

The study of morphology, classification, genetics and ecology of main groups of land and water fungi, fungal relationship to man, animals and plants will be discussed.

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

552.0 Cytogenetics

Prerequisite: Bio 302.0.

Study of chromosome biology, experimental studies on the mitotic apparatus, karyotype and its evolution, sex chromosomes, control of meiotic system, regulation of chromosome pairing, cytology in relation to taxonomy and cancer cytology.

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

553.0 Marine Invertebrates

Prerequisite: Bio 205.0.

Study of marine invertebrates with emphasis on commercial species. Taxonomy, morphology and physiology of the different groups will be the main topics covered. The life histories of representative species will be studied in the laboratory periods.

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

554.0 Experimental Fish Embryology

Prerequisite: Bio 205.0, 405.0 and 408.2.

Theory on embryology of fish with emphasis on the formation of main organs (brain, eye, otolith, skeleton, heart and musculature). Laboratory work will be based on the development of one or two fishes from both marine and freshwater environments. The histological study of one embryo will complement the macroscopic and microscopic observations. Experiments will be conducted to correlate the environmental conditions (temperature, salinity, light, etc.) to the development of the species selected.

Classes 3 hrs. plus tutorials and lab 4 hrs. a week. 2 semesters.

555.0 Advanced Physiology

Prerequisite: Bio 302.0, 305.0 and Che 343.0.

A course dealing in some detail with advances in particular areas of animal physiology. Areas covered include metabolism of proteins, carbohydrates, lipids, and nucleic acids, intermediary metabolism, regulation and control of metabolic processes, bioenergetics, molecular physiology of muscles and neurophysiology.

Classes 2 hrs. plus tutorials and lab projects a week.
2 semesters.

590.0 Research Thesis

Prerequisite: fifth year honors standing.

Research project carried out by the student under the supervision of a member of the department. The student will submit a thesis and present it orally.

Lab 6 hrs. a week. 2 semesters.



Chemistry

Chairperson, Associate Professor
Professors

C.M. Elson
W.A. Bridgeo, D.H. Davies,
A.T. Sabean, K. Vaughan,
J.C. O'C. Young
J. Ginsburg
K. Mailer

Associate Professors
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 two of 411.0, 431.0, 441.0 or 442.0. Students may take two additional chemistry courses of their choice.

The core program for an honors degree in chemistry consists of Che 201.0, 311.0, 321.0, 331.0, 341.0, 411.0, 441.0, 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.

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

Prerequisite: Che 201.0 or 202.0 or 203.0.

Fundamental inorganic chemistry including: atomic and molecular structure, aqueous and non-aqueous chemistry, chemistry of main group and transition elements, organometallic compounds, inorganic chemistry in biological systems.

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

331.0 Analytical Chemistry For Chemists and Geologists (Geo 355.0)

Prerequisite: Che 201.0 or 202.0 or 203.0.

An integrated lecture-laboratory course with emphasis on basic analytical methods, e.g. titrimetry, gravimetric analysis, 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 functional 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.

Introducing chemical oceanography, the study of the ocean viewed as a chemical system, an outline is presented of the nature and behavior of aqueous electrolytic regimes. Topics to be discussed include the chemical composition of sea water and analytical techniques for its examination. Students will carry out research projects on farming the oceans to produce new food supplies.

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

411.0 Physical Chemistry

Prerequisite: Che 311.0, Mat 300.0

Quantum chemistry, statistical thermodynamics, absolute reaction rate theory.

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

431.0 Analytical Chemistry

Prerequisite: Che 331.0.

An instrumental course in which emphasis is placed on modern electrochemical and spectroscopic techniques and in which an introduction to various separation techniques will be presented.

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

441.0 Intermediate Organic Chemistry

Prerequisite: Che 341.0 or 343.0.

A study of aliphatic, aromatic and heterocyclic compounds with emphasis on modern methods and concepts in stereochemistry reaction mechanisms and physical properties.

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

442.0 Biochemistry

Prerequisite: Che 341.0 or 343.0.

An introduction to the Chemistry of sugars, lipids, amino acids, proteins, nucleic acids, and enzymes; molecular processes in living systems including metabolism, chemical genetics, biosynthesis and bioenergetics.

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

Note: Students who have received credit for Che 342.0 may not register for this course.

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 411.0.

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 411.0, 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 431.0.

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 441.0 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 442.0.

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 441.0.

An introduction to ^{13}C nuclear magnetic resonance spectroscopy and the interpretation of second order ^1H 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 411.0 (may be taken concurrently) and 441.0.

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.

Classes 3 hrs. a week, 1 semester.

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	Sophomore Year	Junior Year	Senior Year
1. Egl 200.0	1. Che 201.0	1. Two courses from Che 311.0	1. A chemistry elective
2. Mat 100.0	2. Mat 200.0	Che 321.0	2. A chemistry elective
3. Che 101.0	3. A science elective (non-chemistry)	Che 331.0	3. A science elective (non-chemistry)
4. A science elective (non-chemistry)	4. A course in the humanities	Che 341.0	4. An elective
5. A course in the humanities	5. An elective	2. A science elective (non-chemistry)	5. A non-chemistry elective
		3. An elective	
		4. A non-chemistry elective	

Scheme B: Science Degree with a Major in Chemistry

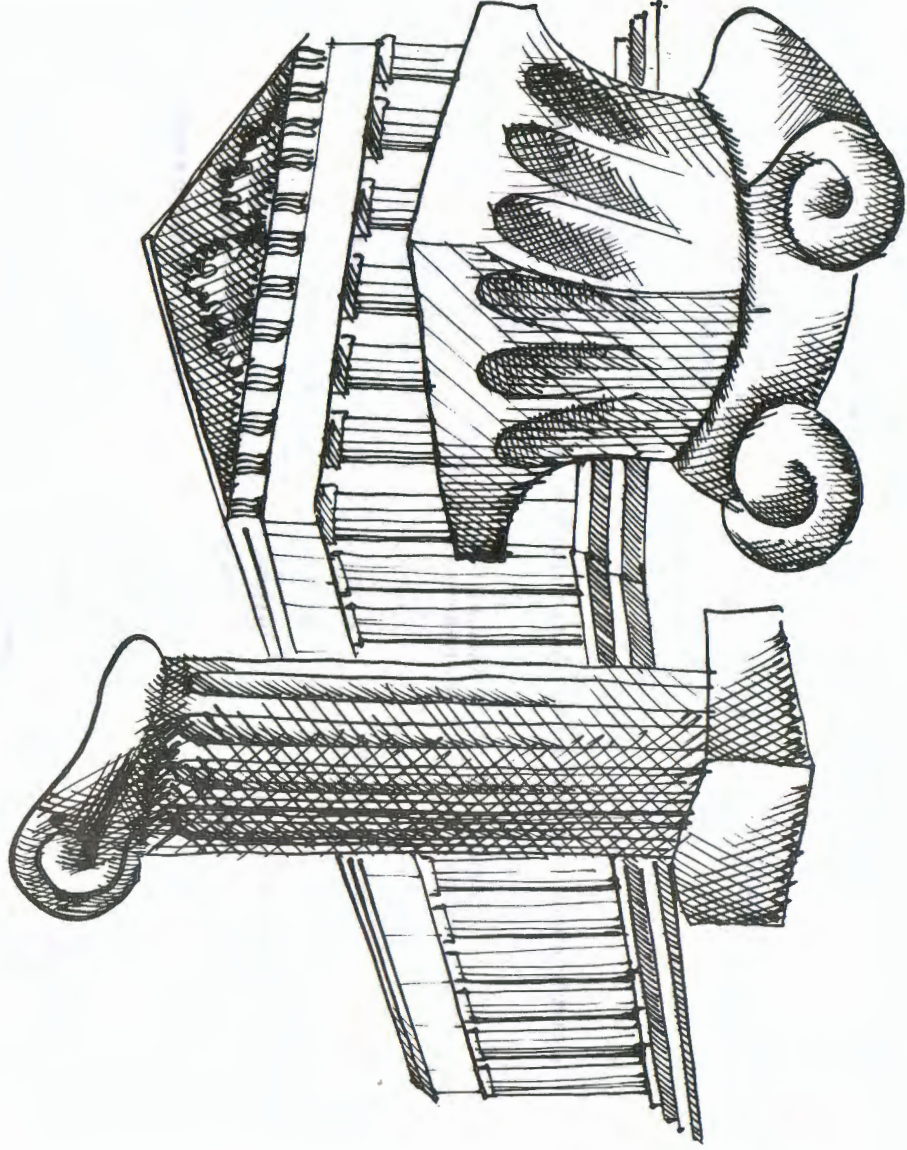
Freshman Year	Sophomore Year	Junior Year	Senior Year
1. Egl 200.0	1. Che 201.0	1. Che 311.0	1. Two courses from: Che 411.0 Che 431.0 Che 441.0 Che 442.0
2. Mat 100.0	2. A course in physics	2. Che 331.0	
3. Che 101.0	3. Mat 200.0	3. Che 341.0	
4. A science elective (non-chemistry)	4. A science elective (non-chemistry)	4. Mat 300.0	2. Che 321.0
5. A course in the humanities	5. A course in the humanities	5. A science elective (non-chemistry)	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	Honors Year
1. Che 411.0	1. Che 500.0
2. Che 441.0	2. One course from: Che 511.0 Che 531.0 Che 513.0 Che 541.0 Che 521.0 Che 542.0
4. A science elective (non-chemistry)	3. One elective
5. A non-chemistry elective	4. A non-chemistry elective
	5. Chemistry elective

Classics

In September 1980 the subject area of Classics became part of the Department of Modern Languages. Descriptions for courses in Classics, Latin, Greek, and Hebrew are found in the Department of Modern Languages and Classics later in this section of the Calendar.



Commercial Law

Commercial Law courses are administered by the Department of Accounting.

301.1 (2) Legal Aspects of Business — Part I

Prerequisite: Eco 201.1 (2) and Eco 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.

302.2 Legal Aspects of Business — Part II

Prerequisite: Cml 301.1 (2).

A further examination of some of the legal aspects of commerce; areas included are impeachment of contract, the requirement of writing, discharge of contracts, assignment of contracts, bailment, insurance, guarantee, and landlord and tenancy.

Classes 3 hrs. a week. 1 semester.



Computer Science

Although Saint Mary's does not offer a complete program in computer science, the following courses are available to interested students:

Acc 323.1 (2)	Management Information Systems I
Acc 425.1	Management Information Systems II
Egn 204.1	Computer Science
Egn 220.1 (2)	Introduction to Microprocessors
Msc 321.1 (2)	Introduction to Computers
Msc 322.1 (2)	Computer Simulation
Msc 324.2	The Use of Cobol in Data Processing
Mat 125.1 (2)	Basic Programming and Computer Concepts
Mat 226.1 (2)	Introduction to Computer Programming
Mat 227.1 (2)	Applications of Computers to Problem Solving
Mat 308.1 (2)	Numerical Analysis I
Mat 309.1 (2)	Numerical Analysis II
Mat 325.0	Data Structures and Combinatorial Computing
Mat 326.0	Computer Organization and Assembly Language Programming
Mat 335.0	Introduction to Operations Research
Mat 408.1 (2)	Advanced Numerical Analysis I
Mat 409.1 (2)	Advanced Numerical Analysis II
Mat 480.1 (2)	
	to
Mat 489.1 (2)	Special Topics in Computer Science
Phy 250.1 (2)	Digital and Microprocessor Electronics
Phy 261.1 (2)	Digital Electronics for Science



Economics

Chairperson, Professor
Associate Professor
Assistant Professors

J.J. Vorstermans
E.J. Doak
J.C. Ahlakpor
V. Bajic
A.A. Dar
A.K. Mukhopadhyay
T. O'Neill
H. Imam

Lecturer

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, 308.2
Public Finance, Eco 318.1 (2), 319.1 (2)
International, Eco 313.1 (2), 314.1 (2)
Quantitative, Eco 302.1 (2), 303.1 (2), 309.1 (2)
Urban-Regional, Eco 324.1 (2), 325.1 (2), 330.1 (2), 350.1 (2), 360.1 (2)
Comparative Systems, Eco 315.1 (2), 323.1 (2)
History and Development, Eco 317.1 (2), 310.1 (2), 311.1 (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:

- (1) Mat 113.0 (Nova Scotia Grade XII Mathematics) or equivalent

- (2) Egl 200.0 (Introductory English)
(3) One course in the humanities or a language
(4) One full course in university mathematics beyond the level of difficulty of Mat 113.0. (Misc 205.1 (2) and 321.1 (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.

- (5) One course from the social sciences other than economics

- (6) 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 Economists or

Msc 207 (½) Introductory Statistics for Commerce

Eco 300 (½) Intermediate Microeconomic Theory

Eco 301 (½) Intermediate Macroeconomic Theory

6 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

Elective

Elective

Elective

Note: students taking Eco 205(½) and Msc 321(½) to satisfy requirement 4 above, should take Eco 205(½) and 206(½) in the second year and Eco 207(½) and Msc 321(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 courses 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),
 - 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) two of the following three courses: Eco 302.1 (.2), Eco 303.1 (.2) and Eco 309.1 (.2) or an equivalent full credit (two semesters) from the Mathematics 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.
- c) 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.

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 decisions 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 distributions, 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 Intermediate Macroeconomic Theory I to include models of economics growth, theories of aggregate consumption and investment behavior, international aspects of macroeconomic activity and the theory of macroeconomic policy.
Classes 3 hrs. a week. 1 semester.
- 307.1 Money and Banking I**
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.
- 308.2 Money and Banking II**
Prerequisite: Eco. 307.1.
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.
- 309.1 (.2) Introduction to Econometrics**
Prerequisite: Eco 206.1 (.2) and 303.1 or equivalent.
Theory and applications of econometric models and their estimation. Linear algebra will be used to study classical linear regression. Some extensions of the basic single equation model will be discussed.
Classes 3 hrs. a week. 1 semester.
- 310.1 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.
- 311.1 (.2) Issues in Economic Development**
Prerequisite: Eco 201.1 (.2) and 202.1 (.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.
- 312.1 (.2) Development of Economic Ideas**
Prerequisite: Eco 201.1 (.2) and 202.1 (.2).
The course traces the development of economic ideas from the middle ages to the present. Students will be introduced to the theories of the main economic schools, especially in the light of their contribution to contemporary economic thinking.
Classes 3 hrs. a week. 1 semester.

- 313.1 International Finance**
Prerequisite: Eco 201.1 (.2) and 202.1 (.2).
An introduction to the theory, institutions, and history of international finance: balance of payments, foreign exchange rates, instruments, and markets, international banking, adjustment mechanisms, stabilization policy.
Classes 3 hrs. a week. 1 semester.
- 314.2 International Trade**
Prerequisite: Eco 201.1 (.2) and 202.1 (.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.
- 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), 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.
- 318.1 (.2) Introduction to Public Finance**
Prerequisite: Eco 201.1 (.2) and 202.1 (.2).
An introduction to the theory of public finance. Emphasis is placed on the classical approach of governmental spending and taxing powers affecting the distribution of income, the allocation of resources, and the stabilization of national income.
Classes 3 hrs. a week. 1 semester.

319.1 (2) Issues in Public Finance

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

Selected topics relating to the economic effects of fiscal policy. The process of governmental decision-making is investigated through the use of economic analysis. This course is also an introduction to modern welfare economics.

Classes 3 hrs. a week. 1 semester.

322.1 (2) Current Economics Problems

The lectures introduce the student to the discipline of economics through a survey of the major economic issues of the current decade. It is designed for students who wish to familiarize themselves with economic principles and their applications, but do not feel a need for a more theoretical and technical introduction to economics' principles.

Classes 3 hrs. a week. 1 semester.

Note: This course is not open to commerce students nor does it count as an elective for a major in economics.

323.1 (2) Soviet-Type Economies

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

This course traces the economic history of the Soviet Union from the 1917 revolution through the Stalinist period to the present. This provides a background for examining the functioning of the contemporary Soviet economy and economies which have been structured on the Soviet model in Eastern Europe and Asia. The trend in economic reforms in Eastern Europe will also be studied.

Classes 3 hrs. a week. 1 semester.

324.1 (2) The Atlantic Economy

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

Analysis of the structure, development, and performance of the economy of the Atlantic region. Topics covered include: economic history of the region, current structure of the regional economy and state of economic development, sub-regional differences in economic structure and performance, external trade linkages, demographic and labor market characteristics, the role of government in the development process.

Classes 3 hrs. a week. 1 semester.

325.1 (2) Atlantic Economy Seminar

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

The 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.

330.1 (2) Regional Economics

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

An examination of the problems of the regional economy and the government programs and policies to deal with regional problems. Location theory, central place theory and growth pole

theory will be used to study regional problems in the Maritimes, Canada and the United States.

Classes 3 hrs. a week. 1 semester.

339.1 Labor Economics

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

Factors affecting wages, working conditions and employment in industrial societies; role of market forces and collective bargaining in wage determination; development of labor unions in Canada, Europe and the United States and their effects on the economy.

Classes 3 hrs. a week. 1 semester.

340.2 Human Resource Economics

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

A study of structure and changes in the labor force, nature of the labor market, manpower programs and policies, and how these interact with inflation and the general health of the economy.

Classes 3 hrs. a week. 1 semester.

350.1 (2) Urban Economics

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

Economics of an urban economy: why it grows and how it copes with this growth. Urban policies for transportation, housing, labor markets and public services are examined.

Classes 3 hrs. a week. 1 semester.

360.1 (2) Economics of Natural Resources and Environmental Management

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

This is a course in the economics of public policy relating to environmental, management and utilization of natural resources. Attention will focus on the identification of policy problems in the natural resources sector of the Canadian economy, the impact of the natural resources sector on the rest of the economy, public investment criteria and project analysis. Specific topics will include rent, pollution control, and benefit-cost analysis as they apply to public policy problems.

Classes 3 hrs. a week. 1 semester.

440.1 (2) Advanced Microeconomics

Prerequisite: Eco 300.1.

Treatment of the major topics in microeconomic theory at an advanced level. Topics covered 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.

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, Associate Professor
Professor

M. MacMillan
J. Haysom

Associate Professors

B. E. Davis, F. Dockrill
M. Herrick, F. Phillips
D. Weeren

Assistant Professor

B. Hanrahan

Bachelor of Education

For general information on the Bachelor of Education program see Section 3. For specific information and instructions obtain a copy of the *Handbook* from the secretary in the Faculty of Education.

Although courses are listed independently, the Faculty of Education strives to offer an integrated program.

501.0 Philosophy of Education

Via an existential perspective or a focus on educational relevance, exploration of the educational situation leads to applications to the curriculum, the school and student-teacher relationships.

502.0 Psychology of Education

A study of the nature, equipment, growth, development, evaluation, and adjustment of the learner.

503.0 General Methods of Teaching

The application of basic principles derived from the philosophy, psychology and history of education to classroom teaching, and an examination of teaching strategies in the light of classroom experience and of research on teaching.

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 Practice Teaching

Students spend a minimum of eight weeks practice teaching in Nova Scotia schools. The details of school experience varies from year to year and are prepared by the Director of Practice Teaching. In addition to the in-school experience, students will meet with the Director of Practice Teaching for one hour a week throughout the academic year.

508.0 Introduction to Comparative Education

This course is designed to acquaint students with a number of educational systems around the globe, the principal aim being to see Canadian education in a comparative perspective.

509.0 Analysis and Application of Educational Concepts

Concepts which identify selected aspects of good teaching will be clarified and their application to classroom practice explored. Identification and analysis of these concepts will provide a theoretical base for in depth study of their application in strengthening teaching skills in the areas of lesson planning, the facilitation of meaningful learning and human interaction in the teaching situation.

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.

533.1 Social Studies: Contemporary Emphasis

Objectives, programs, methods for senior high school courses in modern world problems, economics, political science, sociology.

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) Special Education

This course studies the nature and causes of special education and the needs for it. 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.

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 The Examination of Classroom Practice

Course participants will be invited to examine their own classroom practice using a variety of data gathering procedures. After analyzing the data they will be invited to explore different ways of extending their methodology.

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.

621.0 Curriculum Development: Literature

This course proposes to explore the teaching of poetry, short stories, drama and novels by analyzing Canadian and other literatures as taught in junior and senior high. Teachers will study motivation and reading problems, values, literary criticism, and discovery teaching to develop a literature experience curriculum that includes integrated writing, speaking and viewing.

Course material will be related to the Nova Scotia List of Authorized Instructional Materials.

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: Written Composition

This course considers problems of teaching writing, reading and grammar in all subjects. It will focus on maintaining acceptable standards of literacy by concentrating on rhetorical study, curriculum development and actual writing practice and marking.

627.0 Language Across the Curriculum

This course proposes to improve teaching and learning effectiveness by dealing with the basic language interactions of teacher and students: (1) investigating the process and patterns of oral, written and non-verbal communication; (2) analyzing the concept of "Language Across the Curriculum"; (3) devising a school language policy; (4) planning 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

Curriculum Development 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.

680.1 (2) The Public School and Religious Education

This course examines the question of whether there are ways in which Nova Scotian public schools can legitimately and effectively contribute to the religious education of students.

681.1 (2) The Public School and Values Education

A rationale for values education and a repertoire of methods are derived in this course, through theoretical study and experimentation by the participants in their schools.

684.0 Curriculum and Instruction: Social Studies

Prerequisite: certification. (Students should have had an undergraduate course in social studies education.)

A graduate level course designed to give in-service social studies teachers the opportunity of further developing their competencies in the areas of social studies curriculum and instruction. Considerable attention will be given to social inquiry in both its factual and evaluative forms, and participants will be required to become familiar with a broad range of teaching approaches and curriculum projects.

685.0 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.

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, Associate Professor
Associate Professors

W. P. Boyle
D. L. Mulrooney
D. N. Swingler
D. B. Van Dyer

the terminal and the basic language. Introduction to logical operations and logic circuits.

Text: to be announced.

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

106.1 Engineering Design Graphics

Engineering drawing and sketching. Working drawings, standards and conventional practices. Projection Theory. Orthographic, oblique and isometric drawing and sketching. Introduction to perspective drawing. The engineering design process and its relationship to engineering graphics.

Text: James H. Earle, *Engineering Design Graphics* (Addison Wesley); Earle, Cleland, Stark, Mason, Bardell, Vogel and Guerd, *Graphics in Engineering Design Series A Workbook I* by Levens et al (Wiley).

Classes 2 hrs. and lab 3 hrs. a week. 1 semester.

107.2 Design and Descriptive Geometry

Principles and applications of descriptive geometry. Application to problems such as roadway cut and fill, contour maps, design of dams, outcrops of mineral veins, clearances and drawing developments of shapes. Plotting graphs and curve fitting.

Text: *Engineering Design Graphics* as for Egn 106.1; Earle, Cleland, Stark, Mason, Bardell, Vogel and Guerd, *Graphics in Engineering Design Series A Workbook I* by Levens et al (Wiley).

Classes 2 hrs. and lab 3 hrs. a week. 1 semester.

120.0 Technology and Society

This course is designed for students who are not registered in engineering. The course includes: the complaint against technology; the history of technological change; responses to technological change; the question of adequate precautions; and the interrelationship of technology with society.

Classes 3 hrs. a week. 2 semesters.

203.1 (.2) Engineering Mechanics (Statics)

Prerequisite: Egn 106.1-107.2, 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.

Text: Beer and Johnson, *Vector Mechanics for Engineers* (McGraw-Hill).

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

204.1 (.2) Computer Science

Prerequisite: Mat 100.0.

Introduction to the digital computer and the computing process. Computer organization, information representation, and matching language. Basic data types, operations and expressions. Structure of algorithms and their flowchart representation. Repetitive calculations and arrays. Structure and control of subprocedures. Program optimization. Errors in numerical computation. FORTRAN IV language. Introduction to

220.1 (.2) Introduction to Microprocessors

Prerequisite: 100 level mathematics or physics; or computer programming course.

This course is geared toward those with a science/technical background who are interested in a fairly detailed introduction to the rapidly expanding world of microprocessors. The underlying aims are to develop some familiarity with microprocessor architecture and physical hardware to become proficient in Assembler level programming; and to explore the application of program-control input/output operations to the control of simple external devices.

Classes 3 hrs. a week. 1 semester.

300.1 Dynamics of Particles

Prerequisite: Mat 300.0 (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.

Text: Beer and Johnson, *Vector Mechanics for Engineers* (McGraw-Hill)

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

302.2 Dynamics of Rigid Bodies

Prerequisite: Mat 200.0, 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 200.0, Egn 203.2.

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.

Text: Victor L. Streeter, *Fluid Mechanics, 4th Edition* (McGraw-Hill).

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

304.1 (.2) Mechanics of Deformable Bodies

Prerequisite: Egn 203.2, Mat 200.0.

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.

Text: Higdon, Olsen, Stiles and Weese, *Mechanics of Materials, 3rd edition* (John Wiley).

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

306.1 (.2) Engineering Thermodynamics

Prerequisite: Phy 221.0, Mat 200.0.

Energy and the first law, ideal gas, gas equation, macroscopic properties of pure substances, properties and state, energy analysis of thermodynamic systems, principles of statistical thermodynamics, entropy and the second law, general chemical equilibrium, thermodynamic relations, kinetic theory applications, gaseous mixtures, consequences and applications of second law, thermodynamic systems.

Text: to be announced.

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.

Text: to be announced.

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

English

Chairperson, Associate Professor
Professor
Associate Professors

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

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 Matriculation. 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. Students are urged to make use of the language tutorials, which are an adjunct to the course designed to help them with particular problems of reading and writing at the university level.

Courses for Students Not Majoring in English

After completion of Egl 200.0, students who do not wish to major in English may select courses at the 300 level. The 300 level courses are designed for intermediate-level students and for non-majors. 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.

Students who declare a minor concentration in English must complete three courses beyond Egl 200.0.

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 Honors Program

All prospective honors students should refer to the section of this Calendar pertaining to honors degrees and apply to the Registrar for enrolment in honors after their first year in the University.

While students are encouraged to enrol formally in honors as early as possible, those who apply later will be considered if they have the requisite 3.00 average in their English courses. Honors students must complete the requirements listed below. A slight adjustment in the Honors English requirements will be made for those in a combined honors program.

- (1) Ten courses in English (they are listed here in recommended order):

1. Egl 200.0.
2. One 300 level English elective. Only one course at this level may be included in a student's minimum for honors. Any 400 level course may be substituted for this elective.

3. Egl 400.0.
4. Egl 408.0.
5. Egl 406.0.
6. Egl 404.0.
7. 400 level elective.
8. 400 level elective.
9. 400 level elective.
10. Egl 552.0.

(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 his colleagues on the student's thesis board in deciding the final grade and the procedure for its determination. The final honors thesis mark will be reported as a grade in Egl 500.0.

200.0 Introductory English

A course designed to establish and refine basic skills of critical reading and writing through the close study of selected prose, fiction, drama and poetry.

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

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.

Classes 3 hrs. a week. 1 semester.

306.0 Cross-listed as Classics 306.0.

310.0 Modern English Language

Prerequisite: Egl 200.0.

The course will examine the nature of modern English, with reference to its syntax, grammar and vocabulary. Contemporary approaches to grammatical description and to problems of usage and lexicography will be discussed. Recommended for prospective teachers of English.

Classes 3 hrs. a week. 2 semester.

320.0 Advanced Composition

Prerequisite: Egl 200.0 with a grade of C or higher.

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.

Classes 3 hrs. a week. 2 semesters.

325.0 Biography and Autobiography

Prerequisite: Egl 200.0.

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.

Classes 3 hrs. a week. 2 semesters.

330.0 Children's Literature

Prerequisite: Egl 200.0.

This course will examine some of the concepts of childhood in English-speaking cultures through an exploration of the types of literature for children produced in different historical periods. A variety of literature written for or read by children will be studied in an attempt to establish modes of evaluation appropriate to such material.

Classes 3 hrs. a week. 2 semesters.

335.0 Introduction to Folklore

Prerequisite: Egl 200.0 or equivalent.

This course will survey 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.

Classes 3 hrs. a week. 2 semesters.

340.0 Introduction to Drama

Prerequisite: Egl 200.0.

This course will trace in outline the history of drama in relation to the living theatre from its inception to contemporary styles, with particular reference to the Greek and Roman classical theatre; the religious origins and secularization of English drama; the Elizabethan Playhouse; the development of the private theatre and proscenium stage; the clash of Puritanism with the Restoration and 18th century theatre; pioneers of the new stage craft in the later 19th and 20th centuries.

Classes 3 hrs. a week. 2 semesters.

345.0 Literature Between The Wars: 1918-1939

Prerequisite: Egl 200.0.

An examination of the way in which poets, novelists and critics responded to war, post-war disjointedness, Fascism, Communism, and the Depression.

Classes 3 hrs. a week. 2 semesters.

350.0 Contemporary American Fiction

Prerequisite: Egl 200.0.

A study of American fiction since World War II. Special attention will be paid to such writers as Ellison, Malamud, Bellows, O'Connor, Barth and Heller, 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

Prerequisite: Egl 200.0.

Under the general designation of science fiction, this course will explore aspects of the *visionary* or *speculative* literature which has developed out of the recognition that scientific thought and technology are the most distinctive characteristics of modern time and culture. The usual themes of evolution in space-time, the possibilities of extraterrestrial life, the threatened conquest of man by his machines, and the sense of the *uncanny* or *weird* which the awareness of scientific knowledge forces upon us will be considered in the work of such classic science-fiction authors as Poe, Verne, H.G. Wells, Zamyatin, Capek, and in contemporary writers like Asimov, Bradbury, Miller, Heinlein, Hoyle, Arthur C. Clarke, John Wyndham, and others. The scientific or *science-fiction* elements in the writing of more standard authors like Huxley, Orwell, Burgess, D. Lessing, Vonnegut, Pynchon will also be considered.

Classes 3 hrs. a week. 2 semesters.

365.0 The Modern Novella

Prerequisite: Egl 200.0.

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.

Texts: Hamalian and Volpe, *Ten Modern Short Novels*; R. Paulson, *The Modern Novelette*.

Classes 3 hrs. a week. 2 semesters.

370.0 Contemporary Canadian Literature

Prerequisite: Egl 200.0.

Though the purpose of this course is to create an exploratory and experimental atmosphere, it also includes an effort to study works which illustrate both regional differences in Canada today and the wide variety of forms in which our literature is now being expressed. Writers studied include: Callaghan, MacLennan, Ross, Ringuelet, Buckler, Garner, Richler, Moore, Atwood, Laurence, Nowlan, Purdy, Layton and others.

Classes 3 hrs. a week. 2 semesters.

375.1 (2) Creative Writing

Prerequisite: Egl 200.0.

The course is designed especially for those students who wish to write fiction — the novel and short story form will be emphasized. Those interested in writing in regional literature are particularly encouraged to consider this course. It will not be a "composition" course. Students will be given individual attention but there will also be discussion of work in progress by fellow students. The aim will be to produce work worthy of publication.

Classes 3 hrs. a week. 1 semester.

376.2 Creative Writing

Prerequisite: Egl 200.0.

This course will encourage students to experiment with non-traditional literary forms in an effort to develop greater freedom of expression and more self-confidence in their own creative ability. Writing "regional" literature will be encouraged and students will be given individual consultations as well as opportunities to discuss their work with other students. The aim will be to produce work worthy of publication.

380.0 Literature of Atlantic Canada

Prerequisite: Egl 200.0.

This course will examine the literature and literary background of Atlantic Canada. Emphasis in the first semester will be on the 19th and early 20th centuries; in the second semester on contemporary writing.

Classes 3 hrs. a week. 2 semesters.

390.0 A Study of Fiction

Prerequisite: grade of C in Egl 200.0.

The course is designed to introduce students to major writers of fiction as well as to the analytical concepts necessary for critical appreciation and judgement.

Classes 3 hrs. a week. 2 semesters.

395.0 An Introduction to Shakespeare

Prerequisite: Egl 200.0.

A course designed principally for non-English majors with an interest in Shakespeare. About a dozen works, with representative selections from the comedies, histories, tragedies, problem plays, and last plays, will be studied in detail.

Classes 3 hrs. a week. 2 semesters.

400.0 The Study of Poetry

Prerequisite: grade of C in Egl 200.0.

A study of 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 English poetry. In addition, the work of one poet will be studied in close detail.

Classes 3 hrs. a week. 2 semesters.

402.0 History of the English Language

Prerequisite: grade of C in Egl 200.0.

A course designed to acquaint the student with the nature of language and its growth. The student will be instructed in the basic techniques of linguistic analysis.

Classes 3 hrs. a week. 2 semesters.

404.0 Chaucer and the 14th Century

Prerequisite: Egl 400.0 (or may be taken concurrently).

This course will deal primarily with the poetry of Chaucer which will be studied in the original Middle English. Students will be required to do outside reading on literary influences and on life in 14th century England.

Texts: F. N. Robinson, ed., *The Works of Chaucer; The Age of Chaucer*, Pelican Guide to English Literature, Volume 1.

Classes 3 hrs. a week. 2 semesters.

406.0 The Poetry and Prose of the English Renaissance

Prerequisite: Egl 400.0 (or may be taken concurrently).

A study of forms and developments in the literature of the English Renaissance, excluding drama. Poets from Wyatt through the Metaphysicals and Milton will be examined and also a wide variety of prose writers from Elyot to Browne.

Classes 3 hrs. a week. 2 semesters.

408.0 Shakespeare And His Contemporaries

Prerequisite: grade of C in Egl 200.0.

Shakespearean drama will be the major subject of study in this course. Due attention will be given Shakespeare's predecessors and successors so that the student will become aware both of the development of Elizabethan and Jacobean drama and of Shakespeare's relation to that drama and the age.

Supplementary reading will be required in such areas as Greek tragedy, Medieval drama, and Renaissance poetry.

Classes 3 hrs. a week. 2 semesters.

410.0 Drama and Society — Restoration to Late 19th Century

Prerequisite: recommendation of departmental advisor.

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.

Classes 3 hrs. a week. 2 semesters.

412.0 Restoration and 18th Century Poetry and Prose:

1666-1780

Prerequisite: recommendation of departmental advisor.

A study of the central works in the Neo-Classic era. Major attention is given to Dryden, Swift, Pope and Johnson.

Classes 3 hrs. a week. 2 semesters.

414.0 The Novel: Defoe to Austen

Prerequisite: recommendation of departmental advisor.

The study of major novelists of the 18th century. Special emphasis will be placed on Defoe, Richardson, Fielding, Goldsmith and Austen. Sterne, Burney and the Gothic novelists may also be studied.

Classes 3 hrs. a week. 2 semesters.

416.0 The Romantic Movement

Prerequisite: Egl 400.0 (or may be taken concurrently).

A study of 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.

Classes 3 hrs. a week. 2 semesters.

418.0 The 19th Century Novel

Prerequisite: recommendation of departmental advisor.

Is it true and does it matter to us now, that the 19th century novelists 'held up the mirror to life' and created a fresh form of expression which employed the strength and scope of English dramatic poetry? The course will pursue these questions by examining in detail two novels by each of the following: Austen, Eliot, Bronte, Dickens, Hardy, and James.

Classes 3 hrs. a week. 2 semesters.

420.0 Victorian Poetry and Prose

Prerequisite: recommendation of departmental advisor.

The course is designed to acquaint students with the attitudes and ideas of writers in the Victorian period. Arnold, Browning and Tennyson are studied in depth.

Classes 3 hrs. a week. 2 semesters.

422.0 19th Century American Literature

Prerequisite: recommendation of departmental advisor.

A study of major writers of the 19th century. Critical readings of works by Cooper, Hawthorne, Melville, Emerson, Thoreau, Whitman, Dickinson, James.

Classes 3 hrs. a week. 2 semesters.

424.0 20th Century American Literature

Prerequisite: recommendation of departmental advisor.

A review of representative figures in the modernist tradition. A consideration of the work and place of such writers as Dreiser, Hemingway, Faulkner, Fitzgerald, Mailer, Pynchon.

Classes 3 hrs. a week. 2 semesters.

426.0 The Modern Novel

Prerequisite: recommendation of departmental advisor.

An examination of the early 20th century novel in terms of a close critical analysis of representative works and in the light of certain cultural, philosophic and socio-political tendencies which have played a decisive part in determining the response of the modern imagination to emotional, moral and social experience.

Classes 3 hrs. a week. 2 semesters.

428.0 20th Century Poetry

Prerequisite: Egl 400.0 (or may be taken concurrently).

A study of the major poets of the modern era. Authors will include Hardy, Hopkins, Eliot, Pound, Yeats, and Auden. The course will also include reference to English poetry of the fifties and sixties.

Classes 3 hrs. a week. 2 semesters.

432.0 The Development of English Canadian Literature

Prerequisite: recommendation of departmental advisor.

Some background reading in Canadian intellectual and cultural history is required. The main literary and historical themes are imperialism, sectarianism, and regionalism. Besides poets like Roberts, Lampman, Pratt, F. R. Scott, Birney and Layton, other writers to be studied include McCulloch, Haliburton, Susanna Moodie, Sara Duncan, Leacock, Callaghan, MacLennan.

Classes 3 hrs. a week. 2 semesters.

434.0 Modern Anglo-Irish Literature

Prerequisite: recommendation of departmental advisor.

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. Kavanagh, Padraic Colum, Sean O'Faolain, James Stephens, J. B. Kane, and Brian Freele.

Classes 3 hrs. a week. 2 semesters.

435.1 (2) Twentieth Century European Drama

Prerequisite: recommendation of departmental advisor.

A study of the major dramatists and theatre movements which have influenced the drama written in English in the present century. Reference will be made to works by such dramatists as Ibsen, Strindberg, Chekhov, Pirandello, Lorca, Beckett and Ionesco.

Classes 3 hrs. a week. 1 semester.

Note: Students who have received credit for Egl 430.0 may not enrol in this course.

436.1 (2) Twentieth Century British Drama

Prerequisite: recommendation of departmental advisor.

A study of the directions of modern drama and theatre in the British Isles. Reference will be made to works by such dramatists as Shaw, O'Casey, Eliot, Osborne, Pinter, Bond and Stoppard.

Classes 3 hrs. a week. 1 semester.

Note: Students who have received credit for Egl 430.0 may not enrol in this course.

437.1 (2) Canadian Drama

Prerequisite: recommendation of departmental advisor.

This course will trace the beginnings and follow the development of drama and theatre in Canada with special reference to the works of Coulter, Reaney, Ryge, French, Freeman, and of Gélinas, and Tremblay in translation.

438.1 (2) American Drama

Prerequisite: recommendation of departmental advisor.

A study of the origins and principal developments of drama in the United States with special reference to the work of leading dramatists, including O'Neill, Wilder, Miller, Williams, Albee, Wilson, and Shepard.

Classes 3 hrs. a week. 1 semester.

440.0 Theory and Practice of Criticism

Prerequisite: Egl 400.0 and recommendation of departmental advisor.

A course offering practice in individual judgment of various literary forms, with introduction to the principles of criticism.

Classes 3 hrs. a week. 2 semesters.

450.0 Special Author

Prerequisite: permission of the department.

A tutorial course open to students who wish to study a particular author largely through independent reading. Students are required to discuss their special interest with a member of the department during the preceding academic year.

Tutorials by arrangement with supervisor. 2 semesters.

451.0 Special Subject

Prerequisite: permission of the department.

A tutorial course open to students who wish to study a particular subject largely through independent reading. Students are required to discuss their special interest with a member of the department during the preceding academic year.

Tutorials by arrangement with supervisor. 2 semesters.

500.0 Honors Thesis

Prerequisite: enrollment in final year of honors program.

See Section (4) of the Honors Program Requirements.

550.0 Special Author

Prerequisite: enrollment in the English honors program, or special recommendation of the department.

This course will provide the opportunity to study a particular author in considerable depth and detail, and will require some measure of independence and initiative in the student.

Tutorials by arrangement with supervisor. 2 semesters.

551.0 Special Subject

Prerequisite: enrollment in the English honors program, or special recommendation of the department.

This course will provide the opportunity to study a particular subject or period in considerable depth and detail, and will require some measure of independence and initiative in the student.

Tutorials by arrangement with supervisor. 2 semesters.

552.0 Literature and Criticism Seminar

Prerequisite: enrollment in the English honors program, or special recommendation of the department.

A seminar course aimed towards an understanding of the general foundations of literature and criticism, and an appreciation of the links between literature and other disciplines. The course will use material from a wide variety of periods and sources.

Classes 2 hrs. a week. 2 semesters.

Finance and Management Science

Chairperson, Associate Professor
Associate Professors

E. Robinson
M. Chew, D. Connelly,
S. Turner

Assistant Professors

P. Dixon, J. Gregory

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

- (i) those that deal **directly** with two of the primary functions of business — finance and production management; and
- (ii) 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 321), 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 or management science. These two programs, along with others available within the business administration major, are outlined in the Faculty of Commerce section of the 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.

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 361.1 (.2).

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.

490.1 (.2) Seminar in Finance

Prerequisite: permission of chairperson or instructor.

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

Classes 3 hrs. a week. 1 semester.

492.1 (2) Directed Study

Prerequisite: permission of chairperson and instructor.

Intended to supplement or provide an alternative to the regular finance courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Tutorial and independent study. 1 semester.

The following courses are available only to students registered in the Master of Business Administration program:

561.1 (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.

663.1 (2) Financial Management

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

Managerial in emphasis, this course examines in detail capital budgeting techniques and the problems inherent in these and cost of capital theory and valuation of the firm.

664.1 (2) Corporate Financing

Prerequisite: Fin 663.1 (2) or equivalent.

This course is also managerial in emphasis and covers material related to financing both the short and long term assets of the firm: bank borrowings, bonds, preferred stock, common stock, as well as mergers and consolidation.

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.

692.1 (2) Directed Study

Prerequisite: completion of all 500 level courses plus the 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.

302.1 Principles of Mathematical Programming

Prerequisite: Msc 205.1 (2) and 207.1 (2).

The course extends the student's knowledge of linear programming to include integer and mixed-integer programming, postoptimality and sensitivity analysis, decomposition principle, etc. Further topics in dynamic programming are also covered. Emphasis will be placed on the application of mathematical programming techniques in management.

Classes 3 hrs. a week. 1 semester.

303.1 (2) Statistical Analysis for Business and Economics

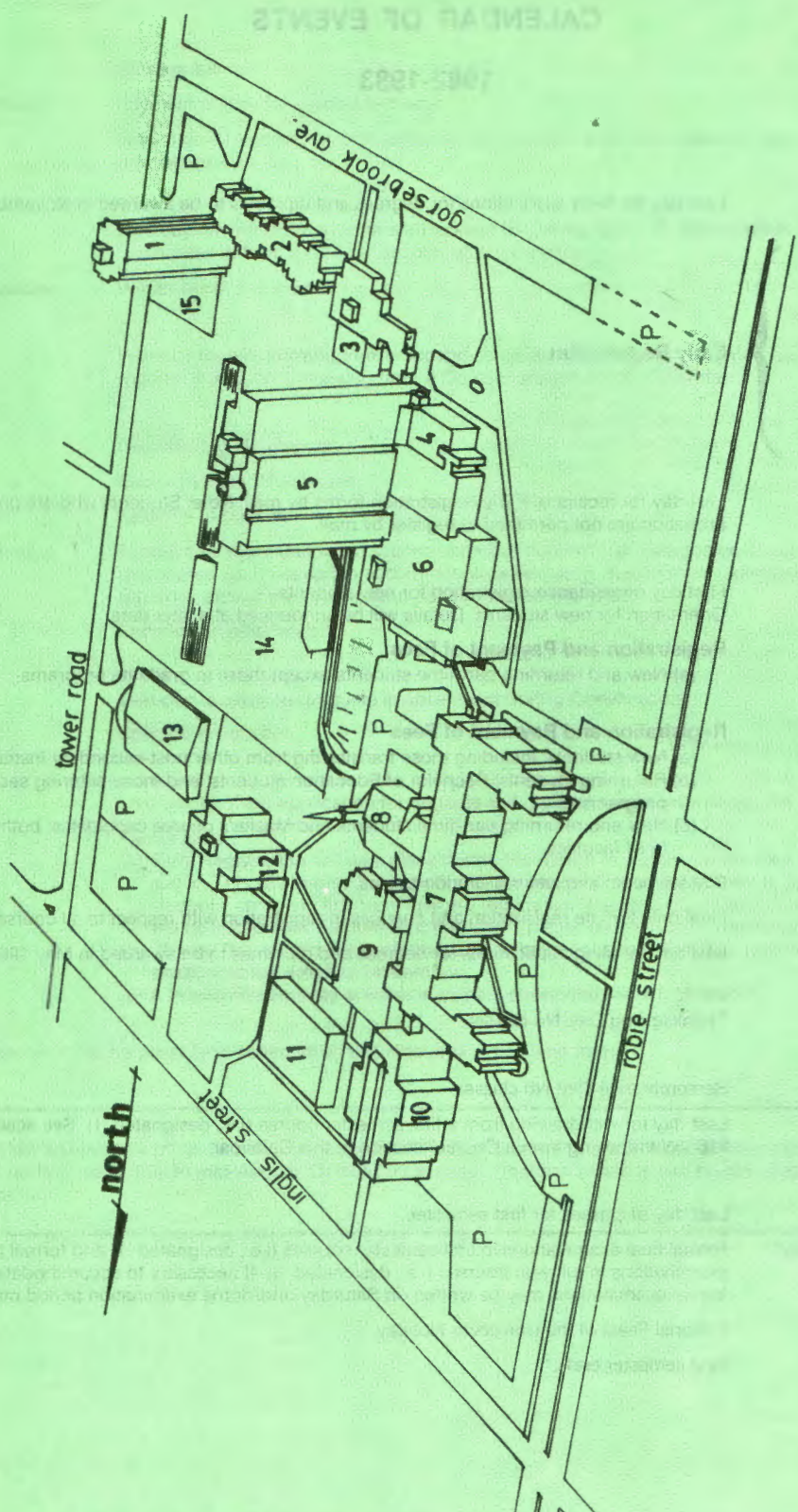
Prerequisite: Msc 207.1 (2).

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).

Saint Mary's University Campus Guide



- 1. Edmund Rice Residence
- 2. Vanier House Residence
- 3. Dining Hall
- 4. Art Gallery
- 5. Ignatius Loyola Residence
- 6. Loyola Academic Complex
- 7. Archbishop McNally Building
- 8. Theatre-Auditorium & Gymnasium

- 9. Library
- 10. Science Building
- 11. Bishop Burke Building
- 12. Student Centre
- 13. Alumni Winter Arena
- 14. Huskies Stadium
- 15. Tennis Courts
- P Parking

1983**January**
4 Tuesday

Classes resume.

4-12 Tuesday — Wednesday

Payment of fees for second semester.

7 Friday

Final date for late registration and changes in registration with respect to second semester courses (i.e., designated .2).

February

16 Wednesday

Last day for withdrawing from a full course (i.e., designated .0). See academic regulation #16: "Withdrawing from a Course" section of this Calendar.

21-26 Monday — Saturday

Winter break. No classes.

March

15 Tuesday

Last day for withdrawing from a second semester course (i.e., designated .2). See academic regulation #16: "Withdrawing from a Course" section of this Calendar.

April

1 Friday

Good Friday. No classes.

4 Monday

Easter Monday. No classes.

8 Friday

Last day of classes.

11-23 Monday — Saturday*

Formal final examinations in second semester courses (i.e., designated .2) and in full courses (i.e., designated .0). If needed to accommodate scheduling, these formal examinations may be written on Saturday and/or the examination period may be extended.

23 Saturday*

Second semester ends.*

May

2 Monday

Last day to apply to graduate in absentia at Spring Convocation.

9 Monday

Spring Convocation.

August

1 Monday

Last day for filing application for degrees and diplomas to be awarded in the Fall of 1983.

Please Note

(a) **Early Registration** will take place during the month of August on the days and at the times noted above. This will involve the selection of courses and payment of fees. In the case of part-time students, complete first term fees are required; in the case of full-time students partial fee payment will be acceptable. For further information, please see section 2: Registration.

(b) **Charter Day** is held in March on a date to be announced. This has traditionally marked the end of extracurricular activities on campus.

(c) **A President's Holiday** is sometimes held during the second semester.

*Subject to change should it not be possible to schedule all examinations in this time frame.

Each year Saint Mary's University offers two summer sessions. The First Summer Session extends from mid-May to the end of June; the Second from early July to mid-August. Detailed information on these sessions can be obtained from the Office of

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308.1 (.2) Multivariate Analysis

Prerequisite: Msc 303.1 (.2).

Topics covered include design of experiments, multiple regression and univariate and multivariate analysis of variance. Emphasis is placed on applications of the modeling process to include assumptions and their violation, quality of data and problems of collection and interpretation of results from a decision viewpoint. The computer will be used to facilitate the analysis of data.

Classes 3 hrs. a week. 1 semester.

317.1 (.2) Introduction to Operations Management

Prerequisite: Bus 280.0 or Mgt 281.1 (.2), Msc 205.1 (.2) and Msc 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.

318.2 Techniques of Production Management

Prerequisite: Msc 317.1 (.2) and 321.1 (.2).

A more advanced course in the study of the production function, making extensive use of case analysis. The course covers the production system, planning models and process models.

Classes 3 hrs. a week. 1 semester.

321.1 (.2) Introduction to Computers

Prerequisite: Mat 113.0 or equivalent, and sophomore 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 programming, data processing functions, and a study of computer systems.

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

322.1 (.2) Computer Simulation

Prerequisite: Msc 321.1 (.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).

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.

490.1 (.2) Seminar in Management Science

Prerequisite: permission of chairperson or instructor.

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

Classes 3 hrs. a week. 1 semester.

492.1 (.2) Directed Study

Prerequisite: permission of chairperson and instructor.

Intended to supplement or provide an alternative to the regular management science courses in order to meet the special needs and interests of students, the course provides an opportunity to study a particular subject in detail and requires from the student some measure of independence and initiative.

Tutorial and independent study. 1 semester.

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

506.1 Introductory Decision Analysis I

The objectives of this course are to provide a basic understanding of (i) rational decision-making under uncertainty and (ii) the methods of statistical analysis. The approach taken in the course, and also in Msc 507, focuses on the logical process of assimilating quantitative information and the formulation of appropriate models in the context of case problems.

507.2 Introductory Decision Analysis II

Prerequisite: Msc 506.1 or permission of instructor.

This is a continuation of Msc 506 with emphasis on the methods of linear programming as applied to the allocation of scarce resources. Problems of queuing and inventory management are also considered.

521.1 (.2) Computers in Business

This course acquaints the student with concepts relevant to the use of computers in business as well as the role of the computer in the management process. Special emphasis is placed on the logic and programming of a computer, interactive procedures using computer terminals, and the use of the computer as a management decision-making tool.

603.1 (.2) Statistical Applications in Management Science I

Prerequisite: 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.

616.1 (2) Production Applications in Management Science

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

A thorough analysis of the nature of operational production systems through the solution of real business problems. Emphasis is placed on problem definition, and the identification, examination, and amplification of relevant solution techniques that have been taught elsewhere in the program.

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.

Chairperson, Associate Professor R. McCalla
Professor D. Day
Associate Professors H. Millward, B. Robinson
Lecturer P. J. Ricketts

General Information

In its broadest sense geography studies the interaction between man and his environment. It derives much of its educational value from its interdisciplinary approach to man-environment 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, 202.0, 203.0 and 210.0 both as *service courses for the University in general* and basic introductory courses 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 301.0 and 400.0; similarly anthropology and history majors may be allowed to take Gpy 409.0.

(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) 300 and 400 level courses are not open to students in their first year at university.

General requirements for majors

- (1) To obtain a major in geography a student must complete the equivalent of seven university credits in geography.
- (2) Students must complete two geography courses at the 200 level and are advised to complete three 200 level geography courses if their program permits. Students are advised to take 203.0. Majors must complete four courses at the 300 level or above. Gpy 306.0 must be taken by all majors.
- (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).

Honors Program

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.

Applications for admission to the honors program in geography must be submitted to the departmental chairperson and approved by the department. After admission to the program, a student will be assigned an advisor. In order to complete an honors program a student must receive an overall grade point average of 3.00 in geography courses. All candidates must complete the following courses: Gpy 203.0, 306.0, 506.1, 516.2, 526.0 and either 316.0 or two or 406.1 (2), 416.1 (2), 426.1 (2), 436.1 (2) or 446.1 (2). In addition all candidates must complete one of 200.0, 202.0 or 210.0. If students opt to take Gpy 202.0, they will be required to take an advanced regional geography course at the 300 level. In addition to these required courses, a student must complete the equivalent of six other full courses in geography. The combination of electives chosen must be approved by the departmental chairperson. Complete details regarding the program and the honors thesis requirements are contained in *Notes and Guidelines for Geography Students*, available from the departmental secretary.

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	Winter	Summer	Fall	Winter	Summer
1A	1B	H	2A	2B	W1
Fall	Winter	Summer	Fall	Winter	
C	W2	W3	3A	3B	

Note: — 1A, 1B, 2A . . . = Academic Terms, H = Home, W1, W2, W3 = Work Terms.

C = Academic Co-operative Education Core Term.

Terms C and W2 can be switched given departmental approval.

2. Honors students in the Co-operative Education Program must complete satisfactorily four work terms. The normal sequence of academic study and work terms with the academic co-operative education core term is as shown above with the addition of a work term (W4) and two academic terms (4A and 4B). The academic co-operative education core term may be delayed for one year in the sequence above given departmental approval.

3. Normally Gpy 306.0 is taken before the commencement of the first work term.
4. The academic co-operative education core term requires students to complete five half course credits approved from a departmental list of courses available from the departmental Co-operative Education Coordinator. One of these courses must be Gpy 346.1 (2).

200.0 Geography of Canada

The course serves as an introduction to university geography with the focus on Canada. Canada as a geographical entity in a physical, cultural, political, and economic context is discussed. Case studies are taken from the various regions of the country. Topics for discussion include: the concept of region, the physical environment and its influence on human activity, the concept of resources and their distribution in Canada, the location and functions of Canadian settlements and regional disparities.

Classes 3 hrs. a week. 2 semesters.

202.0 Geographical Aspects of Contemporary World Problems

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.

203.0 Physical Geography

A study of the physical environment of man through an examination of the character and processes of its major components. The course includes: a systematic study of the origin, nature and distribution of landforms; a discussion of the physical principles of climate and weather and methods of delimiting world climatic regions; a study of the spatial characteristics of the world's oceans, soil and vegetation zones. Laboratory work will include the geomorphic interpretation of maps and air photos, the interpretation of weather maps and climatic data and examination of soil profiles.

Classes 3 hrs. and lab or field work 3 hrs. a week. 2 semesters.

210.0 The Atlantic Provinces

A study of the spatial structures of social and economic development in the Atlantic Provinces, the distribution of population, resource, manufacturing and tertiary activities. The course will study the impact of regional development programs on the spatial pattern of development in the region, together with government efforts to modernize the Newfoundland society and economy in the post-1949 era.

Classes 3 hrs. a week. 2 semesters.

301.0 Elements of Economic Geography

Prerequisite: a 200 level geography course or permission of instructor.

The course considers the principles determining the geographical organization of economic activities. It will include consideration of international and regional variations in the level and structure of economic development and models of the location of production and trade patterns in agriculture, forestry,

fishing, mining, manufacturing and tertiary activities. Attention will be given to the geographical relationships between population growth and economic developments, to regional economic interaction and to efforts to promote the geographical reorganization of economic activity.

Classes 3 hrs. a week. 2 semesters.

302.0 Settlement Geography

Prerequisite: a 200 level geography course or permission of instructor.

An introduction to the study of rural and urban settlement patterns. Attention is focused on the following topics: locational analysis of site and situation; the spatial organization of settlements; the development and functioning of settlement systems; the internal spatial structure and functioning of settlements; factors influencing the evolution of regional settlement patterns. Case studies will be drawn from North America, Europe and parts of the less developed world.

Classes 3 hrs. a week. 2 semesters.

303.0 Geomorphology

Prerequisite: Gpy 203.0 or permission of instructor.

The study of geomorphic processes and related landforms with emphasis on glacial and fluvial activity. Northern and temperate landscapes will be referred to, and field and practical methods used in analysis of landforms and geomorphic processes will be discussed.

Classes 3 hrs. a week. 2 semesters. Field work twice a year.

304.0 Geography of the Seas

Prerequisite: a 200 level geography course or permission of instructor.

A study of the spatial characteristics of the world's oceans, the land-sea interface and the human use of the sea. Topics include the physical framework of the oceans, regional variations in marine resources and intensity of resource use, the spatial structure and characteristics of oceanic shipping, factors affecting the arrangement of human activities in coastal areas, seaports and seaport terminals, and the political geography of the seas.

Classes 3 hrs. a week and field work. 2 semesters.

306.0 Geographical Techniques

Prerequisite: two lower level geography courses, preferably including 203.0.

A techniques course designed primarily for geography majors. Students develop skills in field work, the elements of surveying and map compilation, map analysis, statistical manipulation and analysis of geographic data, and cartography. Map projections and cartographic design are also considered.

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

310.0 Geography of the United States

Prerequisite: a 200 level geography course or permission of instructor.

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.

312.1 (2) Urban Land Use

Prerequisite: a 200 level geography course or permission of instructor. (Students may not receive credit for both Gpy 312.1 and Gpy 402.0.)

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.

314.0 Fisheries Development

Prerequisite: a lower level geography course.

A geography of fisheries development including a study of the natural basis of the world fishing industry, geographical variations in the primary sector, locational analysis of fish processing facilities, the development of fishing ports, factors affecting the distribution channels and marketing patterns for fishery products. The course will include case studies of fisheries development from selected areas of the world.
Classes 3 hrs. a week. 2 semesters.

316.0 Air Photo Interpretation and Remote Sensing of the Environment

Prerequisite: a lower level geography course preferably 203.0, or permission of instructor.

A study of the principles and techniques of conventional air photo interpretation and satellite imagery analysis, together with their application to environmental problems and detailed land use analysis.

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

319.0 Cultural Ecology (Ant 319.0) (formerly 209.0)

Prerequisite: a 200 level geography course.

Introduction to the study of the relationship between man and his environment, ranging from hunting and gathering societies to modern commercial societies. The course considers men as functional entities in ecosystems and the various strategies and information sources used by societies in their interaction with environments.

Classes 3 hrs. a week. 2 semesters.

320.0 Geography of Europe

Prerequisite: a lower level geography course.

A study of the physical, economic, social and political geography of contemporary Europe and its major regions, with particular reference to the European Economic Community.

Classes 3 hrs. a week. 2 semesters.

324.0 Ports and Shipping

Prerequisite: Gpy 200.0 or 202.0.

A study of the seaport as a modern transport node and the spatial dynamics of the world shipping industry. Topics discussed will include: ports as "gateways" and industrial locations; port approaches and port layouts; the process of hinterland penetration and foreland development; port competition and planning; the oceanic shipping trade; break-bulk and bulk cargo traffic; the impact on time-space relationships of increasing ship size, new types of ships and the intermodal transfer of seaborne cargo.

Classes 3 hrs. a week. 2 semesters.

326.0 Methods of Locational Analysis (formerly 206.0)

Prerequisite: Mat 100.0 or equivalent and 200 level geography course (may be taken concurrently).

Students will be introduced to methods and problems in the collection, description and analysis of geographic data. The course includes a review of descriptive and inferential statistics as applied to locational problems, computer mapping, location-allocation problems, and methods of regional optimization.
Classes 2 hrs. and lab 2 hrs. a week. 2 semesters.

340.0 Geography of China

Prerequisite: a lower level geography course.

The course will cover the following topics: physical foundations, hydraulic agriculture, the nomad frontier, origins in the loess, Chinese expansion to the south, China's marketing and administrative geography, the Communist revolution. Special emphasis will be placed on how the Communist Government has transformed the geography of China since the revolution.

Note: Students who received credit for this course prior to 1980-81 are not eligible to retake it with its content as presently described.

Classes 3 hrs. a week. 2 semesters.

346.1 (2) Directed Study for Co-operative Education Students

Prerequisite: a lower level geography course.

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 hours 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: a lower level geography course.

A study of the physical, economic, social and political geography of the Soviet Union. Emphasis will be placed on the geographical basis of urbanization, industrialization, regionalization, resource use, transportation and contemporary problems in a centrally planned country.

Classes 3 hrs. a week. 2 semesters.

400.0 Regional Analysis and Development

Prerequisite: Gpy 210.0, 301.0 or 302.0.

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.

402.0 Internal Structure of Cities

Prerequisite: Gpy 301.0, 302.0 or 326.0.

Theories, models and empirical research on the spatial structure of urban areas, including methods of urban analysis. Topics include: overall patterns of land use and land value, locational requirements for residential, commercial, industrial and institutional uses, growth processes, the role of transport in shaping growth, urban climate and hydrology, perception of urban areas and locational conflicts.

Classes 3 hrs. a week and field work. 2 semesters.

403.0 Coastal Geomorphology

Prerequisite: Gpy 203.0 and 303.0 or permission of instructor.

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. 2 semesters. Field work: 4 times a year.

404.0 Coastal Zone Management

Prerequisite: Gpy 203.0 or 304.0, and one of 301.0, 302.0, 314.0 or 324.0.

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. 2 semesters.

406.1 (2) Field Studies

Note: This same course description applies to 416.1 (2), 426.1 (2), 436.1 (2), and 446.1 (2).

Prerequisite: a geography course and permission of instructor.

This course will introduce students to the methods and scope of fieldwork in geography. It will include lectures, group discussions, and individual or group analysis of selected problems in the field camp area. Readings will be assigned before and after the course. All students must submit a comprehensive field studies report within one month of the end of the course.

3 weeks, including 8-10 days in a field camp area.

409.0 The Birth of the City

Prerequisite: Gpy 309.0, 319.0 or 340.0.

Cross-cultural study of the processes that gave rise to the evolution of cities. The processes assessed involve the cosmological, ecological, demographic and technological bases of urban forms. The primary examples will be from early China, Mesopotamia and Mesoamerica. Secondary consideration will be given to West Africa and South-East Asia. In addition to the obvious neolithic causal sequence, attention will also be paid to such consequences as the relation between urbanization and the state.

Classes 3 hrs. a week. 2 semesters.

412.0 Transportation Geography

Prerequisites: Gpy 301.0, 302.0, or 324.0.

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.

419.0 Urban Cultural Geography

Prerequisite: one 300 level geography course.

The geography of the city (its morphology and function) is employed as an indication of the landscape impression produced by various historical periods (conceived as cultures) during the evolution of urban forms in Europe and North America. Examples are taken in historical sequence from Greek to Industrial times.

Classes 3 hrs. a week. 2 semesters.

422.0 Urban Planning and Urban Futures

Prerequisite: Gpy 301.0, 302.0 or 326.0.

The planning and control of urban land use patterns, and an examination of the future spatial structures of cities. Topics include: the planning process, subdivision control, comprehensive development areas, municipal planning, metropolitan planning, urban allocation models, new towns, forecasting techniques, long-term futures.

Classes 3 hrs. a week. 2 semesters.

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.

506.1 Seminar in Theoretical Geography

Prerequisite: honors standing in geography.

Honors students will be made familiar with major advances in theoretical and philosophical aspects of geography.

Classes 3 hrs. a week. 1 semester.

516.2 Seminar in Applied Geography

Prerequisite: honors standing 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.

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 C. A. Siddiqui
Associate Professor J. Dostal
Assistant Professor J. W. F. 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 550.0 and one of either 517.0 or 519.0 or both 513.1 and 540.2. 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.

Note: Where a course has been re-numbered, students are advised that a second credit for the course cannot be obtained even if the course is now given at a different level.

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.

201.2 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 Understanding the Earth

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

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 or 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 permission of department.

This integrated lecture-laboratory-field course gives essential practice in basic field techniques used by geologists including recording observations, surveying and geological mapping.

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) Stratigraphy and Sedimentation

Prerequisite: Geo 200.0.

The principles of paleoecology, lithostratigraphic and biostratigraphic correlation. Description and interpretation of stratigraphic rocks in light of comparison to modern depositional environments. Petrography of sedimentary rocks.

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

326.1 (2) Sedimentary Petrology

Prerequisite: Geo 325.1 (2).

Petrology of the main groups of sedimentary rocks with emphasis on local stratigraphic sequences and the determination of their depositional environment.

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

330.1 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.

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.

455.0 Geochemistry

Principles of distribution of elements; geochemical features of geological processes; chemistry of igneous rocks, lunar rocks and meteorites.

Classes 3 hrs. a week. 2 semesters.

457.0 Economic Geology

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.

464.0 Sedimentology

Mineralogy, petrography and petrogenesis of the main groups of sedimentary rocks.

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

466.1 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 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 2 hrs. and lab 1 hr. a week. 1 semester.

517.0 Advanced Economic Geology

Prerequisite: 5th year honors standing.

Selected topics in economic geology such as physical and chemical aspects of ore formation. Principles of geochemistry in mineral exploration. Detailed studies of well-known examples of mineral deposits, in particular Canadian deposits.

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

519.0 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. 2 semesters.

540.1 (2) Special Topics in Geology

Prerequisite: 5th year honors standing and 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 3 hrs. a week. 1 semester.

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.

History

Chairperson, Associate Professor
Professors

E. Haigh
S. Bobr-Tylingo
D. O. Carrigan
J. R. MacCormack
R. Bollini
R. H. Cameron
C. Howell
B. Kieseckamp
W. Mills, M. Sun
R. Tworney, G. F. W. Young

Associate Professors

Departmental Policy

To obtain a major concentration in history, a student must have at least six university courses in history four of which must be at the 300 level or above. The program 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 enrollment in that program after their first year at the University.

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

- All history courses are full year courses with one credit.
- 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.
- 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.
- 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.
- 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.
- 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.

Students with the following credits are not eligible to take the courses in brackets:

120.0 (200.0); 121.0 (201.0); 122.0 (230.0); 123.0 (250.0; 251.0); 124.0 (221.0); 338.0 (202.0).

200.0 History of Civilization

A survey of world history from the origin of civilization, ca. 3000 B.C. to the 20th century A.D. The course will focus on the macro-historical development of such civilizations as the ancient Egyptian and Mesopotamian, Greco-Roman and Persian, Islamic and European, on their interaction with each other and with their 'barbarian' frontiers.

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.

204.0 Europe 1890-1945

An introduction to 20th century Europe with particular emphasis on the diplomatic and military background of the first and second World Wars.

209.0 Modern East Asia

China and Japan in the 19th and 20th centuries as they confront the modern west, with special emphasis on the contrast between China's response and that of Japan.

210.0 History of Latin America

A survey of Latin American history from the pre-Columbian Amerindian civilizations to the present day. Such topics as the era of exploration and discovery, the colonial society, the independence, the 19th century, and the political and social revolutions of the 20th century will be considered.

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 Soviet Union, 882 to the Present

An introductory survey beginning with the establishment of the Rurik dynasty, with emphasis on Russia's social situation and the way it shaped political developments.

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.

230.0 History of Canada

A survey of Canadian history from the earliest times to the present with emphasis on the French regime, its rivalry with Great Britain for control of the Continent, British colonial rule, Confederation, and the development of Dominion status.

240.0 North American Social History

A survey of American and Canadian social history from the 1990's to the present day, with particular emphasis on the emergence of the so-called 'permissive society'. Such matters as work and welfare, marriage and family, race and minority groups will be considered 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.

301.0 (601.0) History of Greatness and Decay

This course will explore the long-standing historical question of "rise and decline" by comparing the imperial histories of such great and famous nations of the past as: Athens and Sparta; Rome and Byzantium; Florence and Venice; Spain and the Ottoman Empire; 18th Century France and 19th Century England; and the contemporary situation of the United States and the Soviet Union.

302.0 (602.0) The 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 19th centuries.

303.0 (603.0) Tudor and Stuart England

The history of England, 1485-1660, with special emphasis on the development of the English parliament.

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.

305.0 (605.0) The British Empire — Commonwealth

A study of the British Empire in the 18th and 19th centuries; its formation, evolution, and final dissolution into the Commonwealth in the 20th century. Special attention will be directed to the theory and practice of imperialism in Britain and to the economic basis of British power.

307.0 (607.0) Science in the West Since 1500 A.D. (Phi 307.0)

A philosophical and historical examination of the major aspects of western science represented in some texts from the 16th century onwards. The roots of modern scientific and technological society will be examined in an interdisciplinary way.

308.0 (608.0) 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.

309.0 (609.0) The Old World and the New: Transformations of European Ideals in Canada and the United States

The European confidence in the nation as the vehicle for the largest aspirations of men in community. Qualifications and revisions of this ideal in North America. War, the structure of law, the limits of rational government. Topically organized, the course will draw from the history of the 18th, 19th and 20th centuries.

310.0 (610.0) Anglo-American History: Studies in Pre-Industrial Labour and Culture, 1600-1865

This course examines "pre-industrial" working people (slave and "free") from a comparative perspective. It begins with an overview of the various historical stereotypes of American and English crowds in the 18th century, American slaves from the 17th to the 19th centuries, the English radical and working class movements at the time of the American Revolution. It then looks at the political, economic and cultural lives and attitudes of these groups. Was there a distinctive "popular culture" in history? Did common people have significant ideas and play an active role in the making of history?

311.0 (611.0) Medieval England

The course attempts to trace the evolution and continuity of ideas and institutions in the great formative period of English 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.

315.0 (615.0) Britain in the Nineteenth 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.

318.0 (618.0) The United States in the Twentieth Century
A history of the United States in the twentieth 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.

321.0 (621.0) Africa in the 19th and 20th Centuries

A look at some African societies and their values, with some examination of the phenomena of European intrusions, conquests and colonialism, and their impact on African societies.

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) Dynastic History of China to 1911

A study of society, government and intellectual development in China during the imperial age with special attention to factors affecting the rise and decline of dynasties.

324.0 (624.0) Cultural History of Japan, 710-1868

An exploration of the modern Japanese sense of cultural identity through theme and form developed in Japanese art, literature, and philosophy from pre-history to modern times.

326.0 (626.0) History of Spain and Portugal

A study of the history of Spain and Portugal from their Roman foundations to the present. Special emphasis will be devoted to the period of Spanish imperial preponderance in the 16th century, and to the ideological conflicts and Civil War of the 20th century.

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, 1837-1919

An examination of the process and consequences of change in Canada from a rural to an urban society; and of Canadians from independent commodity producers to an industrial proletariat.

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 coregister in Rel 306.0.

335.0 (635.0) Restoration and Eighteenth Century Britain: War, Revolution and Empire, 1660-1815

Britain from the mid seventeenth century Revolution to the struggle with Napoleon. The course deals with the resolution of the great seventeenth century conflicts, the emergence of a new stability and challenges to it from within and without in the half century before Waterloo.

337.0 (637.0) Russia in Revolution

This course will begin with the Decembrist revolt of 1825 and end at the time c. 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.

342.0 (642.0) China in Revolution 1850-1950

An analysis of the causes and consequences of the various revolutions which have drastically changed the course of modern Chinese history. More specifically, the problems of reform versus revolution, leadership, economic and social injustices, subversive ideology and governmental reactions will be dealt with in detail.

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.

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 Loyallism, 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****352.0 (652.0) Cross-listed as Classics 305.0****361.1 (.2) [661.1 (.2)] Canadian Business History, 1820-1879**

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, 1880 to the Present

In the modern 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. Comparisons will be drawn with parallel corporate business practice in the United States.

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) China and the West

This course will analyze contemporary China's foreign policy needs and aspirations. A study of Chinese history will shed light on the formulation of Chinese attitudes towards the West, and how they have coloured Sino-Western diplomatic relations.

508.0 Knowledge, Values and Freedom

Prerequisite: a course in history, philosophy of 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.

520.0 The Two World Wars

This course will consider the origins of each of the two world wars of the early twentieth 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.

521.0 European Diplomatic History, 1815-1945

Selected themes of European diplomacy in the revolutionary period 1821-1863, Italian and German unification, events leading to World War I and the dissolution of the Habsburg Empire, World War II, and the post-war structuring of Central and Eastern Europe.

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 in Social History

Prerequisite: a course in history or one of the social sciences.

This seminar will deal with selected social problems and their historical background. The history of such current problems as crime, social welfare, marriage and the family, and the permissive society will be studied in depth. The course is open to undergraduates and graduates.

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. No grade will be granted for this course.

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.

Management

Chairperson, Associate Professor
Associate Professors

P. Fitzgerald
G.A. Badawi
J. Chamard
R.D. Connell
F.A. Miner
S.G. Pendse
H.J. Schroeder
H. Schwind
J.R. Gale, T.P. Hari Das

presentations and discussions of courses 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.

391.1 (2) Principles of Organizational Behavior

Prerequisite: Bus 280.0 or Mgt 281.1 (2).

Business administration and accounting majors may not take this course. A one term introductory study of human behavior in formal organizations, with emphasis on patterns and theories of behavior in industry. The course exposes the student to concepts of behavioral science through readings, classroom sessions, and application of course concepts to the analysis of cases.

Classes 3 hrs. a week. 1 semester.

392.0 Organizational Behavior

Prerequisite: Bus 280.0 or 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.

395.1 (2) Personnel Management

Prerequisite: Bus 280.0 or Mgt 281.1 (2) and 382.0 or 381.1 (2).

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.

396.1 (2) Industrial Relations

Prerequisite: Bus 280.0 or Mgt 281.1 (2) and 382.0 or 381.1 (2).

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.

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 Relations Program

First Senior 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)

Second 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 junior year, the number of free electives is increased to 1 or 1½ as appropriate.

Management Program

First Senior Year

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

Second 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: sophomore standing or consent of 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

388.1 (2) Business and its Environment

Prerequisite: Bus 280.0 or Mgt 281.1 (2), and Eco 201.1 (2) and 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 role differences; legal implications; corporate politics; and career planning.

Classes 3 hrs. a week. 1 semester.

481.1 (2) Organization Theory: Structure, Process, Analysis and Design

Prerequisite: Mgt 382.0.

In a systems context, the first phase of the course will expose the student to different concepts of formal organization. The second phase will involve the application of concepts using various design approaches and configurations.

Classes 3 hrs. a week. 1 semester.

483.1 (2) Interpersonal Behavior I

Prerequisite: Mgt 382.0.

This course studies and attempts to improve the kinds of interpersonal competence that can contribute to the effectiveness of an administrator. By focusing on the causes of misunderstandings between persons and reducing the causes of such misunderstandings, the course attempts to improve an individual's interpersonal skills as a member of an organization.

Classes 3 hrs. a week. 1 semester.

484.2 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 381.1 (2) or 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.

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.

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 their 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 aspects on management style, policy, and execution.

682.1 (.2) Compensation Theory and Administration

Prerequisite: all 500 level courses 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 his 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
Associate Professors
Assistant Professor

N. D. Kling
V. Baydar, Z. Qureshi
R. F. H. Seringhaus
R. Sparkman

The Department of Marketing offers a program for business administration majors which, in addition to the general requirements for a Bachelor of Commerce degree as outlined in section 3 of this Calendar, requires students to take Mkt 376.1 (.2) (Consumer Behavior), Mkt 479.1 (.2) (Marketing Policy) and four additional electives (2 credits). For additional information students should consult the departmental chairperson and/or faculty advisors.

370.1 (.2) Introduction to Marketing

Prerequisite: Bus 280.0 or Mgt 281.1 (.2), and Eco 201.1 (.2) and 202.1 (.2).

A study of principles and fundamental concepts of marketing and marketing management: pricing, promotion, merchandising, distribution structure and marketing research.

Classes 3 hrs. a week. 1 semester.

372.1 (.2) Marketing Communication and Advertising

Prerequisite: Mkt 370.1 (.2).

An introduction to the study of advertising principles and practices, including advertising strategies, media presentation and evaluation of effectiveness.

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).

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).

An introductory course in the nature, methods, procedures and application of marketing research.

Classes 3 hrs. a week. 1 semester.

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. Students with credit for Mkt 371.2 may not receive credit for Mkt 479.1 (.2).

490.1 (.2) Special Topics in Marketing

Prerequisite: 2 half course in marketing beyond 370.

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

672.1 (2) Marketing Communications: Planning and Strategy

Prerequisite: completion of all 500 level courses or consent of Director of 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 analytic-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.

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

Chairperson, Associate Professor
Professors

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

Associate Professors

Assistant Professor

The Mathematics 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 computer science; and specialized courses for more advanced students and mathematics majors.

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.

Mat 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. Engineering students will take Mat 301.1 (2).

Specialized Courses

Mat 226.1 (2), 227.1 (2), 308.1, 309.2, 325.0, 326.0, 408.1, 409.2, 426.1 (2), 427.1 (2), 445.0, 480.1 (2) - 489.1 (2) are intended for students interested in computer science, operations research, and numerical analysis.

Mat 314.0, 415.1 and 416.2 are intended for students interested in probability and statistics.

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.

In addition to the requirements of the student's Faculty (either Arts or Science), the requirements for a major in mathematics are:

- (1) Mat 200.0
- (2) Mat 300.0
- (3) Mat 320.1 (2) and 321.1 (2)
- (4) A minimum of four additional credits in mathematics, from courses chosen by the student in consultation with the department. At least two credits must be on the 400 level or above; the remaining courses must be numbered 210 or above.

A minimum of four additional credits in mathematics, from courses chosen by the student in consultation with the department. At least two credits must be on the 400 level or above; the remaining courses must be numbered 210 or above.

Requirements for Honors

The honors program is designed for mathematics majors of above average ability. Mathematics 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 courses, should consider enrolling in the honors program, and are advised to consult with the department before making a final decision. The requirements for honors in mathematics are:

- (1) Mat 200.0
- (2) Mat 300.0
- (3) Mat 320.1 (2) and 321.1 (2)
- (4) Mat 401.1 (2) and 402.1 (2)
- (5) Mat 420.1 (2) and 421.1 (2)
- (6) Mat 440.0
- (7) A minimum of five additional credits in mathematics from courses chosen by the student in consultation with the department. These courses must be numbered 210 or above.

A minimum of five additional credits in mathematics from courses chosen by the student in consultation with the department. These courses must be numbered 210 or above.

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 course may later receive credit for a mathematics prerequisite to the course without permission of the department.

100.0 Algebra and Trigonometry

Prerequisite: Grade XI Mathematics.

113.0 Mathematics for Commerce and the Social Sciences

Prerequisite: Grade XI Mathematics.

Elementary set theory. Real numbers and the real number line. Exponential, and absolute values. The Cartesian plane and representation of ordered pairs of real numbers. Relational logarithmic functions. Sequences and series. Mathematics of monetary matters. Permutations, combinations, the binomial theorem, and probability. Matrices and systems of linear equations.

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.

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. Discussion of the capabilities and applications of modern computers.

No credit will be given for this course simultaneously with or subsequent to credit given for Mat 225.0 or Mat 226.1 (2) or Mat 227.1 (2).

Classes 3 hrs. and lab 3 hrs. 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. Application of the derivative and the definite integral including tangents and normal lines, related rates. Rolle's and Mean Value Theorems, local extrema, concavity and their aid in plotting the graphs, area under a curve, volumes of revolution, work and arc length.

Classes 3 hrs. plus recitation sessions 1½ hrs. a week. 2 semesters.

226.1 (2) Introduction to Computer Programming

Prerequisite: One of Mat 100.0, 113.0, Grade XII Mathematics or permission of instructor.

An introduction to the principles and development of computer algorithms, together with programming instruction in a high-level language such as Pascal, Fortran or Basic. Topics include: stepwise development of algorithms, an overview of computer

organization, representation of numerical data and character strings, information retrieval and use of files.

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

227.1 (2) Application of Computers to Problem Solving

Prerequisite: Mat 226.1 (2) or permission of instructor.

This course surveys several applications of computers, including numerical problems, data processing, simulation and games, and software development. The course emphasizes the development of a structured approach to algorithm development, and introduces methods of algorithm analysis. A high-level language different from that of Mat 226 will be included.

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

300.0 Calculus II

Prerequisite: Mat 200.0.

Parametric equations, polar coordinate system, area and length of arcs in polar coordinate system. The conic sections, Cartesian and polar equations of the conics, translation and rotation of axes. Solid analytic geometry, the distance formula, direction cosines and numbers, lines, planes, sphere, cones and cylinders, cylindrical and spherical coordinate system.

Indeterminate forms, improper integrals and Taylor's formula. Infinite series, convergence and divergence of series, positive term series, alternating series, absolute and conditional convergence, power series, Taylor series and binomial series. Differential calculus of functions of several variables, limits and continuity, partial derivatives, directional derivatives, Tangent planes. Extrema of functions of two variables, Lagrange Multipliers, line integral. Multiple integrals, the double and triple integrals, area and volumes, moments and center of mass. Integrals in polar, cylindrical and spherical coordinates.

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.

Vectors, operations with vectors, the dot and cross products. Vector-valued functions. Calculus of vector-valued functions. Space curves, tangents and normal vectors and arc length. Motion in space, tangent and normal components of acceleration. Directional derivatives and gradient, divergence and curl, vector formulation of the line integral. Matrices, the algebra of matrices, rank of a matrix, inverse of a matrix. Matrix representation of a linear system. Gaussian elimination method, theory of linear systems, determinants, elementary properties of determinants, Cramer's Rule. Complex numbers and their geometric representations, polar form of a complex number, algebra of complex numbers, DeMoivre's theorem.

Classes 3 hrs. a week. 1 semester.

305.1 (.2) Topics in Complex Variables and Differential Equations

Prerequisite: Mat 300.0 concurrently.

Complex numbers, functions, derivatives, the Argand diagram, the Cauchy-Riemann equations. Elementary differential equations including first order, separation of variables, homogeneous, linear and exact differential equations. Linear differential equations with constant coefficients. Applications to civil, chemical, mechanical and electrical systems. Classes 3 hrs. a week. 1 semester.

308.1 (.2) Numerical Analysis I

Prerequisite: Mat 200.0.

A brief introduction to FORTRAN programming. A discussion of errors in numerical analysis. Theoretical and practical consideration of numerical procedures in non-linear equations in one variable including polynomial equations, systems of linear equations, systems of non-linear equations. A brief discussion of vectors, matrices, norms. Classes 3 hrs. a week. 1 semester.

309.1 (.2) Numerical Analysis II

Prerequisite: Mat 308.1 (.2) or permission of instructor.

Theoretical and practical considerations of numerical procedures in functional approximations, interpolation, least squares and 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, conditional probability, Bayes-Laplace rule; binomial, hypergeometric, Poisson, multinomial, uniform, exponential, gamma, beta, and normal distributions. Mathematical expectation, moments, generating functions, Chebyshev'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.

by matrices, minimal polynomials and the Cayley-Hamilton theorem, canonical forms under similarity, inner product spaces, bilinear and quadratic forms.

Classes 3 hrs. a week. 1 semester.

325.0 Data Structures and Combinatorial Computing

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

Study of combinatorial structures for data representation and retrieval in computer systems, including linked lists, binary trees, directed graphs, hash tables, associative and virtual memories, together with the analysis of algorithms for searching and for sorting based on these structures.

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

326.0 Computer Organization and Assembly Language Programming

Prerequisite: Mat 226.1 (.2) and Mat 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.

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 \mathbb{R}^n to \mathbb{R}^m ,

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) 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) 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.

415.1 (.2) Mathematical Statistics

Prerequisite: Mat 300.0.

This course studies mathematical foundations of statistics, including both parametric and non-parametric inference. 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.

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 (nonmeasure theoretic) foundations of probability theory 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) 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, analytic 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 305.1 (.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, 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 305.1 (2) or permission of instructor.

Orthogonal curvilinear coordinate systems and transformation of Laplacian to cylindrical and spherical polar coordinates. Methods of residues for contour integration. Properties of orthogonal function and eigenvalue expansion. Derivation of Laplace equation, wave equation and heat equation. Methods of solution for various geometrical and boundary conditions.

Class 3 hrs. a week. 1 semester.

480.1 (2) to Special Topics in Computer Science**489.1 (2)**

Prerequisite: permission of instructor.

This course covers advanced topics in computer 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.

490.1 (2) to Directed Study in Mathematics**499.1 (2)**

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.

Modern Languages and Classics

Classics — Latin — Greek — Hebrew — French — German — Spanish — Chinese — Italian

Chairperson, Associate Professor A. J. Farrell

Classics

Associate Professor

Assistant Professor G. T. Thomas

Assistant Professor V. McB. Tobin

French

Associate Professors

P. Bernard, G. LePierres

J. Mackriss

A. Murphy

Assistant Professor

German

Professor R. Nahrebecky

Spanish

Associate Professor

A. J. Farrell

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 and Latin; introductory language courses in Chinese and Hebrew, 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) requirements 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 or Spanish.

a. Major concentrations

Students intending to major in Classics, French, German, or Spanish are required to consult members 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 301.0	Classics in Translation
Cla 303.0	History of Greece
Cla 304.0	History of Rome
Cla 305.0	Hellenistic History
Cla 306.0	The Epic
Cla 310.0	History of Israel
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, 416.0, 417.0, 419.0, 420.0, 424.0, 425.0, 426.1, 427.2, 428.1, 429.2 and 450.0.

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, 240.0, 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 minor program in French designed to build the student's 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, followed by a comprehensive oral and written examination administered by the department. The courses are normally the following: Fre 200.0, 250.0, 301.0 and 320.1/321.2. Students qualified to enter the program at a higher level will take Fre 250.0, 301.0, 320.1/321.2, 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.

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 in 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 benefiting from the presence of French language monitors selected by the Université d'Angers.

The approval of the department, of the Dean of Arts, and of the Dean of the Faculty (if other than Arts) is required to participate in these study-abroad programs. For further details, please inquire of the chairperson.

Latin

100.0 Introduction to Latin

A course in the essentials of Latin for students who have not completed matriculation Latin.

Text: DeWitt, *College Latin*.

Classes 3 hrs. a week. 2 semesters.

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.

308.0 A Study of Latin Poetry

Prerequisite: Lat 201.0.

In Latin and English the class will study one or two major Latin poets each year. Attention will be given to the main features of style, content, Latin meter, and the place of individual Latin authors in their particular historical and social frameworks.

Continued study of Latin grammar.

Classes 3 hrs. a week. 2 semesters.

403.0 Advanced Reading

A tutorial course on Cicero (*De Amicitia*, *De Senectute*) and Lucretius (*De Rerum Natura*).

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.

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.

Hebrew

100.0 Modern Hebrew

This course introduces the student to modern Hebrew as it is spoken in Israel today. While grammar will be studied, emphasis will be placed on conversation and reading. Because of the great similarity between modern and ancient Hebrew, this course will be of interest to students desiring to read biblical Hebrew.

Classes 3 hrs. a week. 2 semesters.

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 semesters.

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 will be studied.

Note: It is suggested that the student also register for the half year course in ancient art [i.e., Cla 203.1 (.2) or Cla 204.1 (.2)].

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.

Note: It is suggested that students also register for Cla 202.1 (.2) or 204.1 (.2) since each course tries to look at the development of the Greco-Roman world from different, but complementary sides.

Classes 3 hrs. a week. 1 semester.

204.1 (.2) Art in Rome and Christian Europe to the 14th Century

This course takes up the development of ancient art after the Hellenistic Greek world. It will show by readings, slides, films, tapes and lectures how earlier themes and techniques in art were carried on and modified by the Romans and by the Christians whose art grew out of a pagan background.

Classes 3 hrs. a week. 1 semester.

301.0 Classics in Translation

The classical literature of Greece and Rome in translation. This course is especially recommended to all Arts students who are not taking Latin in their program, and also to students of ancient history.

Texts: *Various selections from the Classical writers of Greece and Rome.*

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 world views and 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 and seminar 3 hrs. a week. 2 semesters.

307.0 Classical Study Abroad

Prerequisite: permission of instructor.

This course combines an intensive one or two-week instructional session at Saint Mary's in the art history, religion, and literature of the Classical world with a stay of approximately three weeks in either Greece or Italy, where students will visit selected sites and complete oral and written assignments related to the particular area visited. Due to the special nature of this course, formal written permission from the instructor is required in order to enroll. Further details are available from the department.

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.

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 the status of females 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. A companion course to Cla 303.0 and 305.0. This course may also be used as a history credit.

Classes 3 hrs. a week. 2 semesters.

305.0 Hellenistic History (His 352.0)

Prerequisite: one course in classics or history.

This course considers the characteristics of the Hellenistic world from Alexander the Great until the arrival of Pompey in the East (334 B.C. to 63 B.C.). This is the period of the expansion of Greek culture over the Eastern world (Hellenism), giving rise to a highly complex historical era, one containing many of the problems and features of 20th century life. 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.

334.0 Roman History: Primary Source Material

Prerequisite: Cla 200.0 or 304.0.

A study of selected topics in Roman history based on readings from various authors and dependent upon some knowledge of the chronological development of Rome.

Classes 3 hrs. a week. 2 semesters.

Classics: Guided Study

405.0 Advanced Reading and Tutorial

Prerequisite: permission of department.

A course based on directed readings and research. The contents of the course will be determined by the specific interests of 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 the oral aspect.

Classes 3 hrs. and lab three ½ hrs. 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 Fre 200.0. 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.

Classes 3 hrs. and lab 1 hr. a week. 2 semesters.

200.0 Introduction to University French

Prerequisite: Placement Test.

An introduction to university French combining audio-visual methods with a wide variety of written materials supported by grammatical studies. The aim of the course is to expand the students' oral proficiency and develop their reading ability. The course also includes the writing of short compositions.

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

250.0 Advanced University French

Prerequisite: Placement Test.

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 The Principal Themes of French Literature

Prerequisite: Fre 250.0 or permission of department.

A study of the main themes in French literature from the *Chanson de Roland* to modern times. Special attention will be given to the relationship between society and literature.

N.B. This course is compulsory for all students who intend to major in French.

Texts: Nelson and Oxen-Handler, *Aspects of French Literature*

(Appleton-Century-Crofts), *Harrap's French-English Dictionary* is recommended.

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 Civilization

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

Classes 3 hrs. a week. 2 semesters.

320.1 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.

321.2 French Grammar

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

An intensive course beginning with a review of intermediate French grammar and pursuing a study of advanced French grammar. This course emphasizes grammatical rules and applies these to the development of writing skills. Taught in English and French. Strongly recommended for French majors.

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.

413.0 French Civilization

Prerequisite: Fre 300.0 or 301.0 or permission of department.

An in-depth study of France and the fundamental aspects of French life and culture, history, geography, contemporary political institutions, educational system, social and artistic life. Special attention will be paid to the capital of France. Lectures, readings and discussions. The topic will often be illustrated with slides and films.

Classes 3 hrs. a week. 2 semesters.

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.

416.0 Poetry in France

Prerequisite: Fre 300.0 or permission of department.

An introduction to the various poetic forms of the 16th, 17th and 18th centuries, including a brief survey of French versification, followed by an intensive study and concentration on the *Romantic*, *Parnassian* and *Symbolist* movements in the poetry of the 19th century up to the first World War.

N.B. This course will familiarize students with the form and content of French poetic diction and prosody.

Classes 3 hrs. a week. 2 semesters.

417.0 French Canadian Poetry

Prerequisite: Fre 300.0 or permission of department.

Based on an in-depth study of the works of contemporary poets, this course will deal with the technical means of aesthetics to determine the characteristics of poetry as a literary genre. The texts themselves and the relevant critique are used with a view to determining the evolution of a critical theory of our poetry.

Classes 3 hrs. a week. 2 semesters.

418.0 The Civilization of French Canada

Prerequisite: Fre 300.0 or 301.0 or permission of department.

This course will provide a detailed study of various aspects of the civilization of French Canada: its language, literature, religion, and major historical events as well as an analysis of the achievements in music, art, science and education, and of the current trends in the theatre, cinema, radio and television. Excursions.

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 divergence as well as the points of contact between the two languages by means of exercises and class discussion. This course will introduce students to problems of English-French translation.

Classes 3 hrs. a week. 2 semesters.

422.0 Techniques of Essay Writing

Prerequisite: Fre 300.0, 301.0 or permission of department.

The purpose of the course is to aid the students in their ability to write in French on topics of various interest. Practical exercises on the structure of the basic paragraph and the relation of paragraphs as vehicles of thought within the total structure of an essay.

Texts: Dassonville, Michel, *La dissertation litteraire*; Dassonville, Michel, *L'analyse de texte*; Beaugrand, J. *Manuel pratique de composition française*.

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.

425.0 The French Short Story

Prerequisite: Fre 300.0 or 301.0 or permission of department.

A wide variety of short stories from the eighteenth century to the present day intended to give the student insight into France's political, ideological and social life. Discussions and fortnightly essays.

Classes 3 hrs. a week. 2 semesters.

426.1 Epistolary Literature: Image and Mirror of the "Ancien Régime" 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 Régime" in France

Prerequisite: Fre 300.0 or permission of department.

Madame de Sévigné, a study of her thought as reflected in the Letters with special emphasis on her friend and correspondent, Madame de LaFayette, the ethic and ethics of "amour-passion" and marriage in the 17th century.

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 321.2 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.

450.0 African Literature of French Expression

A survey of sub-Saharan African Literature of French expression designed to familiarize the student with traditional and modern African literature and culture. The approach in this course is both literary (i.e. to study fiction) and humanistic (i.e. to study a people through the writings of its gifted individuals). Lectures will be in English and assignments in French will be required of French majors. Students should consult with the professor before registering.

Classes 3 hrs. a week. 2 semesters.

500.0 Literature and Criticism

A study of significant prose and dramatic works in German literature from 1945 to the present. A selection of works by Max

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.

Text: Erika Meyer, *Elementary German* (Houghton Mifflin Co.) Third Edition.

Classes 3 hrs. a week. 2 semesters.

200.0 Intermediate German

Prerequisite: Ger 100.0.

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

Texts: Kimberly Sparks/van Horn Vail, *German in Review*. Two short biographies by C. R. Goedsche and W. E. Glaetli, *Thomas Mann and Einstein* (American Book Co.).

Classes 3 hrs. a week. 2 semesters.

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. Hoffmann, 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.

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.

Text: Lamadrid, Bull, and Briscoe, *Communicating in Spanish, Level One* (Houghton Mifflin), and *CIS Workbook, Level One* (Houghton Mifflin).

Classes 3 hrs. and lab three ½ hrs. a week. 2 semesters.

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.

300.0 Spanish Culture and Civilization

Prerequisite: Spa 201.0 or equivalent.

This course examines Spanish achievements in art, music, and literature from the earliest times to the present, and situates these achievements within their historical context. Reading, class discussions, and student participation in English.

Classes 3 hrs. a week. 2 semesters.

301.0 Representative Forms of Hispanic Literature

Prerequisite: a 200 level course in Spanish.

An examination of Spanish and Latin-American literary forms — poetic, narrative, and dramatic — from the Middle Ages through the present day.

Classes 3 hrs. a week. 2 semesters.

302.0 Prose and Stylistics

Prerequisite: a sound knowledge of Spanish grammar.

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

Classes 3 hrs. a week. 2 semesters.

305.0 Cervantes and Pre-Cervantine Spanish Literature

Prerequisite: Spa 201.0.

A two-semester course devoted to Cervantes and to exploring the various types of literature in Spain which were synthesized and transcended in his *Don Quijote*. The first semester examines in detail the literary background of 16th century Spain and the most representative prose works of that period, while the second concentrates on *Don Quijote*.

Texts: *Lazarillo de Tormes* (University of Wisconsin Press), Jorge de Montemayor, *La Diana* (Clasicos Castellanos), *El abencerraje y la hermosa Jarifa* (Anaya); Mateo Aleman, *Guzman de Alfarache*, (Ebro); C: Colin Smith, *Spanish Ballads* (Pergamon Press), Miguel de Cervantes, *Don Quijote de la Mancha* (Juventud).

Classes 3 hrs. a week. 2 semesters.

310.0 The Picaresque Novel

Prerequisite: Spa 201.0 or equivalent.

The study of a literary mode which is vigorously represented in Spanish literature, with emphasis on its historical background and aesthetic features.

Texts: *Lazarillo de Tormes* (University of Wisconsin Press); Mateo Aleman, *Guzman de Alfarache* (Ebro); Francisco Quevedo, *El Buscon* (Ebro); selections from other writers.

Classes 2 hrs. a week. 2 semesters.

400.0 The Generation of 1898

Prerequisite: a 300 level course in Spanish.

A survey of the principal works of a literary generation which emerged at the close of the 19th century.

Texts: A selection of readings from Ganimet, Clarin, Ortega y Gasset, Unamuno; reference will be made to other writers.

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 Echeverria, Heredia, Acuna, Palma, Hernandez, Guiraldes; Mariano Azuela, *Los de abajo* (F.C.E.), Horacio Quiroga, *A la deriva* (C.E.A.L.), Eduardo Barrios, *El hermano asno* (Las Américas), Rubén Darío, *Cantos de vida y esperanza* (Anaya); selections from Julian del Casal and José Asunción Silva.

Classes 3 hrs. a week. 2 semesters.

405.0 20th Century Spanish Literature

Prerequisite: a 300 level course in Spanish.

An examination of the poetry, drama, and novel of 20th century Spain.

Texts: Readings from Lorca, Laforet, Cela, Arrabal and other writers.

Classes 2 hrs. a week. 2 semesters.

406.0 The Spanish Theatre

Prerequisite: a 300 level course in Spanish.

A study of works representing various types of Spanish dramatic literature, from medieval times to the present.

Texts: Readings from Juan del Encina, Gil Vicente, Lope de Rueda, Lope de Vega, Calderon de la Barca, Ramon de la Cruz, Leandro Fernandez de Moratin, José Zorrilla, Antonio Buero Vallejo, and Fernando Arrabal.

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.

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.

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.



Philosophy

Chairperson, Assistant Professor
Professors
Associate Professor
Assistant Professors

W. Grennan
R. H. Beis, A. P. Monahan
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 take at least five course in addition to Phi 200.0 or Phi 201.0, at least four of which must be above the 200 level.

When designing a major program students may wish to concentrate their program in one of the first four categories listed below (a, b, c, or d). A student with a general interest in the subject may wish to choose courses in category (e). Those aspiring to a career in law are advised to consider category (f). A student may incorporate into the program appropriate courses from other categories.

(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 230.0, 306.0, 309.0, 314.0, 315.0, 351.0, 402.0, 416.0, 469.0.

(b) Ethics

Courses in ethics deal with the nature of value judgement, with the basic reasons for accepting or rejecting various basic moral positions, and with some major moral issues arising in personal or professional life. The courses in this category are: Phi 302.0, 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, 246.0, 310.0, 324.0, 326.0, 329.0, 340.0, 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 220.0, 300.0, 307.0, 324.0, 325.0, 345.1, 346.2, 440.1, 441.2, 442.1, 443.2, 441.1, 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. Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

220.0 Medieval Philosophy and Politics

An examination of the medieval conception of society, with particular emphasis on the problem of the relation between political society and the society of the Church.

Texts: Readings in Augustine, John of Salisbury, the Canonists, Thomas Aquinas, Dante, John of Paris, William of Ockham, Marsilius of Padua.

Classes 3 hrs. a week. 2 semesters.

230.0 Philosophical Foundations and Methodology

Prerequisite: one course in philosophy.

Instruction in the use of methods of evaluating philosophical writings and solving philosophical problems. Basic papers and problems are selected for their value as exercises in the application of standard logical and semantical techniques, but also because familiarity with them is necessary in later courses. Controversial techniques are evaluated with the aid of uncontroversial ones.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 1 semester.

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.

Classes 3 hrs. a week. 1 semester.

246.0 Philosophical Issues in Feminism

The course will examine the nature of the contemporary movement of feminism, and examine and evaluate arguments for and against this movement within the major traditions of political and social philosophy. To this end it will examine such basic concepts as justice, equality, freedom, rights, power and happiness, and discuss some of the practical questions raised by feminists.

Classes 3 hrs. a week. 2 semesters.

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 earliest 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*.

Classes 3 hrs. a week. 2 semesters.

302.0 Ethics

An introduction to moral philosophy designed to lead the student to examine the foundations of his 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?

Classes 3 hrs. a week. 2 semesters.

304.0 Logic, the Mass Media and Society

Prerequisite: Phi 200.0.

Most of our beliefs (and their justification) about important social issues are obtained — without critical reflection — secondhand, from various sources. Chief among these sources are the mass media: large-circulation magazines, newspapers, radio, and TV.

This course is intended to consolidate and enhance the skills in critical reflection acquired in Phi 200.0 (Basic Logic) by applying them to the important social and ideological issues of the day, as these are discussed in the media. Competent evaluation of such material requires, besides standard logical techniques, awareness of the factors that influence its content and reliability. These effects (e.g., self-censorship) will be identified and linked to the presuppositions and philosophies of those responsible for media output. Finally, these presuppositions and philosophies will themselves be scrutinized.

306.0 Theory of Knowledge

Prerequisite: Phi 200.0.

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 knowledge in connection with key religious and ethical issues?

Classes 2 hrs. a week and seminars. 2 semesters.

307.0 Science in the West Since 1500 A.D. (His 307.0)

A philosophical and historical examination of the major aspects of Western science as represented in some texts from the 16th century onwards. The roots of modern scientific and technological society will be examined in an interdisciplinary way.

Classes 3 hrs. a week. 2 semesters.

309.0 Lonergan's Theory of Knowledge and Its Rivals

Prerequisite: at least 10 university credits.

An investigation of the problem of knowledge through a study of the epistemological thought of Bernard Lonergan. Other rival positions will be examined, including empiricism, idealism, relativism, scepticism, rationalism, positivism.

Classes 3 hrs. a week. 1 semester.

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.

Classes 3 hrs. a week. 2 semesters.

314.0 Intermediate Logic

Prerequisite: Phi 200.0 or 315.0 (which may be taken concurrently).

This course continues and develops the work of Phi 200.0. It offers to 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 Phi 200.0. The complete predicate calculus (with identity) is applied to arguments in ordinary English. Inductive logic, and practically significant areas of logical theory, are developed considerably. The methods of the chief academic disciplines are analyzed in some depth.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

320.0 Aesthetics: The Philosophy of Art

Prerequisite: a course in philosophy or permission of instructor.

Man responds to objects of art; he reacts as creator, performer, spectator, he thinks about his 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 forms and artistic expression.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

325.0 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.

Classes 3 hrs. a week. 2 semesters.

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 man. Is he 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.

Classes 3 hrs. a week. 2 semesters.

329.0 Philosophy of Law

Theories of the nature of law. Analysis of the concepts 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.

Texts: Martin P. Golding, *Philosophy of Law*, Edward A. Kent, ed., *Law and Philosophy*.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 1 semester.

340.0 Alienation and the Body Politic

Prerequisite: a course in philosophy or political science.

A study of the notion of alienation in Karl Marx and Bernard Lonergan, with special reference to the body politic. The course will also explore briefly the historical background and development of the notions of alienation and dialectic in earlier philosophers, especially Hegel, as well as in contemporary communism. Finally, an attempt will be made to develop the implications of Lonergan's thought for the body politic and political science.

Classes 3 hrs. a week. 2 semesters.

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*.

Classes 3 hrs. a week. 1 semester.

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.

Classes 3 hrs. a week. 1 semester.

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 art.

Classes 3 hrs. a week. 1 semester.

349.2 Aesthetics: The Aesthetic Experience

This course analyzes the concept of aesthetic experience and its relation to the appreciation and understanding of works of art.

Classes 3 hrs. a week. 1 semester.

351.0 (651.0) Philosophy of Science

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.

Classes 3 hrs. a week. 2 semesters.

360.0 Philosophy in 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.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

390.0-395.0 Reading Courses in Philosophy

Prerequisite: permission of instructor.

These courses are organized by the faculty member(s) involved, and are designed to supplement and/or provide an alternative to regular courses in philosophy according to the special needs and interests of students. Each course may be on a particular subject and/or author(s) and could include, if desired, philosophical texts in a language other than English.

402.0 Philosophy of the Social Sciences

Prerequisite: the student should be majoring in philosophy, political science, sociology, anthropology or psychology, or enrolled in the Faculty of Commerce.

An examination of the purpose and character of the social sciences (including courses in the Faculty of Commerce). Besides the general conceptual, logical and methodological problems which arise in the social sciences, topics of urgent regional interest will be studied. Among the latter topics are the following: the adaptation of the disciplines to serve local needs, the extent to which various standard approaches involve certain ideological, evaluative or other presuppositions, and the implications of these presuppositions in relation to local interests such as external domination and regional disparity.

Classes 3 hrs. a week. 2 semesters.

407.0 (607.0) Philosophy of Being

This course is a philosophical investigation into the foundations of metaphysics in cognitional theory, of the principles of proportionate being, of the problems of a transcendent being or God. It also investigates related problems such as the problems of human freedom and of evil and the positions of atheism, agnosticism and pantheism.

Text: B. Lonergan, *Insight*.

Classes 2 hrs. a week and seminars. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

- 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.
Classes 3 hrs. a week. 1 semester.
- 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.
Classes 3 hrs. a week. 1 semester.
- 442.1 Early Modern Philosophy: The Rationalists**
Prerequisite: a course in philosophy or consent of instructor.
A critical examination of works by Descartes, Spinoza and Leibniz with attention focused on their theories of knowledge and metaphysics.
Classes 3 hrs. a week. 1 semester.
- 443.2 Early Modern Philosophy: The Empiricists**
Prerequisite: a course in philosophy or consent of instructor.
A critical examination of works by Locke, Berkeley and Hume with attention focused mainly on their theories of knowledge, meaning, and perception.
Classes 3 hrs. a week. 1 semester.
- 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.
Classes 3 hrs. a week. 1 semester.
- 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.
Classes 3 hrs. a week. 1 semester.
- 450.0 (650.0) Phenomenology**
Prerequisite: a course in philosophy or consent of instructor.
The origins, developments, concepts, method and influence of the phenomenological movement in contemporary philosophy.
Texts: Selections from Husserl, Heidegger, Sartre, Merleau-Ponty.
Classes 3 hrs. a week. 2 semesters.
- 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.
Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 1 semester.

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 20th century expressions of the existentialist movement in philosophy through study of the writings of Jaspers, Sartre, Marcel and Camus.

Classes 3 hrs. a week. 1 semester.

465.0 (665.0) Analytic Philosophy

Prerequisite: a course in philosophy or consent of instructor.

A lecture and seminar course that examines the origins, expressions and significance of the contemporary analytic movement in philosophy.

Texts: Readings from representative members of the analytic school.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 2 semesters.

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.

Classes 3 hrs. a week. 1 semester.

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.

Classes 3 hrs. a week. 1 semester.

469.0 Meaning and Truth

Prerequisite: a course in philosophy or consent of instructor.

First Term: What is the meaning of "meaning"? Is meaning: a particular kind of entity? a response to a stimulus? the thing to which an expression refers? How is it that certain sounds and certain marks convey meaning whereas other sounds and marks do not? *Second Term:* What is "truth"? Is truth: the correspondence of our thoughts to reality? what works out in practice? the proper fitting together of our ideas?

Classes 3 hr. seminar a week. 2 semesters.

490.0-495.0 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.

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.

Photography

200.0 Photography

The fundamental laws, principles and procedures of photography are explored and applied specifically within the black and white and color format. This is an elective course and will not satisfy sections 4(b) or 5(b) of the science degree requirements.

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



Physics

Assistant Professor, Chairperson
Professor

K. Fillmore
D. S. Murty

Associate Professors

W. Long
U. S. Merdsoy
F. V. Tomscha

As society continues to struggle with environmental problems, interest is expected to grow in the fields of environmental physics, earth physics, bio-physics, etc. Physicists at all degree levels are engaged by oil and mining industries, while others are involved in the search for mineral deposits or petroleum. They are employed in governmental research laboratories and in industry in the development of new products. Physicists are also employed in hospitals to supervise such services as x-ray and cobalt therapy equipment. Still others study radiation and its effects on living organisms. Graduates with a Bachelor's degree in physics or in physics and mathematics also fill teaching positions at the secondary school level (adapted from *University Careers Outlook*, Department of Manpower).

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
a course in Mathematics

Second Year

Phy 221.0

Third & Fourth Years

Any six half-courses (in accordance with Science Degree Requirements) from

321.1 (2)	322.1 (2)
331.1 (2)	332.2 (2)
432.1 (2)	431.1 (2)
439.1 (2)	438.1 (2)
471.1 (2)	453.1 (2)

An elective in physics, or mathematics, or astronomy

Note: Phy 261.1 (2) and 250.1 (2) are available as electives.

b. Physics Major

First Year

Phy 111.0

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.

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.

111.0 General Physics

Prerequisite: Algebra and Trigonometry (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 a knowledge of Grade XII Physics or equivalent; Mat 200.0 which may be taken concurrently.

Topics will include mechanics, heat, sound, light and electricity. Classes 3 hrs. and lab 3 hrs. a week. 2 semesters.

230.0 Medical Physics

Prerequisite: sophomore standing, Mat 100.

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 220.0 may be used as a prerequisite to Phy 231.0.

261.1 (2) Digital Electronics for Science

Introduction, including theory and experimentation, to digital circuits, including microprocessors. In general, the course introduces the student to digital electronics as a part of contemporary scientific activity.

Classes and lab 4 hrs. in 1 evening a week. 1 semester.

262.1 (2) Analog/Linear Electronics for Science

This is an introduction to linear/analog circuits, including: characteristics of capacitors; resistors; sensors for light, temperature, and sound; diodes; transistors; rectifier circuits; amplifier circuits; operational amplifiers in various configurations. In general, the course introduces the student to linear/analog electronics as a part of contemporary scientific activity.

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.

Text: Kip, *Fundamentals of Electricity and Magnetism*.

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.

Text: R. A. Becker, *Introduction to Theoretical Mechanics*.

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.

Text: R. A. Becker, *Introduction to Theoretical Mechanics*.

Classes 3 hrs. a week. 1 semester.

350.1 (2) Physical Electronics

Prerequisite: Phy 221.0.

Solid state principles; atomic structure, energy levels and band structure, electron mobility and conductivity; semiconductors,

intrinsic semiconductors; P-type and N-type material; PN-junction diodes; PNP and NPN junction transistors; diodes as rectifiers, power supplies; diode logic circuits and transistor amplifiers.

Classes 3 hrs. and lab 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.

453.1 (2) Thermophysics

Prerequisite: Phy 221.0; Mat 300.0 (may be taken 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.

471.1 (2) Introduction to Quantum Mechanics

Prerequisite: Phy 438.1 (2); Mat 401.1 and 402.2 concurrently.

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

Text: Dicke and Wittke: *Introduction to Quantum Mechanics*.

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 hours a week. 2 semesters.

540.1 (2) Topics in Theoretical Physics I

Prerequisite: Phy 332.1 (2), Mat 401.1 and 402.2.

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 453.1 (2), Mat 401.1 and 402.2.

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 453.1 (2), Mat 401.1 and 402.2.

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), Mat 401.1 and 402.2.

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), Mat 401.1 and 402.2.

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.

605.0 Fundamental Astrophysics

(Ast 605.0)

Prerequisite: Phy 432.1 (2) and 439.1 (2), and Mat 401.1 and 402.2 (may be taken concurrently).

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.

Political Science

Chairperson, Assistant Professor
Professors

G. Chauvin
R. G. Boyd, T. B. Ciuciura
D. H. Gillis
D. J. Higgins
R. G. Landes
E. J. McBride

Associate Professors

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. There are two required courses: Pol 200.0 and 304.0. (With the permission of the department, students may be permitted to take another course in lieu of political science.) The department also strongly recommends that a student take Pol 301.0 and one seminar at the 500 level in one of the following sub-fields: Canadian Government, Comparative Government, International Relations, Political Thought.

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 the beginning of their junior year.

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.

The following courses are strongly recommended to all honors students:

- a. Scope and Methods (Pol 301.0)
- b. One course in political philosophy

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 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.

301.0 Scope and Methods of Political Science

Prerequisite: Pol 200.0.

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.

302.0 Democratic Government

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

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.

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.

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.

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.

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.

308.1 (2) Comparative Study of Governments: Eastern Europe

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.

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.

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.

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.

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.

406.0 African Government and Politics

Prerequisite: Pol 200.0.

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.

Selected countries will be examined in detail, to illustrate the variety of approaches to government followed in modern Africa.

Classes 3 hrs. a week. 2 semesters.

407.0 Government and Politics in the Middle East

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 2 hrs. a week. 2 semesters.

417.0 Constitutional Theory

Prerequisite: Pol 200.0 or permission of instructor.

The course provides a comparative examination of selected sources and authorities respecting fundamental law in the American, British and Canadian traditions. It will provide students of constitutional law with a theoretical basis for the analysis of constitutions and relevant judicial decisions.

Classes 3 hrs. a week. 2 semesters.

418.0 International Law

Prerequisite: Pol 200.0.

A study of the features of public international law as they have developed and have been invoked in diplomatic practice, international adjudication, and national courts.

Classes 3 hrs. a week. 2 semesters.

419.0 Comparative Constitutional Law

Prerequisite: Pol 200.0.

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.

420.0 Urban Government and Politics

Prerequisite: Pol 200.0.

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, inter-governmental 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 reform, and selected problems of functions such as urban development and renewal, urban transportation, and the urban physical environment.

Classes 3 hrs. a week. 2 semesters.

421.1 (2) International Organization

Prerequisite: Pol 200.0.

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.

430.0 Introduction to Public Administration

Prerequisite: Pol 200.0.

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.

435.0 Political Thought to the French Revolution

Prerequisite: Pol 200.0.

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.

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.

440.0 The Politics of the Developing Areas

Prerequisite: Pol 200.0.

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.

441.0 Government and Politics in East Asia

Prerequisite: Pol 200.0.

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.

445.0 Introduction to Public Policy

Prerequisite: Pol. 200.0.

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.

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.

448.0 Comparative Voting Behavior

Prerequisite: Pol 200.0.

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.

Note: Students who have received credit for Pol 447.1 (2) may not register in this course.

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 and 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 presentations and group discussions.

Classes 2 hrs. a week. 2 semesters.

552.0 Seminar in Comparative Government

Prerequisite: permission of instructor.

Conceived as a work-study group, this seminar is designed for students interested in the use of the comparative method in the analysis of contemporary national political systems.

Classes 2 hrs. a week. 2 semesters.

553.0 International Studies Seminar

Prerequisite: permission of instructor.

A seminar on the contemporary interaction of the major powers, with special consideration of selected world problems, tensions, trends and developments.

Classes 2 hrs. a week. 2 semesters.

554.0 Seminar in Political Behavior

Prerequisite: permission of instructor.

An analysis of the behavioral movement in political science, with a focus on its methods of inquiry and its impact on the discipline of political science. Several types of political behavior will be selected each year for special attention.

Classes 2 hrs. a week. 2 semesters.

555.0 Seminar in Public Law

Prerequisite: Pol 418.0 or 419.0 and permission of instructor.

An advanced study of public law, considered an important aspect of Canadian and American constitutional law, in comparative perspective, or important aspects in international public law or administrative law.

Classes 2 hrs. a week. 2 semesters.



Psychology

Chairperson, Associate Professor
Professors

V. Catano
J. Chadwick-Jones,
I. Lenzer

Associate Professors

J. Darley, K. Hill

Assistant Professors

R. Konopasky, P. Street
C. Pye, D. Rayko

NSERC, University Fellow

W. J. Jacobs III

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, the study of behavior, 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 for those concentrating in psychology which consists of 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 additional 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 — 402.0, 406.0, 412.0, 421.1, 434.0
Physiological — 404.0, 405.0
Developmental — 415.0, 431.2, 450.1 (2), 460.1 (2)
Social/Personality — 410.0, 432.0, 498.0
Applied — 411.0, 413.0, 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, 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 information processing, 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 (two quality points) 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 dispersion, sampling and hypothesis testing, parametric and non-parametric.

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 examination of how biological events shape human behavior. Topics include evolution, the genetic properties of behavior, the parent-child relationship, origins of language, emotions and motivation, sexual, and aggressive behavior.

Classes 3 hrs. a week. 2 semesters.

310.1 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 301.0 which may be taken concurrently.

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.

334.0 Psychology and Religion

Prerequisite: Psy 201.0.

A study of various aspects of the interface between religion and psychology: competing value orientations, contrasting images of humanity, the psychological functions of religion, Discussion of phenomena, e.g., faith healing, conversion, speaking in tongues, transcendental experiences; and of issues, e.g., freedom and responsibility, the role of sin and guilt in personal distress.

Classes 3 hrs. a week. 2 semesters.

348.1 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.

349.2 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.

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.

410.0 Experimental Social Psychology

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

The units of study in social psychology are the individual, the dyad (or pair relationship) and the primary group. For each of these units we shall study theories, research methods, and applications which are currently utilized. This takes us into questions about personal social skills, non-verbal communication, language, and wider problems of social conformity, aggression, and interpersonal "trading" in mixed-motive situations of cooperation or conflict. Students are introduced to laboratory experiments which illustrate both the classic and the most recent methods of social psychology.

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

411.0 Industrial Psychology

Prerequisite: Psy 305.0.

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.

413.0 Environmental Psychology

Prerequisite: Psy 301.0 or 305.0.

An examination of the evolutionary and biological background of humans relative to present industrial environment. Territoriality, space and human movements, privacy and crowding. Architectural design: housing, offices and hospitals, lighting. Perception of the city: cognitive maps, the sonic environment, the street and its social functions, stress in the urban environment, noise. Calhoun's rats and the rat race.

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.

421.1 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.

433.0 Personality Theory and Research

Prerequisite: Psy 301.0 and 305.0.

Comparative analysis of fifteen or more contemporary theories of personality through intuitive, rational, and empirical methods with a view to determining the most promising direction of theorizing about the types, origins and effects of individual differences, in adult behavior and experience.

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

434.0 Psychology of Art

Prerequisite: Psy 305.0 and permission of department.

A study of theories and research on the psychological principles underlying the perception and experience of art (literature, music, sculpture, etc.). Both contemporary perspectives and major traditions within psychology will be emphasized. The review 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. 2 semesters.

435.0 Counselling

Prerequisite: any two of Psy 333.0, 440.0, and 443.0.

Introduction to theory, research and practice in counselling. Special consideration will be given to what the counsellor actually does, to evaluation or procedures and outcome, to values and ethics. Students will be expected to participate in a variety of counselling-related exercises.

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

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.

449.0 Senior Seminar

Prerequisite: senior standing and permission of the department. Applications for this course must be made in March of the junior year to the chairperson of the Department of Psychology.

An individual research and/or readings course in psychology. Classes and lab 6 hrs. a week. 2 semesters.

450.2 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.

498.0 Community Psychology

Prerequisite: Psy 301.0.

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 his or her 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, assumptions underlying parametric and non-parametric tests, advanced univariate and multivariate methods, and regression methods used in applied research. The logic of experimental and quasi-experimental methods including advanced experimental designs and naturalistic approaches to testing hypotheses.

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. Concept of organicity. In addition students will acquire skills in administration and interpretation of currently used instruments.

610.1(2) Applied Multivariate Analysis

Prerequisite: graduate standing.

This course assumes a working knowledge of the primary univariate statistical techniques, specifically point estimators, univariate inferential tests, correlation, and analysis of enumerative data. From that base, this course examines the purposes, uses, analysis, and inter-relatedness of a sample of the following multivariate techniques: Hotelling's T^2 , multivariate analysis of variance and post-hoc procedures, factor analysis, discriminant analysis, and canonical correlation. Considerable use will be made of at least one of the major computerized statistical packages.

615.1(2) Applied Social Psychology

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.

640.1(2) Field Research Methods

Prerequisite: graduate standing.

Research methods as currently applied to a variety of clinical and organizational problems. These methods consist of such special techniques as interviewing programs, their design and concentration, the analysis of interview material, questionnaire construction and administration, attitude surveys; non-participant and participant observational studies, naturalistic observations and field experiments.

650.1(2) Community Psychology

Prerequisite: graduate standing.

A survey of the function of professional psychology in the community. Study of the design, implementation, and evaluation of programs; review of epidemiological research; study of social service agencies and clinical settings, institutions, alternative delivery systems. The ethics and politics of the mental health enterprise.

655.1(2) Counselling and Psychotherapy

Prerequisite: graduate standing.

A study of short-term counselling and psychotherapy techniques. Emphasis will be placed on what the counsellor actually does. Single case methods for evaluating process and outcome will be reviewed. Consideration will be given to contemporary issues concerning values and ethics.

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 not covered in the regular graduate curriculum, offered according to student interest and the availability of qualified faculty. May be repeated for credit once.

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
Professor

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

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 100, 200 or 300-level.

Degree Requirements

Religious studies courses at the 100, 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 departmental 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.

100.0 The Religious Dimension of Human Life: Introduction to Religious Studies.

There are many common life experiences (for instance, the encounter with death, suffering, loneliness, the quest for personal identity, 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.

201.0 The God Problem

Does God exist? Can personal and social values be supported by humanist alternatives to religion? The course considers these and other classic questions of the philosophy of religion, together with more recent issues, e.g., the nature of language about God, mythology in religious scriptures, and the dialogue between science and religion.

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 modern man.

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 modern man.

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.

300.0 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. 2 semesters.

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.

Note: Students who have received credit for Rel 307.0 may not register in this course.

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.

309.0 (409.0) History of Israel

(Cla 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.

310.0 (410.0) Christianity in Modern Civilization: 1521-Today

Questions arising from the history of Christianity in the reformation and modern periods. Martin Luther: reformer of medieval superstition or destroyer of European unity? John Calvin and the rise of capitalism; the radicals, Henry VIII and Elizabeth. Puritans and religious freedom. The French revolution and the attack of Christianity; science, liberalism, marxism and the modern critique of Christianity. The dechristianization of contemporary culture.

Classes 3 hrs. a week. 2 semesters.

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. 2 semesters.

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) Anthropology of Religion (Ant 350.0)

The course will examine religious behavior as one way in which humans adapt to their environments. It will consider (but not be limited to) such questions as the origin and nature of religion as a panhuman phenomenon; religion as culture in the anthropological sense; functional relations between religion and politics, economy, family; nativistic movements as responses to oppression.

Classes 3 hrs. a week. 2 semesters.

317.0 (417.0) Sociology of Religion (Soc 317.0)

An analysis of the functions of religion and the interactions between religious belief systems and institutions and the major institutional areas of society.
Classes 3 hrs. a week. 2 semesters.

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.

Note: Students who have already received credit for Rel 318.0 (418.0) are not permitted to register in this course.

323.0 (423.0) Buddhist and Hindu Religious Traditions

Why does the Buddha smile and tell humanity that all experience is suffering? Why does Lord Krishna in the *Bhagavad Gītā* smile and tell his friend that he must fight in a war? Such questions will focus a survey of basic ideas in the Buddhist and Hindu traditions and an examination of a sacred text such as the Buddhist *Dharmmapada*, or the Hindu text, the *Bhagavad Gītā*.

Classes 3 hrs. a week. 2 semesters.

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' *Analecfs*, Lao Tzu's *Tao tē Ching*, The Buddhist *Platform Scripture* and selected writings of Chairman Mao.

Classes 3 hrs. a week. 2 semesters.

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.

335.0 (435.0) Religion in a Scientific Age

Science has been the most dramatically successful adventure of our age. What has been the effect of science on religious understanding? Is there still a conflict between science and religion? Can science disprove or prove religious claims? Can there be constructive conversations between scientists and humanists about ultimate issues? No previous understanding of scientific method is required for this course.

Classes 3 hrs. a week. 2 semesters.

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 has 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.

338.0 (438.0) Catholicism

What is the Catholic Church? Why has it changed? What does it teach today? In dealing with these questions, the course will examine the themes of liturgy, sacraments, papacy, ministry, the role of the laity and how the Church serves the world today.

Classes 3 hrs. a week. 2 semesters.

340.0 (440.0) Social Ethics: Man and Freedom in a Technological Society

What is human freedom? Does technology set us free to act creatively or does it impose a constraining boundary on our freedom? The course examines the relationship between Christian and other accounts of the idea of freedom and modern technological society. The purpose is to understand the problem of ethical choice in a pluralistic, Canadian setting. Classes 3 hrs. a week. 2 semesters.

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.

350.0 (450.0) Religion and Nationalism in Canada (Soc 350.0)

What is a Canadian? How have religious traditions of French and English Canada helped shape Canadian identities? The course examines the relationships between religion and nationalism in the context of Canadian society and history. Classes 3 hrs. a week. 2 semesters.

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

355.0 (455.0) The Divine and the Human in World Literature

Prerequisite: At least 10 university credits.

Literature in Western and other cultures has articulated the encounter of the sacred and the human. The various human perceptions of a divine or transcendent power as expressed in the literature of different cultures and time periods will be explored in an interdisciplinary seminar. Classes 3 hrs. a week. 2 semesters.

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

100.0	335.0 (435.0)
201.0	336.1 (-2) [436.1 (-2)]
215.0	338.0 (438.0)
230.0	340.0 (440.0)
300.0 (400.0)	346.1 (446.1)
315.0 (415.0)	347.2 (447.2)
316.0 (416.0)	350.0 (450.0)
317.0 (417.0)	351.1 (451.1)
330.0 (430.0)	352.2 (452.2)

History of Religions (Comparative Religion)

240.0	324.0 (424.0)
323.0 (423.0)	355.0 (455.0)

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, Associate Professor
Associate Professors

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

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 of three required courses: Introductory Sociology (Soc 200.0), Research Methods (Soc 300.0), and Sociological Theory (Soc 301.0) and three electives one of which must be a seminar course at the 400 level. All 400 level courses apply questions of theory and method to the sociological analysis of a specific problem. Ordinarily the prerequisites are Soc 200, 300 and 301.

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 electives.

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 or registration in 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 or registration in 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.

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 to 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.

305.0 Social and Economic Development

Prerequisite: a course in economics or Soc 200.0.

The application of sociological principles to problems of the third world, economic development and urbanization. Problems in the transition from agrarian to urban societies.

306.0 Sociology of Education**(Edu 507.0)**

Prerequisite: Soc 200.0 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.

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.

312.0 Aging and Society

Prerequisite: Soc 200.0.

The course will examine the experience of aging and how it is shaped by society and culture. The subjects to be analyzed include: the influence of the socio-cultural environment on images and beliefs about aging and older people; the participation of the elderly in major societal institutions, such as the family, the economy, politics and religion; social problems facing the elderly — e.g. health, housing, transportation, and crime — and the social policies and services available for dealing with their problems. The course will also examine the demographic causes and implications of an aging population as well as sociological theories and methods for analyzing aging. Special attention will be given to problems of aging in Canada.

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.

318.0 Social Change

Prerequisite: Soc 200.0.

This course has two objectives: to present a sociological view of history and to introduce the student to the more important theories of the form, causes and processes of social change.

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, occupational, legal and political status of women. This course may be taken in conjunction with

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.

An approach to understanding the social world through an investigation of the formation, change, and performance of individual identities. We shall take society to be a process of communication in which meaning, roles, selves, and institutions are enacted in forms of interaction, and shall treat human persons as creative producers of social diversity. In personal terms, we shall struggle with a sociological response to the traditional questions: "Who am I?" and "What must I do?"

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.

326.0 Sociology of Crisis Intervention

Prerequisite: Soc 300.0 or permission of instructor(s).

Emphasis is placed on the understanding and the investigation of the social significance and impact of the Distress Center phenomenon within our society. The course itself provides students with two learning experiences. On one level it enables students (a) to gain practical experience working with a social agency, and (b) to make participant observations. On another level students will be sociologically investigating and reporting (in a theoretical or research paper) an aspect of Crisis Intervention.

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.).

332.0 Sociology of Atlantic Canada

An in-depth study of the social organization, institutions and customs of the Atlantic Region of Canada with a concentration on those social movements, ethnic-religious groupings and patterns of socio-economic change that best characterize the life-style of Newfoundland, New Brunswick, Nova Scotia and Prince Edward Island. 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.

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.

334.0 Studies in Selected Societies and Cultures

Prerequisite: Soc 200.0.

An in-depth study of the societal organization, institutions, customs and lifestyles of a particular country or area of the world. Areas may vary from year to year and will be chosen according to student interest, interdisciplinary programs and available faculty.

335.0 (435.0) Quantitative Methodology

A second course in research methods which expands the treatment of quantitative analysis of sociological data initiated in Soc 300. Students engage in practice at actual sociological research using specially designed exercises and available tapes of survey data. The course covers sources of quantitative data in sociology, measurement of social variables, construction of scales, sampling techniques for interview studies in sociology, analysis of sociological data, introduction to computer use and presentation of results of quantitative research. The class work and exercises will form the basis of an individual research project which each student will complete as the major assignment.

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 nineteenth 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.

348.0 Men and Women: Field Research on Sex Roles

Prerequisite: Soc 200.0.

This course gives an introduction to the main strands of sociological research on sex roles. Specifically, it covers research on the division of tasks and responsibilities within the family, on the role of the housewife, and on women's position in the labour force, in the professions, and in education. Most of this research is concerned with women, but changes in women's role and in women's social position clearly have implications for men, too — for the way they view their own lives and members of the opposite sex. Class discussion will focus on

the relevance of sex role research to men as well as women. Students will, in addition, be required to carry out a fieldwork research project of their own choosing that relates to the issues discussed in class.

Seminar 3 hrs. a week. 2 semesters.

350.0 Religion and Nationalism in Canada (Rel 350.0)

What is a Canadian? How have the religious traditions of French and English Canada helped shape Canadian identities? The course examines the relationships between religion and nationalism in the context of Canadian society and history.

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.

400.1 (2) Work-Study Seminar

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

This required one-semester course for sociology students who are in the co-operative program explores the mutual linkages between the work setting and the academic literature.

Seminar 3 hours a week. 1 semester.

Note: This course is open only to students enrolled in the Co-operative Education program.

401.0 Communication and Media

Prerequisite: Soc 300.0, 301.0 or permission of instructor.

The course will consider how communication shapes our human world. First, we shall lay a groundwork from which to understand society and individual persons within a communications framework. Second, we shall spend time on two important forms of communication — bureaucratic and political. Finally, we shall look at the influence of the media — print, audio and visual — in shaping us and our world. Students will examine and discuss a variety of materials and prepare a project.

402.0 Philosophy of the Social Sciences (Phi 402.0)

Prerequisite: Soc 300.0, 301.0 or permission of instructor.

A seminar course on basic assumptions and concepts used in the social sciences, particularly sociology and allied fields. Open to students in philosophy and the social sciences with permission of the instructor.

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 twentieth century societies, as exemplified by Cuba since 1960. Approaches, difficulties, and successes are examined and some cross-cultural comparisons will be made.

405.0 Selected Topics: Sociology of Labor

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 problem in detail. This course will analyze the changes in the occupational 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.

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.

416.0 Education and Society

Prerequisite: Soc 300, Soc 301.0 or permission of instructor.

An advanced study of the direction of sociological theory and research with respect to education. Special attention is focused on power and ideology in education. This seminar course is designed to enable the student to pursue an area of special interest in the sociology of education.

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 The Political Economy of 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.

424.0 Multiculturalism in Canada

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

This seminar course will present an understanding of the pluralistic cultural bases of Canadian society for students with some background in the area.

425.0 Corporate Power

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.

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 studies 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 Selected Topics: 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: Third World Urbanization

Prerequisite: Soc 300.0, 301.0 or permission of instructor.

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.

450.0 Selected Topic: Society and Change in West Africa

Prerequisite: Soc 300.0, 301.0 or permission of instructor.

In this seminar, an analysis of population, socio-economic and political changes in selected West African countries during pre-colonial, colonial and post-colonial times will be undertaken.

453.0 Seminar in Sociological Analysis: Citizen Participation in Community Planning

Prerequisite: Soc 300.0, 301.0 or permission of instructor.

A senior course which examines selected methods of analysis in sociology. 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: permission of chairperson.

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.

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.



Section 6

Financial Information



Financial Information

Responsibility

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

Definitions

Full-time student: one who is enrolled in three or more courses in one semester.

Part-time student: one who is enrolled in less than three courses in one semester.

Note:

Because this Calendar was compiled prior to the announcement of fees for the 1982-83 academic year, the information contained in this section (with the exception of differential fees for 1982-83 for non-Canadian students which are specified below) refers to 1981-82 and is therefore subject to revision prior to 1 September 1982.

additional \$13.68, family coverage is available. This portion of the Students' Association fee is non-refundable, therefore coverage continues until August 31, 1982 regardless of a student's registration status.

All non-Canadian students who are not eligible for medical coverage under Nova Scotia Medical Services Insurance will be assessed an additional fee over that referred to above to provide them with comparable Nova Scotia medical insurance coverage. Exceptions to this levy will be considered upon presentation to the University's Health Services of valid proof of coverage by a similar plan in effect from the student's home country. In 1981-82 this fee is \$182.16 for single coverage and for an additional \$184.84, family coverage is available.

Both of the above plans are administered by the University.

2. Students' Representative Council Fee

The Students' Representative Council fee is required of all full-time students. It supports an extensive program of activities organized by the student government. This fee, except for the medical coverage portion, is set and administered by the Students' Representative Council.

3. Thesis Supervision

Graduate students who have completed course requirements but have not completed the 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.

4. Residence Accommodation and Fees 1981-82

Residence Fees cover accommodation for two full semesters.

a) Food Service

The University provides food service at two campus locations during the academic year: the Students' Centre Cafeteria, open Monday to Friday from 8 a.m. to 6 p.m., and the Residence Dining Hall, where breakfast, lunch and dinner are served Monday to Friday inclusive, and brunch and dinner are served on Saturday and Sunday.

b) Meal Plans

Residents of Vanier House and the Loyola Residence are required to purchase meal plans. The following meal plans are available for 1981-82.

(1) Coupon Plan

The Coupon Plan is the basic meal plan for Residence students. Under this plan students are required to purchase a minimum of 1427 coupons (8 books) per semester at a cost of \$557.50.

1. Fees

Fees indicated here are those for the 1981-82 academic year and are subject to change.

a) Tuition Fees	
Full-time students —	\$995.00
University Fee	69.60
Students' Association Fee	
(see note)	<hr/> \$1,064.60
Part-time students —	
Each full-credit course	\$210.00
Each half-credit course	105.00
Students' Association Fee	\$10.00
(per academic year)	
Late registration fee (see registration regulation 4)	\$10.00
b) Differential Fees 1982-83	
All non-Canadian students who either began their degree program on or after or who changed programs since 1 September 1977 are assessed a differential fee at the following rates:	
Full-time students	\$1000.00
Part-time students	

the academic year. Coupon costs for meals on an unlimited-seconds basis are as follows:

Breakfast	7 coupons
Lunch	10 coupons
Dinner	14 coupons

Students on the Coupon Plan may use their food coupons in the Students' Centre Cafeteria, University Food Store, canteens at various events and for special events or meals provided during the academic year.

(2) 14 Meal Plan

The University will offer, as an option, a Fourteen (14) Meal Plan which entitles boarding students to any fourteen (14) meals chosen by them during any calendar week for a period of thirty weeks. All meals on this plan are on an unlimited-seconds basis and restricted to meals served in the Residence Dining Hall only. For additional information on this plan, please contact the Director of Residences.

Students may change from one meal plan to the other any time before September 24. No changes are permitted for the first semester after that date. Students may change meal plans for the second semester before December 17.

Students wishing to change meal plans should notify the Director of Residences in writing.

c) Edmund Rice Residence (High Rise I)

Furnished apartments (four students to each) for unmarried students contain living room, kitchen, two double bedrooms and bathroom. These students may opt for a special 14-meal plan or purchase coupons by the book without the minimum requirement.

Students applying for accommodations in this residence have the option of selecting a room and board plan or room only.

Fee for each student for room and board Coupon Plan (Base Plan only)	\$2,075.00
Fee for each student for room only	\$ 960.00

d) Ignatius Loyola Residence (High Rise II)

Furnished responsibility suite for students wishing room and board. Each contains four single bedrooms, one double bedroom and bathroom.

Single rate for each student Coupon Plan (Base Plan only)	\$2,130.00
Double rate for each student Coupon Plan (Base Plan only)	\$1,975.00

e) Vanier House (Low Rise)

Furnished responsibility suites for students wishing room and board. Each contains two single bedrooms, two double bedrooms and bathroom. A common lounge serves each floor.

Single rate for each student Coupon Plan (Base Plan only)	\$2,130.00
Double Rate for each student Coupon Plan (Base Plan only)	\$1,975.00

f) 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.

5. Extended Accommodation

a) For an additional charge of \$9.00 a day, students may enter residence on a room-only basis, one week prior to the first date of the academic year, and remain for a maximum of one week after the final date of the academic year. Students interested in making such arrangements should contact the Director of Residences.

b) Christmas Recess

Students may arrange to remain in residence during the Christmas recess, on a room-only basis, for a total additional charge of \$60.00. Interested students should make arrangements in advance with the Director of Residences.

c) Summer Accommodation

Residence accommodation is available to students during the summer months at rental rates applicable at the time.

d) Graduating Students in Residence

Provision is made for graduating residence students to remain in residence, on a room-only basis, up to and including Convocation Day at no additional charge.

6. Parking on Campus

Residence outside parking
Underground

\$25.00 a year
\$15.00 a month or
\$135.00 a 12 month period
\$20.00 a year

Other parking

Parking fees are payable in advance.

7. Application for Residence Accommodation

Application for residence accommodation, together with a \$50.00 residence deposit, should be made to the Director of 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. \$45.00 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.

8. Payment of Fees

a) Although tuition and residence fees are due and payable at the time of registration, provision is made for payment in two installments: the first at registration; the second at the beginning of the second semester. The University reserves the right to require pre-payment in excess of the first semester installment of tuition and residence fees. This provision is not available for differential fees and non-Canadian medical coverage fees, which must be paid at the time of initial registration.

1981-82 Fees

Tuition	First Semester	Second Semester
Full-time	\$532.30	\$532.30
Part-time — each course	105.00	105.00
Residence		
Single Room, Coupon Plan	1,065.00	1,065.00
Double Room, Coupon Plan	987.50	987.50
Apartments—Edmund Rice Residence Room Only	480.00	480.00

b) Fees must be paid, or arrangement for payment made with the Business Office, before a student is considered registered. Exceptions to this regulation may be considered on presentation of valid reason.

The applicable instalment on residence fees is to be paid on entrance to residence.

Students who have an unpaid account with the University will not be permitted to register.

c) Cheques or money orders should be made payable at par in Canadian funds, to Saint Mary's University, and addressed to the Business Office, Saint Mary's University, Halifax, Nova Scotia, Canada, B3H 3C3.

Visa and Master Card are accepted.

9. Scholarships, Bursaries, Loans, Assistantships

a) One-half of the value of any scholarship or bursary awarded by the University may be deducted from tuition fees for the first semester. If the award exceeds the applicable tuition fees, the excess portion may be applied to residence fees. Students who have applied for a Canada Student Loan may, on presentation of official acknowledgement of the application, register with payment of only a nominal portion of tuition fees for the first semester.

b) Payment of residence fees cannot be deferred pending receipt of a Canada Student Loan.

c) Students whose fees are to be paid by government or some other agency are required to present a signed statement, certificate or other appropriate supporting material.

d) Scholarships and bursaries awarded by Saint Mary's University are credited to the student's account at the beginning of a semester. If the award is made during a semester, the credit becomes effective on the date on which the Business Office receives notification.

e) Assistantships awarded to students by academic departments are credited to the student's account in two equal instalments, usually on November 30 and March 30.

10. Late Payment

a) Students whose accounts are in arrears will be denied course marks, transcripts and graduation.

b) Students who have not paid their fees according to 8(a) and 8(b) above by September 30 in the first semester and any unpaid balance by January 29 in the second semester will be charged a late payment charge of \$5.00 per calendar day beyond the respective dates in either or both semesters.

(c) If fees are to be paid by a Canada Student Loan or a Provincial Bursary which has been delayed, the late payment charge may be waived if the students provide evidence of the delay to the Business Office.

11. Withdrawals and Refunds

a) No tuition or residence fee will be refunded to students who withdraw after November 15 in the first semester, or after February 28 in the second semester.

b) In order to be eligible for an adjustment of tuition fees, a student who wishes to withdraw from the University must notify the Registrar in writing and apply directly to the Business Office for refund. The official date of withdrawal will be the date on

which the Registrar receives written notice. For further information, please consult academic regulation 16(e).

The following scale is applied in computing refund of tuition fees:

Applicable Fee Retention (1981-1982)

First Semester	Full-time	Part-time (each course)
1st week of classes	\$50.00	\$10.00
Remainder of September	145.00	30.00
October 1 to 15	250.00	50.00
October 16 to 31	355.00	70.00
November 1 to 15	460.00	90.00
After November 15	532.30	105.00

Second Semester

To January 15	65.00	15.00
January 16 to 30	195.00	40.00
January 31 to February 14	325.00	65.00
February 14 to 28	455.00	90.00
After February 28	532.30	105.00

c) Withdrawal from Residence

Students who either wish to withdraw from residence or are expelled from Residence are required to pay the appropriate portion of the room fee, or room and board fee, to the date of withdrawal, plus a penalty of \$100.00. The appropriate portion of the room and board fee is determined by the Business Office on the basis that the full fee is prorated over the period commencing with the beginning of a semester to November 15 or February 28 whichever is the applicable date, being the last date for which a refund will be granted in either semester. The penalty charge is necessitated because of commitments made by the University on the understanding that students would be in residence for the full academic year. It may be waived if students withdraw simultaneously from all courses at their school for the remainder of the academic year. It may also be waived if students find an acceptable replacement who is willing to assume the balance of residence fees for the academic year.

Application for remission of the penalty charge should be made to the Director of Residences.

If withdrawal is at the beginning of a month, or at any time within the month, students may be charged for the full month.

d) No tuition or residence fee will be refunded to students who withdraw after November 15 in the first semester, or after February 28 in the second semester.

12. Miscellaneous

a) Students will be charged for damage to University property.

b) A \$5.00 charge is made for any cheque returned by the bank.

c) NSF cheques or cheques returned by the bank for any other reasons may result in cancellation of registration.

Replacement of these cheques and future payments by the payee must be made by cash, money order, certified cheque, or Visa or Master Card.

d) Postdated cheques are not accepted except as a part of Early Registration.

e) Income tax forms, covering payment of tuition fees and the \$50.00/month Education Deduction (form T2202A) will be

mailed from the Business Office beginning February 1, 1983. *Please Note:* The above-mentioned forms will be mailed only if the student provides the Business Office with a self-addressed stamped envelope. Envelopes will be available at the counter in the Business Office. Students requiring income tax receipts for periods other than the academic year 1982-83 and the summer session of 1982, must make a specific request in writing to the Business Office marked to the attention of the Accounts Receivable Department.

- f) Special consideration on the payment of tuition fees for senior citizens (i.e., those 65 years of age or over) is provided on request.

Financial Aid

Scholarships, Bursaries and Loans

Financial assistance is available to students at Saint Mary's University from four main sources: scholarships, bursaries, Canada Student Loans, (Quebec Student Loans) and Provincial Government Bursaries. The scholarships and bursaries are administered either directly by the donor, or by the University through the Financial Aid Officer in cooperation with the Senate Scholarship Committee. The student loans and provincial bursaries are administered by the provincial authorities listed later in this section.

Definitions

Scholarship — An award granted on the basis of academic merit.

1. Entrance — An award granted to students entering Saint Mary's University from high school.

2. Achievement — 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.

Canada Student Loan Plan — This was introduced by the federal government as a broad program to assist students who, in the absence of a loan, would be unable to pursue full-time post-secondary studies at a university or other educational institution. It is accepted as a loan and must be repaid with interest following completion of the student's academic career.

Government Bursary Plan — This was designed to provide grants supplementary to the assistance available through the Canada Student Loan Plan. It is accepted as a gift from the province of which the student is a resident and is therefore non-repayable. For more details please contact provincial authority.

Scholarship Eligibility — The formula used by the Senate Scholarship Committee to determine scholarship eligibility. The formula is arrived at annually from the academic performance of the top 10% of full-time students carrying five courses during the preceding year.

Demonstrators and Teaching Assistantships — In some departments positions as laboratory demonstrators or research/teaching assistants are available for Saint Mary's students. For more information please contact the appropriate department.

Funds Administered by Saint Mary's University, 1981-82

1. **Special Entrance 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.

Value: The cost of tuition and fees as well as a single room with board. Equal in value to approximately \$3,500.00.

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.

II. Other Entrance Scholarships

Condition: Candidate must be a resident of Canada.

Value: \$200.00 to \$1,500.00.

Duration: One year. For renewal see Achievement Scholarships section below.

III. Achievement Scholarships

Conditions: Candidates must qualify according to the Regulations for Scholarship Holders.

Value: \$200.00 to \$1,500.00.

Duration: One year. Renewable each year the student progresses satisfactorily towards a first degree while attending Saint Mary's University. For renewal see regulations below.

Regulations for Undergraduate Scholarship Holders at Saint Mary's University

1. By May 31 candidates for scholarships must apply each year to the Financial Aid Officer.
2. 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.
3. Students are responsible for notifying the Financial Aid Officer of late course completions and grade changes which were not recorded at the time when scholarship applications were filed. These must also reach the Financial Aid Office by May 31.
4. In order to be considered for an achievement 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. Courses taken in summer sessions will not be considered.
5. 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.
6. Students will lose their scholarships should they change their status from full-time to part-time or withdraw from the University. Students who are full-time in one semester and part-time in another will receive only half of their scholarship.
7. Students who receive scholarships and fail to qualify for a renewal may reenter the competition for scholarships should they subsequently qualify.

Included in the Scholarships and Bursaries administered by Saint Mary's University are the following gifts:

Brother Stirling Scholarship (full tuition)
Donated by Mr. John H. Dickey. Open annually to an entering student.

Mary C. Daley Scholarship (\$100)
Awarded in alternate years. Open to all students.

William J. Dalton Memorial Scholarship
Established in 1976 through the contributions of his former students, colleagues, and friends, the interest from the memorial fund will be used to provide a scholarship each year. Open to students majoring in political science, the scholarship is awarded according to criteria and procedures determined by the Political Science Department. Applications for this award are to be forwarded in writing by October 31 to the Chairperson, Department of Political Science, Saint Mary's University.

Eleanor M. Florian Scholarship (\$300)
Open annually to all students.

Ford Motor Company of Canada Engineering Scholarship (\$700)
Open annually to a second year engineering student.

Duncan W. Lynch Memorial Scholarship (\$400)
Open annually to a Catholic student from Dartmouth.

John Glenister Memorial Scholarship (\$150)
Open annually to all students.

Joseph E. Donohue Memorial Scholarship (\$400)
Donated from the estate of Eva Mae Donohue in memory of her late husband and open annually to all students.

Barbara Flanders Goldberg Memorial Scholarship (\$500)
Established in 1977 by Jon and Victor Goldberg in memory of their mother. Open to a student in the Commerce Faculty who has expressed an interest in pursuing a career in Public Administration.

Regis College Prize
Established in 1977 by Regis College, on the occasion of Saint Mary's 175th Anniversary. To be awarded each academic year to a student in Religious Studies, according to criteria and procedures to be determined by that department.

Saint Mary's Faculty Women's Association Scholarship (\$500)
Established by the Faculty Women's Association in order to provide scholarship money for a student enrolled in a degree (or diploma) program beyond the first year of study. This scholarship will be awarded annually and will be based on academic achievement.

Charles Hinman Memorial Bursary (\$500)
Established in 1981 by Mr. and Mrs. Joseph Hinman of Halifax in memory of their son, Charles, an alumnus of the University. It will be awarded annually to a deserving student from Nova Scotia enrolled in the Faculty of Science and majoring in Chemistry. The awards are for students in their second or subsequent year on the recommendation of the Department of Chemistry.

Thorne Riddell Scholarship (\$500)
Established in 1981 by Thorne Riddell, Chartered Accountant. It will be awarded annually to a student who is majoring in accounting, who has completed the work of the junior year with an average of at least 85% in the major, and who continues the study of accounting in the senior year. Preference will be given to a student who is looking forward to a career in public accounting.

Father Frederick J. Lynch, S.J., Bursaries
Students in the second or subsequent years in the Faculty of Commerce are eligible for assistance from this fund which was established by a friend to honour the services of Father Frederick J. Lynch, S.J., the first Jesuit named as President following proclamation of the Act designating Saint Mary's as a University in 1952.

IV. Bursaries:

A small number of bursaries are awarded on the basis of financial need. Included in the bursaries administered by Saint Mary's University are the following endowed gifts:

Rebecca Cohn Memorial Bursary (\$100)
Open annually to all students.

Bernard Zwicker Memorial Bursary (\$150)
Donated by Mr. and Mrs. Ivan Zwicker in memory of their son. Awarded in alternate years commencing 1969-70. Open to students in the Commerce Faculty.

IBM — IBM Canada Bursary Program
IBM Canada Ltd. makes an annual grant of \$1,000 for bursaries to students registered in a full-time course at the university who have satisfactory standings and who demonstrate financial need.

The Birks Family Foundation Bursaries

The Birks Family Foundation has established a plan of annual contributions to the Student Aid Fund of recognized Canadian universities for the creation of the Birks Family Foundation Bursaries.

The Bursaries are awarded by the Foundation on the recommendation of the University Scholarship Committee and are not restricted to faculty or year and may be renewed. The number and amount of such awards may vary annually, depending upon the funds available for the purpose from the Foundation.

V. Funds Administered by the Donor

For information regarding this type of award, students are asked to contact the Financial Aid Officer, Business Office, McNally Building, Saint Mary's University, (902) 429-9780, extension 509.

VI. Funds Administered by the Provincial Government

The University cooperates fully with both the Canada Student Loan Plan and the Nova Scotia Bursary — Canada Students Loans Program.

Canada Student Loan Plans

Canada Student Loans, available only on the basis of Certificates of Eligibility issued by the appropriate authority (Issuing Agency) of a Province, may be made by any branch of the chartered banks and by certain designated credit unions with the guarantee of the Federal Government.

Applications for Certificates of Eligibility must be made to provinces participating in the plan, and decisions on individual applications are made by the appropriate provincial authority (Issuing Agencies). Students applying for certificates who meet residence and other requirements must also demonstrate that the financial means available to them from all other sources are insufficient and that a guaranteed loan is needed. In no case will a loan for an academic year exceed a maximum of \$1,800, or total loans exceed \$9,800 during the student's academic career.

Provincial authorities may issue Certificates of Eligibility under the plan up to the limits of provincial allocations in each loan year. Borrowers under the plan are required to repay the principal and to pay interest, but no payments are required as long as they are full-time students at a specified post-secondary educational institution or for six months thereafter. Interest during this period is paid by the Federal Government on behalf of the student. After a student's interest-free period has expired, he is required to make regular monthly payments which include repayment of principal and interest on the outstanding balance at the rate that is in effect for student loans at the time the student takes out his loan. The number of years over which a loan may be repaid depends on the loan amount and other considerations, but may not exceed ten years from graduation. A student applying for a loan under this plan should only request the funds needed to enable him to continue his studies. In doing so, he should give responsible consideration to the repayment obligations he is assuming.

Any student needing a loan should apply to the appropriate authority in the province where he officially resides both for full information and application form. Enquiry should be directed to one of the following addresses, or the Financial Aid Officer at Saint Mary's University.

Nova Scotia

Student Aid Office
Department of Education
Box 578
Halifax, Nova Scotia
B3J 2S9
Telephone: (902) 424-7737

Alberta

Students Finance Board
Department of Advanced
Education & Manpower
1100 Park Square
10001 Bellamy Hill Road
Edmonton, Alberta
T5J 3B6

British Columbia

Student Services Branch
Ministry of Education
Science and Technology
835 Humboldt Street
Room 115
Victoria, British Columbia
V8V 2M4

Manitoba

Student Aid Branch
Department of Education
Box 6-693 Taylor Avenue
Winnipeg, Manitoba
R3M 3T9

New Brunswick

Student Aid Division
Department of Youth
Recreation and Cultural
Resources
P.O. Box 6000
Fredericton, New Brunswick
E3B 5H1

Newfoundland

Student Aid Division
Department of Education
Confederation Bldg.
P.O. Box 2017
St. John's, Newfoundland
A1C 5R9

Northwest Territories

Finance, Research
and Planning
Department of Education
Government of the
Northwest Territories
Yellowknife
Northwest Territories
X1A 2L9

Ontario

Student Awards Branch
Ministry of Colleges and
Universities
Mowat Block, Queen's Park
Toronto, Ontario
M7A 2B4

Prince Edward Island

Student Aid Division
Department of Education
P.O. Box 2000
Charlottetown
Prince Edward Island
C1A 7N8

Quebec

Quebec Student Loan Board
Ministere de l'Education
Service des prêts et
bourses aux étudiants
1035, de la Chevrotiere
Quebec
G1R 5A5

Saskatchewan

Student Services Branch
Department of Continuing
Education
1855 Victoria Avenue
Regina, Saskatchewan
S4P 3V5

Yukon Territory

The Students Financial Assistance
Committee
Department of Education
Box 2703
Whitehorse, Yukon Territory
Y1A 2C6

Nova Scotia Government Bursary — Canada Students Loan Program

This program combines loan assistance available through the Canada Students Loan Plan and grant assistance available from the Province of Nova Scotia. It is designed to supplement the resources of a student who, lacking such aid, would be unable to proceed to university studies. The ratio of grants to loans is determined in accordance with a formula fixed by the Province of Nova Scotia.

A student from another province must apply for assistance to the government of his own province. Application forms can be obtained from the Supervisor of Student Aid, Department of Education, Box 578, Halifax, Nova Scotia.

VII. United States Students

All Student proceeding to Saint Mary's University from the United States of America who require financial assistance should apply for information to the Higher Education Authority of their particular state or to the Office of Education, Department of Health, Education and Welfare, Washington, D.C. 20202, or personal bank.

VIII. Postgraduate 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 Financial Aid Officer, Business Office, McNally Building, Saint Mary's University (902) 429-9780, ext. 509.

Canadian Tire Corporation Scholarship (\$5000)

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:

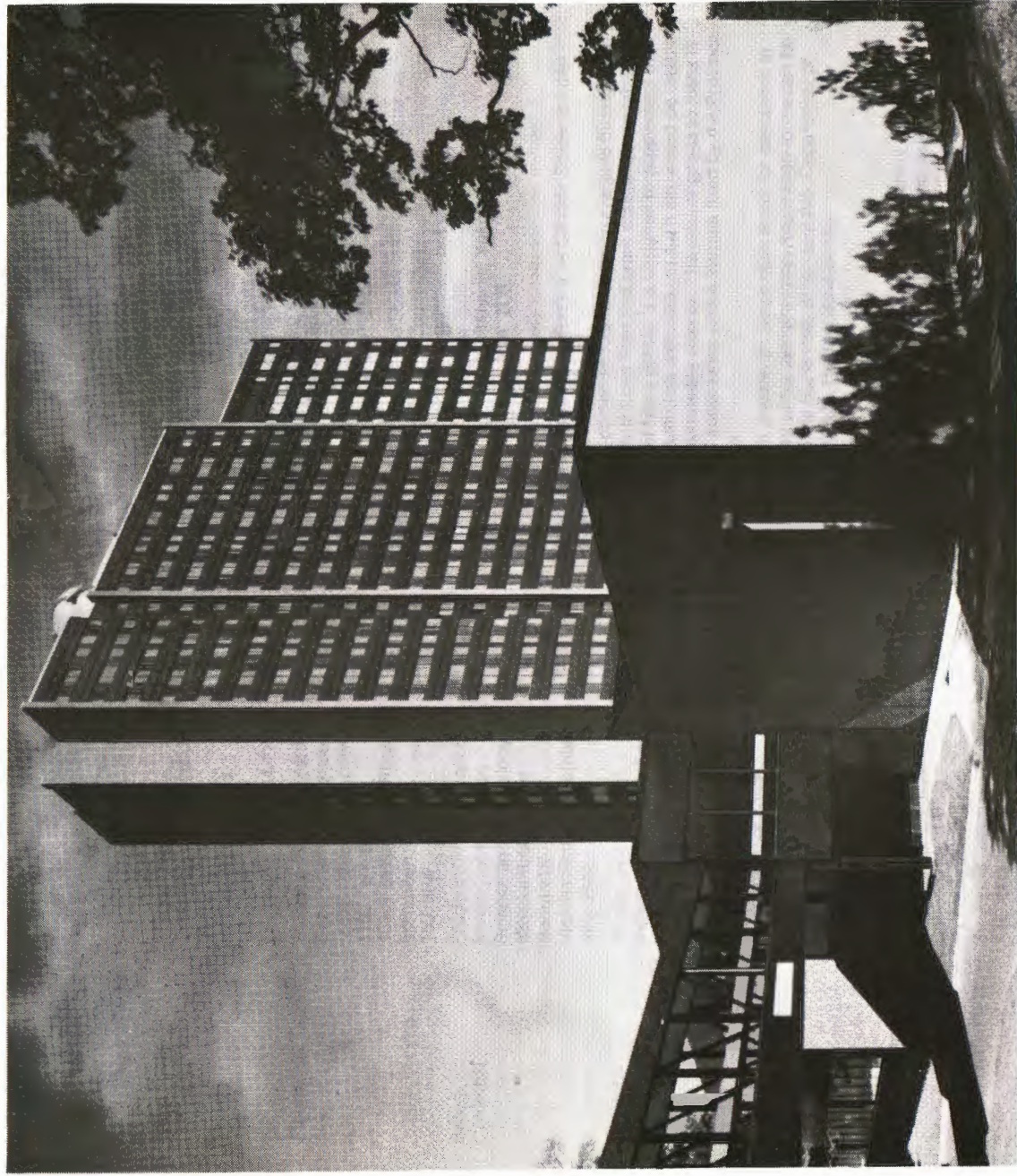
- a) have completed five (5) M.B.A. credits at Saint Mary's University on a full-time basis;
- b) be enrolled in the M.B.A. program on a full-time basis;
- c) be a Canadian citizen who has lived in Nova Scotia for at least ten (10) years;
- d) show evidence of financial need, academic ability, and possess those qualities of character and initiative which indicate potential leadership in the business world.

Xerox of Canada Limited Fellowship (\$2,000)

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.

Section 7

Student Services Athletics & Recreation University Residences



Student Services

Student Services

At Saint Mary's University the Student Services area encompasses Chaplaincy, Counseling, Health Services, Cultural and Recreational Activities (including Athletics and the Art Gallery), Financial Aid, Canada Employment Centre, 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

Counsellors (located on the 4th floor of the Student Centre) are available at all times to provide free, confidential, individual assistance to any registered student. Their services include:

Personal Counselling — Help with social, family and emotional problems, adjustment conflicts, interpersonal difficulties, and problems associated with drug and alcohol use. Medical and professional referral is available when necessary.

Freshman Orientation — New students are offered assistance in planning courses, making adjustments to residence living, obtaining accurate information on entry into professions, occupations, etc.

Career Information and Vocational Counselling — University calendars, occupational-vocational monographs, application forms for admission tests to graduate schools are kept on file, and assistance is offered to facilitate course selection and career decision-making.

Handicapped Students — A service for disabled students is offered out of the counselling service. Much of this work involves helping blind students with their special problems of study methods and mobility as well as helping any student with a physical disability requiring special consideration or special attention.

Study Skills Program — Consists of a series of videotaped and sound-slides presentations covering such topics as student efficiency, self-control strategies, note-taking and outlining skills and essay writing. Assistance is available to help students with this program.

Student Health Services

Students are required to submit a completed medical report to Health Services at the time of first registration. This report 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 1:30-4:30 p.m. Monday through Friday. A nurse and secretary are in the office during the day. Students are welcome to visit the nurse anytime 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 to see a doctor.

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. The premium for a single student is \$10.18 and is included in the Student Council fee which is paid by all full-time students.

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. The premium is \$182.16 (1981-82 fee, subject to change) and is payable with the first installment of tuition fees.

Students who provide proof at the time of registration that they have comprehensive medical coverage with another company are exempt from the compulsory comprehensive coverage with Blue Cross.

(2) Part-Time Students

Part-time students are not eligible for either the extended or the comprehensive health plan.

Note: Prices for health care coverage are for the 1981-82 academic year. The health plan is now under review and may be subject to change for the 1982-83 academic year.

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 Roagit, 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 Rouliston 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 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. The Manager is Don Lawrence.

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 the 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 or regulations.

b. Disciplinary System

In February 1977, Senate approved the Saint Mary's University Disciplinary System. Under the general responsibility and direction of the Director of Student Services, several administrative officers of the University (Directors of Residence, Student Services and University Services) 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 Police

The maintenance of order and conduct at extracurricular functions is the responsibility of the Saint Mary's Campus Police. 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 Police membership are to be directed to that officer.

The Campus Police 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.

Athletics and Recreation

The Department of Athletics organizes a variety of athletic activities on a number of different levels, providing an opportunity for students at Saint Mary's University to participate in some aspect 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 Representative Program offers competition at a high level of excellence and, as a member of the Atlantic Universities Athletic Association and the Canadian Interuniversity Athletic Union, Saint Mary's participates in regularly scheduled and tournament sports with other universities in the Atlantic region and non-conference competitions arranged with teams across Canada and the United States.

Representative (Men)

Soccer
Football
Ice Hockey
Basketball
Rugby
Broomball
Tournament
Track and Field
Cross Country

Representative (Women)

Field Hockey
Basketball
Ice Hockey
Soccer
Volleyball

Recreational

Table Tennis
Volleyball
Swimming
Keep-fit Classes
Badminton
Skating
Jogging

Intramural

Softball
Football
Volleyball
Basketball
Broomball
Floor Hockey
Ice Hockey
Soccer
Badminton
Tennis

On Campus Facilities

Alumni Winter Arena
Huskies Stadium (Artificial Track & Field)
Gymnasium
Swimming Pool
Tennis Courts
Weight Room
Practice Field
Off-campus curling facilities are arranged.

Equipment

Equipment is available on a temporary loan basis for student recreation through the Equipment Manager, Room M16, McNally Building.

Intramural Registration

Registration for intramural sports is processed by the Intramural Coordinator and notices are placed on bulletin boards around campus informing students of starting dates, deadlines, etc.



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.

For the 1982-83 academic year, female resident students will be accommodated in Vanier House and in the Edmund Rice Residence.

Edmund Rice Residence

This 17-storey building consists of 16 floors of furnished apartments, six per floor, accommodating four students each. Each apartment has a living room, bath, two double bedrooms and a kitchen. There are no single rooms available in this structure. Students living in apartments usually prepare their own meals. However, some students choose to eat in the cafeteria and may take advantage of the available meal plans.

Vanier House

Comprised of four separate four-story houses, Vanier House offers double and single accommodations. On each floor, exclusive of the first which provides under-cover connection with the other houses and with the Edmund Rice and Ignatius Loyola Residences, there are three suites, each with six students occupying two single and two double rooms, and sharing a bathroom. There is a common lounge on each floor, and limited cooking facilities. Therefore, students living in this area of the residence are on a board plan.

Ignatius Loyola Residence

This structure consists of 19 floors of residence in two separate wings. The south wing is assigned to married students and consists of 105 apartments of three sizes — one bedroom, two bedrooms and a larger two bedroom. Application for accommodation should be made to the Director of Residences. Occupancy of married students' apartments is on an annual lease basis. The north wing consists of suites for six single male students who live in four single rooms and one double and share a bathroom. These six share responsibility for general tidiness of the suite between weekly cleanings by University staff. There is a common lounge on each floor for the occupants of the four suites on that floor and their guests. Students in the Ignatius Loyola Residence are on a board plan.

Fees for accommodation in each of these residences and for various food plans are specified in the Financial Information Section of this Calendar.

Section 8

Student Organizations
Activities
Facilities
Centres
Institutes



Student Organizations

The extracurricular organizations listed below are officially 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.

Students' Association

Incorporated in 1966, the Saint Mary's Students' Association 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 Journal

The Journal is the official undergraduate newspaper of the Saint Mary's University Students' Association, providing coverage of campus and community events which are of concern to students. Through its membership in the Canadian University Press Co-operative the Journal gives a national perspective of student issues.

Journal staff members are full and part-time students who contribute their time at their own level of commitment. Anyone may become a staff member and the paper is always in need of interested people. You can become involved in any facet of the newspaper from photography and news writing to design and advertising sales. No skills are necessary. The Journal is a good opportunity to acquire new skills and experience. The Journal is located on the fifth floor of the Student Centre.

Radio CFSM

Radio CFSM can be heard in the cafeterias and the Student Centre-by carrier current. Students living in the on-campus residences can pick up the station at 660 on the AM dial.

The station will require staff for the upcoming year if the station is to be successful. The purpose of Radio CFSM is not to turn you into a top-notch disk jockey or a technical engineering master. It is more interested in giving people an insight into the world of radio and an opportunity to develop their own ideas and concepts.

There will be a recruitment drive during September so if you are interested, watch for signs.

Yearbook

The aim of the Yearbook is to provide an interesting and well-presented documentation of student life on campus. The book is issued once a year and is sponsored by the Students' Representative Council. Student participation and assistance is welcomed.

Anthropological Society

The Anthropological Society is open to all students interested with the majority of its members being anthropology majors. Activities include guest speakers and the seeking of pertinent

summer employment. A collection of material pertaining to graduate study programs and career options was started in 1974 and will be expanded this year.

Asian Studies Club

The Club endeavors to promote an increased cultural awareness of Asian societies. Club activities include seminars in the Chinese culinary art, film exhibitions, and other social functions. Membership is open to any student interested in fostering a better understanding of Asia.

Biological Society

The Society was formed to stimulate student interest in the natural sciences. The aims are realized through field trips, movies, and visits to local scientific institutions.

Caribbean Student Society

The Caribbean Student Society was founded in recognition of the West Indian community of students who have traditionally been active in the social structure of the University. Its constitution calls for the Society to encourage cooperation among Caribbean students in this and other Canadian universities, and among West Indians and Canadians generally. The Society assists students in any way possible, keeps informed on West Indian affairs and fosters the culture of the Caribbean.

The Chinese Christian Fellowship

The Saint Mary's Chinese Christian Fellowship, made up mostly of students and alumni, is open to all Saint Mary's University students. The major purpose of the Fellowship is to foster relations between Chinese students and other sections of the University community, through Christian fellowship and study.

Chinese Students Association

The CSA is an informal society which is open to all students. Its prime goal is to facilitate social interactions among students and to promote Chinese culture. Many social gatherings are scheduled each year such as barbecues, skating parties and the annual Chinese New Year celebration.

CIC-Chapter of Chemistry Institute

The Student Chapter of the Chemistry Institute of Canada at Saint Mary's University is affiliated with the parent organization which is the professional organization uniting chemists across Canada and which has ties with similar organizations world wide.

The Society serves a varied purpose and sponsors social and educational functions as well as acting as a liaison between students and faculty-administration by electing two student members to departmental committees.

Under the educational functions, the Society sponsors tours to places of interest to chemists such as Bedford Institute of Oceanography, local oil refineries and local breweries.

Throughout the year speakers are invited to lecture on topics of current interest. In addition to the educational services the society also promotes several social functions throughout the year to enable freshmen through seniors to become acquainted with each other.

Commerce Society

The Commerce Society is open to any student in business administration or accounting. The elected representatives have the responsibility for submitting student views in the Commerce Faculty and organizing various social functions.

The activities carried out by this society help to establish a rapport between students and faculty. The goal of the society is to allow the students to gain a better understanding and appreciation of the academic and business environments.

Off-Campus Student Society

The purpose of the Off-Campus Student Society is to unify those students who do not live on campus into an active group that has a voice in student affairs.

The main objectives of the group are to encourage off-campus students to become active in the University community; to act as the official representative organization of off-campus students, and to foster understanding and fellowship between the society and other organizations and institutions on campus and other universities in the vicinity.

The Dramatic Society

The Dramatic Society is unique in being both academically sponsored and at the same time a student organization. With the help of competent professionals, University faculty, and a large number of students, the Society each year presents a number of workshops, one-act and full length plays. In offering extracurricular education in all phases of drama, it hopes as well to provide enjoyable and instructive experience in the form of acting, scene design and building, lighting, painting, make-up, costume design and making properties, and promotion and publicity. Membership is open to anyone in the University community.

Education Association

This society is made up of students enrolled in the Faculty of Education and is interested in areas of concern to teaching and education.

The Engineering Society

The Engineering Society undertakes various social and academic activities enabling the student to participate, learn and enjoy with fellow engineering students. Activities include student-faculty smokers, tours of local industrial establishments, a car rally, and an aerodynamics contest. The benefits of the Society are infinite but success is a direct function of the individual's own interest and vitality.

W. A. Bell Geology Club

The W. A. Bell Geology Club was organized in 1968, to promote the geological sciences at Saint Mary's University, and to provide an opportunity for members to meet the geology community of Halifax and area. Activities include field trips, fund-raising, conferences, social evenings, and sports. With the Department of Geology, the Club sponsors a continuous seminar series with speakers on various relevant topics. Membership is automatic for all students majoring in Geology but is open also to any interested persons. The Geology Club is a member of the Atlantic GeoScience Society, Atlantic and Maine Universities Geological Conference and New England Intercollegiate Geological Conference.

Geographical Society

With its founding in 1975, the aim of this Society has become the development of a general interest in the field of geography, to create an awareness within the student body that there are others interested in geography. This aim is achieved with biweekly meetings in which guest lecturers are present, and films and discussions invite participation. Activities include smokers and field trips. The Society is open to any student.

Historical Society

The Historical Society is one of the newest societies on campus, being formed in 1977. Its membership is open to all history majors and interested students. The society provides a medium for the exchange of ideas, as well as being a social vehicle for students and faculty. The society sponsors a monthly lecture series as well as sponsoring such social events as smokers and a bowling tournament.

International Students' Association

The purpose and objectives of the ISA are to promote greater integration among international students as well as to provide a greater variety of cultural and social activities. It also assists in orientation activities especially for foreign students and provides a home away from home.

AIESEC — International Association for Students of Economics and Commerce

AIESEC is a non-profit, apolitical organization of university students working with managers of the business community to increase international understanding and to bridge the gap between theoretical university education and the practical business world. There are twenty branches in Canada. Exchange programs arrange for students to go to assured jobs in foreign countries each year. Activities include seminars, meetings, career sessions, luncheons and receptions.

M.B.A. Society

The object of the Society is to promote the academic and social interests of all full and part-time MBA students attending Saint Mary's. Many of the academic studies will be complemented by the Society's scheduling of a lecture series involving members of the Halifax community and a proposed management level tour program of metro area business and government establishments.

These activities are intended to give the students insight into the prospective job market and a broader knowledge of the issues generated by two-way dialogue with business leaders.

"Odd Couples" Modern Square Dancing Club for Singles

This club, started in 1980, was formed to give the students of Saint Mary's and other single people from within and outside the University, the opportunity to learn this entertaining form of dance and relaxation.

The next classes will be starting in September. For more information about the club or modern square dancing in general phone Harold Connell at 434-3023.

Newman Society

The Society was formed to encourage the growth of a community on campus united by Christian ideals and by a desire to contribute to the community life on campus. The Society organizes Search retreat weekends for students, participation in interuniversity Newman meetings, University Masses, orientation week and University projects such as Third World Awareness.

Sport Parachute Club

The purpose of this organization is to provide an opportunity for Saint Mary's students and alumni members to gain experience and recreation in parachuting.

Saint Mary's Sport Parachute Club is associated with the Nova Scotia Sport Parachuting Association and the Canadian Sport Parachuting Association.

Amateur Radio and Electronics Club

The Amateur Radio and Electronics Club includes both student and faculty members. It is currently involved with three major projects:

- operation of VEISMU, an amateur radio station with communications capabilities of 80, 40, 20 and 10 meters;
- construction of a system for receiving and producing weather photographs from weather satellites;
- an amateur radio telescope, including a system on 262MHz which has successfully detected 262MHz radiation from the sun.

The Club welcomes new members who wish to participate in the development of projects underway. Previous electronic experience is not necessary. For further information, please contact Father William Lonc of the Department of Physics.

Residence Society

The Residence Society is one of the largest societies on campus, having a membership of approximately 1,000 students. Its purpose is to represent residence students in the University community. The elected representatives are responsible for arranging dances, forums, trips, etc. for the residence students as well as participating in all campus activities.

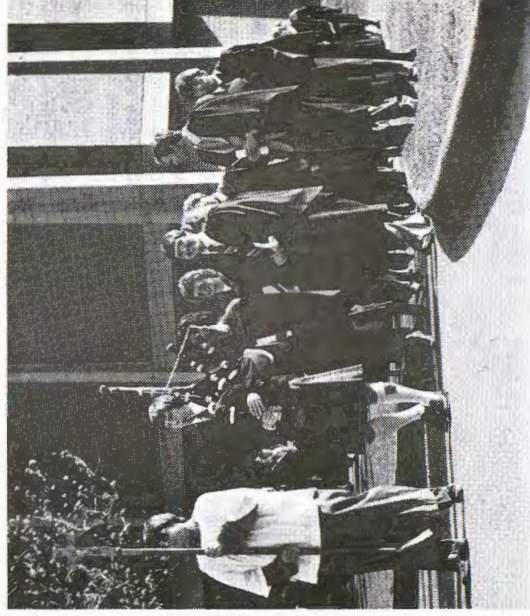
Saint Mary's Folk Choir

A division of chaplaincy services, the Saint Mary's Folk Choir is a student society the main functions of which is to provide music for the weekly University liturgies. The choir thus joins other areas of chaplaincy in working toward the development of a Christian community on campus. When possible, members of the choir also visit local hospitals and senior citizens' homes.

Senior Class

The Senior Class consists of all students who will graduate either at Christmas or at the Spring Convocation. Since the number of potential graduates is approximately 25% of the entire student body, it is regarded as an important organization on campus.

Potential grads represent the Senior Class on various committees such as the Convocation Committee and the Honorary Degrees Committee. They are responsible for planning and coordinating all senior class activities throughout the year as well as organizing Convocation Week events.



Cultural Activities

Performing Arts

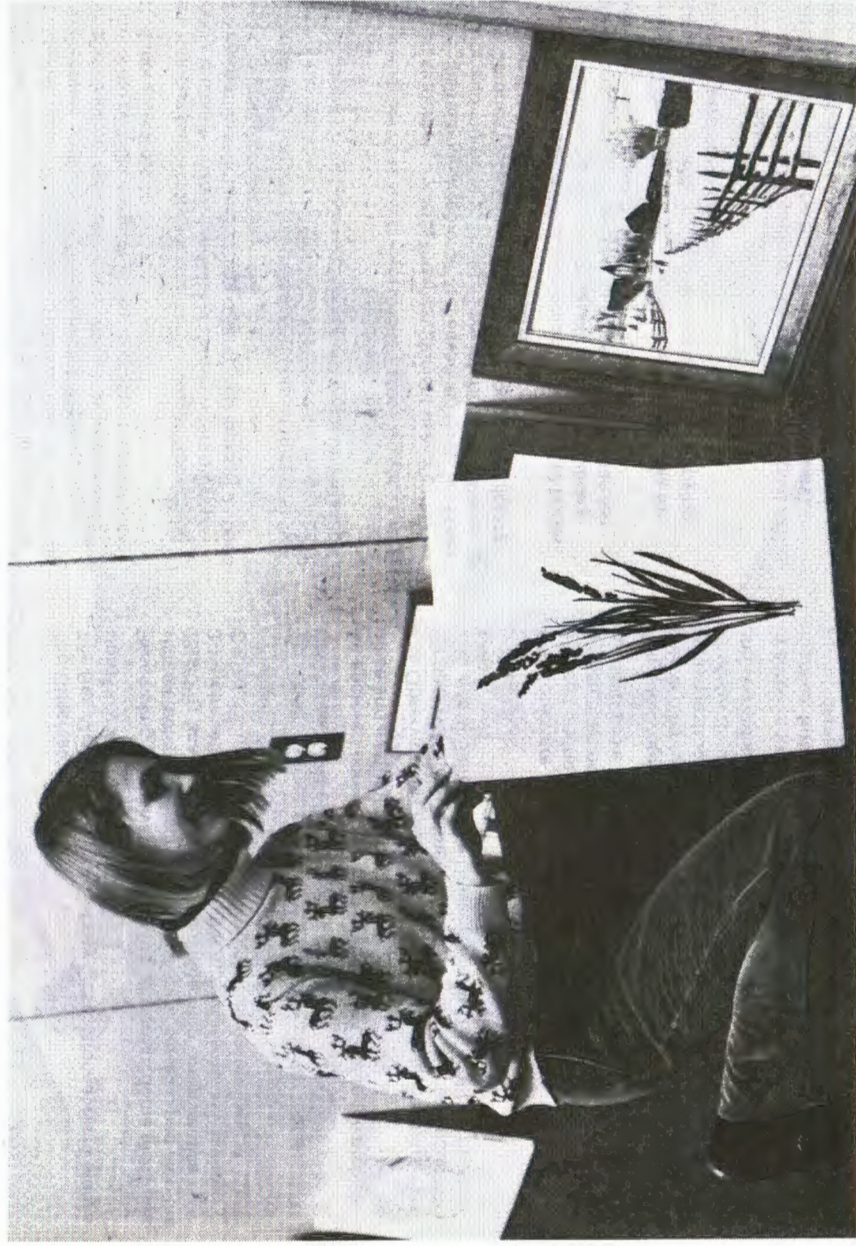
The performing arts program at Saint Mary's University brings a cross-section of excellent musicians and entertainers to the campus each season. From chamber orchestras to modern jazz, concerts provide musical adventure for every preference. The present Lunch with Art and Evening with Art series present 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 Israeli-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.



Facilities

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 its early years as a college.

In 78,000 square feet of space, the three storey structure provides seating capacity for 25% of the current student body and accommodation for 300,000 volumes. In addition, it 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 QL. These systems provide access to a large number of computerized data bases covering a wide range of subject areas in science, 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 on research reports.

The Multi-Media Centre is the headquarters of Audio Visual Services and is located on the third floor of the library. All requests for services and equipment are handled through the Multi-Media Centre. It provides playback facilities for audio and video cassettes, slides, films, filmstrips, film loops, recorded plays and classical music selections, as well as a previewing service. A study skills program is also available in cooperation with Student Services.

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.

The Video Room, located on the second floor of the McNally Building, has facilities to playback video cassettes for groups of up to 50 people. Small video productions may be undertaken here.

Audio Visual Services is a division of the Patrick Power Library. To assist students in making the most efficient use of library facilities, instruction at beginner and advanced levels is offered to groups and individuals. Students are informed of optional use of other libraries in the Halifax area and, through inter-library borrowing, those in other parts of Canada.

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 ten million records.

A conference room and discussion rooms are available for groups of varying sizes, and typewriters and photocopying services are also provided.

Computer Services

The main academic computer at Saint Mary's is a Digital PDP 11/70 operating under the RSTS/E operating system and supporting two line printers, two card readers, as well as magnetic tape and several disk drives. There are 64

asynchronous ports including four dial-up ports. Languages supported include BASIC, FORTRAN, ASSEMBLER, PASCAL, WATFOL and WATFOR. Editors supported include WEDIT, TECO and EDT while statistical packages include MINITAB.

There are approximately seventy-five (75) terminals (video, hard copy, graphics) located in various facilities on campus used primarily for academic and research purposes. In addition to the main frame computer and the on-line terminal access facilities available, the University's computer resources include a number of microcomputers (Commodore PETS, TERA, Apple, Radio Shack, etc.).

Saint Mary's is a member of the Nova Scotia Educational Computer Network which enables authorized faculty to use the host Control Data Cyber Computer. Time sharing is by dial-up or via one of nine (9) leased lines. Batch jobs may be submitted to the host computer from the PDP 11/70 via a synchronous 2400 baud leased line between the two computers. Seminars on the use of the host computer are available upon request.

The Computer Centre staff provides a variety of services for its users, including assistance in using the PDP 11/70 and programming advice. Various computer manuals may be obtained through the University's bookstore. Tours of the University's computing facilities are available during normal working hours.

The Observatory

The Rev. Michael W. Burke-Gaffney Observatory at Saint Mary's University was opened in 1972.

Resembling a beehive, the revolving, aluminum dome measures sixteen feet 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 for student instruction and astronomical research.

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.

The Bookstore

Situated on the second floor of the O'Donnell-Hennessey Student Center, 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 created clothing.

The bookstore offers a "special order" service for personal requirements and also attempts to maintain a reference section suitable for student needs.

Hours are from 9:00 a.m. to 4:30 p.m. Monday to Friday, and 9:00 a.m. to 7:30 p.m. on Wednesday. Extended hours, as posted, are available at peak periods.



Centres and Institutes

International Education Centre

The International Education Centre was established at Saint Mary's University in 1972. The Centre's principal activities revolve around research, education, and community service programs relative to multicultural studies and Third World development activities.

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, poverty, and traditional sex roles. Through these activities, the Centre aspires to make a significant contribution to understanding Canadian society and culture. To this end the Centre began publishing a series of monographs on Ethnic Heritage in Nova Scotia. To date eight have been published.

Education

The Centre plans and arranges courses and programs for educators. In cooperation and consultation with the Department of Education, the Centre plans to develop teaching materials and to undertake curriculum development for the schools in the area of ethnic and multicultural studies. An Ethnic Directory is published yearly listing the various ethnic organizations in the province.

The Centre also has a strong program designed to promote awareness of the international development of countries and cultures of the Third World. This program is designed to meet the increasing desire of Canadians in schools, in universities, and in the community at large for information and understanding of the problems of developing societies. In 1981 an inventory Fact File on Third World countries was added to the Centre's resources. In addition the Centre works closely with the various development education and international organizations.

Slide shows, films, video tapes, and other materials necessary for an intelligent perspective on world issues are among the frequently used facilities of the Centre. Some three hundred names of 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 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 Canada's multicultural heritage and its 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 of the area, and frequently hosts meetings and conferences. The Halifax-Dartmouth branch of the United Nations Association makes its home at the Centre. Information and services are available to international students.

Organization

A fifteen member Board oversees the activities of the Centre.

The Board is mainly drawn from the faculty at Saint Mary's University who are professionally involved in international education. In addition, there is representation from the Nova Scotia Department of Education, the Multiculturalism Association of Nova Scotia, representatives of local organized ethnic groups, and from the community at large. The Centre is administered by a full-time Director, Assistant Director, an Education Coordinator, and a Secretary.

Facilities

The International Education Centre is located in the Burke Education Building at Saint Mary's University. The main hall is 50 by 40 feet and serves as a display, assembly, and administrative centre. Adjoining the main hall is a foyer space of 40 by 40 feet that 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.

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 equipment, amenities, and services of the Audio-Visual section of Saint Mary's University are also 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 exists between knowledge, values and freedom; that this relationship is one of interdependence and that none of these concerns of historical man 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 and the social sciences, stemming from the failure to produce a theory of knowledge consonant with their characteristic functions and activities; a theory demonstrative not only of the relationship between all types of knowledge and the practical and/or value judgement, but also of the essential complementarity of the humanities, the social sciences and the natural sciences.
2. A crisis of values deriving from the fact that moral values have been divorced from knowledge on the one hand, and any concept of 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 on 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 relationships 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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