

Academic Calendar

1974-75

Saint Mary's University

Halifax, Nova Scotia
Canada



Cover design depicts the world of knowledge —
the exchange of knowledge between students
and faculty from around the world.

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Academic Calendar
of
Saint Mary's University

1974 - 1975

SAINT MARY'S UNIVERSITY BOARD OF GOVERNORS

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Dr. F. J. Dockrill	to July 31, 1975
Dr. J. R. MacCormack	to July 31, 1974
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Dr. Kathleen Tudor	to July 31, 1974

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Mr. K. T. Langille	to July 31, 1974
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Mr. William M. Thompson	to July 31, 1975

Members Appointed by the Upper Canada Province of the Society of Jesus

Reverend M. J. Belair, S.J.	to July 31, 1976
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Members Elected by the Board of Governors

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Mr. Ralph T. Vaughan, Q.C.	to July 31, 1976
Mr. Joseph Zatzman	to July 31, 1976

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Mr. R. W. Ferguson	to February 28, 1975
Mr. D. I. Jones, Q.C.	to February 28, 1975

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 Dr. Donald J. Weeren, Dean of Education
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 Mrs. Elizabeth Chard, Registrar

Members Elected

To June 1974

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 Dr. E. R. Hayes
 Prof. D. Hope
 Dr. J. MacCormack

To June 1975

Dr. E. Haigh
 Dr. J. Ginsburg
 Prof. K. MacKinnon
 Dr. G. Mitchell
 Prof. A. Murphy

To June 1976

Dr. R. Ansell
 Dr. F. Chao
 Prof. R. Connell
 Dr. K. Fillmore
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Donald Hoyt
 Matthew Napier
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Officers

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Vice-President, Development: Edmund Morris, B.A.

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F.R.H.S.

Faculty of Commerce:

Dennis E. Connelly, B.Sc., M.Comm., Ph.D.

Faculty of Education:

D. J. Weeren, B.A., M.Sc., Ph.D.

Faculty of Engineering:

Donald Warner, Dip.Eng., B.Eng., M.S. (M.E.)

Faculty of Science:

W. A. Bridgeo, B.Sc., Ph.D.

Director of Continuing Education:

J. William Cosman, B.A., M.A.

Director of University Services: Guy L. Noel, B.E.

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Registrar: Elizabeth A. Chard, B.A., B.Ed., M.A.

Librarian: Ruth Hafter, B.A., M.S.

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Dean of Students: K. P. Bendelier, B.Comm., M.S.W.

Assistant to the Administration:

K. J. Cleary, B.A., B.Ed., M.A.

FACULTY 1973-74

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Dean Emeritus in Engineering

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Professor of Philosophy

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Professor of History

Theodore B. Ciuciura, Dr. Jur. (Munich)
Professor of Political Science

O. Paul Cormier, M.B.A. (Harvard), C.A.
Professor of Business Administration

William J. Dalton, Ph.D. (Ottawa)
Professor of Political Science

Donald A. Fergusson, Ph.D. (Chicago)
Professor of Business Administration

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Professor of English

David Hope-Simpson, Ph.D. (McGill)
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Professor of Anthropology

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Professor of Philosophy

James W. Murphy, S.J., Ph.D. (Toronto)
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Professor of Physics

Alfonso Rojo, D.Sc. (Madrid)
Professor of Biology

Allan T. Sabeau, M.Sc. (McGill)
Professor of Chemistry

William A. Stewart, S.J., Ph.L. (Immaculate Conception)
Professor of Philosophy

Joseph J. Vorstermans, Dr. Econ. (Tilburg)
Professor of Economics

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Associate Professor of Geology

Louis Batiot, Ph.D. (Massachusetts)
Assistant Professor of French

Vedat Baydar, D.Sc. (Istanbul)
Associate Professor of Business Administration

Robert J. Bollini, Ph.D. (California)
Associate Professor of History

Ronald D. Connell, M.B.A. (Queen's), C.D.
Associate Professor of Business Administration

Andre B. Corbeau, Ph.D. (Tulane)
Associate Professor of Business Administration

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

Donald H. Davies, Ph.D. (Bristol)
Associate Professor of Chemistry

Ernest E. D. Day, Ph.D. (Sheffield)
Associate Professor of Geography

Frederick J. Dockrill, Ph.D. (Dalhousie)
Associate Professor of Education

FACULTY 1973-74

- Lilian Falk, Ph.D. (Harvard)
Associate Professor of English
- T. Edward Flynn, Ph.D. (London)
Associate Professor of English
- Robert D. Foster, Ph.D. (Oregon)
Associate Professor of Economics
- Jack L. Ginsburg, Ph.D. (Rutgers)
Associate Professor of Chemistry
- Sandor Halebsky, Ph.D. (Cornell)
Associate Professor of Sociology
- Ernest R. Hayes, Ph.D. (McMaster)
Associate Professor of Chemistry
- Andrew Hogan, M.A. (Boston Univ.)
Visiting Associate Professor of Economics
- David A. Hope, M.B.A. (Harvard), C.A.
Associate Professor of Business Administration
- Dattatraya G. Kabe, Ph.D. (Wayne State)
Associate Professor of Mathematics
- B. M. Kapoor, Ph.D. (Delhi)
Associate Professor of Biology
- Patrick Kerans, D. es Sc. Rel. (Strasbourg)
Associate Professor of Religious Studies
- Mo-Tak-Kiang, Ph.D. (Dalhousie)
Associate Professor of Mathematics
- Karl W. Konrad, Ph.D. (Stanford)
Associate Professor of Psychology
- Philip J. Kuntz, Ph.D. (Toronto)
Adjunct Associate Professor of Chemistry
- Guy Le Pierrès, Dip. d'Etudes Supérieures
(Rennes), CAPES
Associate Professor of French
- Irmingard I. Lenzer, Ph.D. (Indiana)
Associate Professor of Psychology
- William Lonc, S.J., Ph.D. (St. Louis)
Associate Professor of Physics
- Edward J. McBride, M.A. (Catholic U. of America)
Associate Professor of Political Science
- W. Terrance McGrath, Ph.D. (Southern California)
Associate Professor of Economics
- Kenneth A. MacKinnon, M.A. (Dalhousie)
Associate Professor of English
- John Mackriss, M.A. (Toronto)
Associate Professor of French
- Rowland C Marshall, Ph.D. (Ottawa)
Associate Professor of Philosophy
- Urhan S. Merdsoy, M.S. (Rochester)
Associate Professor of Physics
- George F. Mitchell, Ph.D. (Toronto)
Associate Professor of Physics
- Lawrence F. Murphy, S.J., Ph.D. (Marquette)
Associate Professor of Religious Studies.
- Roman Nahrebecky, Dr. Jur. (Prague)
Associate Professor of German
- Dermot L. Mulrooney, M.Eng. (N. S. Tech. C.)
Associate Professor of Engineering
- Ranganathan Narayanan, Ph.D. (Yale)
Associate Professor of Economics
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Associate Professor of Sociology
- Fernande Pepin, D. es Lettres (Laval)
Associate Professor of French
- Richard J. H. Perkyms, Ph.D. (London)
Associate Professor of English
- Francis R. Phillips, M.A. (London)
Associate Professor of Education
- John E. Power, S.J., M.A. (Toronto)
Associate Professor of English

FACULTY 1973-74

Zahoorul H. Qureshi, M.B.A. (U.C.L.A.)
Associate Professor of Business Administration

Enriqueta Rojo, M.Sc. (Madrid)
Associate Professor of Biology

Lawrence Scobbie, M.Ed. (Edinburgh)
Associate Professor of Education

Q. A. Siddiqui, Ph.D. (Leicester)
Associate Professor of Geology

Kirtan P. Singh, Ph.D. (Penn. State)
Associate Professor of Mathematics

Yash Pal Singh, Ph.D. (Birla Institute, India)
Associate Professor of Mathematics

J. Kennedy Snyder, M.A. (Brown)
Associate Professor of English

Emero S. Stiegman, Ph.D. (Fordham)
Associate Professor of Religious Studies

Mary Sun, Ph.D. (London)
Associate Professor of History

Kurian K. Thomas, Ph.D. (Florida)
Associate Professor of Biology

Franz V. Tomscha, M.Sc. (Johann-Wolfgang-Goethe)
Associate Professor of Physics

Keith Vaughan, Ph.D. (St. Andrew's)
Associate Professor of Chemistry

G. Fred. W. Young, Ph.D. (Chicago)
Associate Professor of History

John C. O'C. Young, Ph.D. (London)
Associate Professor of Chemistry

George K. Zollschan, B.Sc. (Hons.) (London)
Visiting Associate Professor of Sociology

ASSISTANT PROFESSORS

Robert N. Ansell, Ph.D. (Glasgow)
Assistant Professor of Philosophy

Stanley A. Armstrong, M.A. (Yale)
Assistant Professor of Religious Studies

Gamal A. Badawi, Ph.D. (Indiana)
Assistant Professor of Business Administration

Halina Bobr-Tylingo, Dip. d'Etudes
Approfondies (Paris VI)
Assistant Professor of Biology

William P. Boyle, Ph.D. (Queen's, Belfast)
Visiting Assistant Professor of Engineering

Donald J. Brean, M.Sc. (London)
Assistant Professor of Business Administration

Cyril J. Byrne, M.A. (Oxford)
Assistant Professor of English

Ronald H. Cameron, Ph.D. (London)
Assistant Professor of History

Victor M. Catano, Ph.D. (Lehigh)
Assistant Professor of Psychology

Faith Chao, Ph.D. (Toronto)
Assistant Professor of Mathematics

Guy Chauvin, M.A. (Dalhousie)
Assistant Professor of Political Science

Diana Clarke, M.A. (Catholic U. of America)
Assistant Professor of Religious Studies

Ronald Cospser, M.A. (Cornell)
Assistant Professor of Sociology

James A. Darley, Ph.D. (Western Ontario)
Assistant Professor of Psychology

FACULTY 1973-74

Bernard E. Davis, Ph.D. (Mass. Inst. Tech.)
Assistant Professor of Education

Ervin J. Doak, Ph.D. (Toronto)
Assistant Professor of Economics

David L. DuPuy, Ph.D. (Toronto)
Assistant Professor of Astronomy

Bernd Ebel, Ph.D. (Alberta)
Assistant Professor of Economics

Anthony J. Farrell, Ph.D. (Princeton)
Assistant Professor of Modern Languages

Keith G. Fillmore, Ph.D. (British Columbia)
Assistant Professor of Physics

Carl G. Garry, M.A. (York)
Assistant Professor of Sociology

Elizabeth V. Haigh, Ph.D. (Wisconsin)
Assistant Professor of History

Betty L. Hanrahan, M.A. (Saint Mary's)
Assistant Professor of Education

Denis Healy, M.Ed. (Columbia)
Assistant Professor of English

Donald J. Higgins, Ph.D. (Carleton)
Assistant Professor of Political Science

Colin D. Howell, M.A. (Dalhousie)
Assistant Professor of History

Joseph G. Jabbra, Ph.D. (Catholic U. of America)
Assistant Professor of Political Science

Burkhard Kiesekamp, M.A. (Toronto)
Assistant Professor of History

Robert J. Konopasky, Ph.D. (Windsor)
Assistant Professor of Psychology

Henry Lackner, B.A. (Temple)
Assistant Professor of Philosophy

Ronald G. Landes, Ph.D. (York)
Assistant Professor of Political Science

Ronald C. Levesque, Ph.D. (Washington)
Assistant Professor of Political Science

James Lowry, M.A. (Dalhousie)
Assistant Professor of Philosophy

Roger A. MacDonald, M.A. (Dalhousie)
Assistant Professor of English

Michael R. MacMillan, Ph.D. (Alberta)
Assistant Professor of Education

Wallace G. Mills, M.A. (Queen's)
Assistant Professor of History

Arthur Murphy, M.A. (Dalhousie)
Assistant Professor of French

J. Patrick O'Neil, B.Comm. (Saint Mary's), C.A.
Assistant Professor of Business Administration

Robert L. O'Rourke, M.B.A. (British Columbia)
Assistant Professor of Business Administration

Michael A. Overington, M.A. (Wisconsin)
Assistant Professor of Sociology

David H. Parkin, M.A. (Oxford)
Assistant Professor of English

George W. Patterson, Ph.D. (Alberta)
Assistant Professor of Modern Languages

Shripad Pendse, Ph.D. (Stanford)
Assistant Professor of Business Administration

David C. Pigot, M.A. (Dalhousie)
Assistant Professor of English

Helen Ralston, R.S.C.J., Ph.D. (Carleton)
Assistant Professor of Sociology

Brian S. Robinson, M.A. (Alberta)
Assistant Professor of Anthropology

FACULTY 1973-74

Samuel D. Robinson, Ph.D. (Alberta)
Assistant Professor of Education

Linda Ruffman, B.A. (Smith)
Assistant Professor of Sociology

Porter Scobey, M.A. (Dalhousie)
Assistant Professor of Mathematics

Andrew T. Seaman, M.A. (Dalhousie)
Assistant Professor of English

Christopher J. Terry, Ph.D. (Kent)
Assistant Professor of English

Geraldine T. Thomas, M.A. (Dalhousie)
Assistant Professor of Classics

Vincent McB. Tobin, M.A. (Dalhousie)
Assistant Professor of Classics

Kathleen Tudor, Ph.D. (Toronto)
Assistant Professor of English

Manabu Waida, Ph.D. (Chicago)
Assistant Professor of Religious Studies

Terrence A. Whalen, M.A. (Hons.) (Melbourne)
Assistant Professor of English

LECTURERS

Bryson R. Archibald, M.B.A. (Alberta)
Lecturer in Business Administration

Ciaran Brennan, M.B.A. (Harvard), C.A.
Lecturer in Business Administration

John R. Collins, M.B.A. (Massachusetts)
Lecturer in Business Administration

Seymour M. Cott, M.A. (U.C.L.A.)
Lecturer in Anthropology

Stephen A. Davis, B.A. (New Brunswick)
Lecturer in Anthropology

Paul A. Erickson, Ph.D. (Connecticut)
Lecturer in Anthropology

Walter Finden, M.Sc. (Waterloo)
Lecturer in Mathematics

Richard Chui M. Gee, M.B.A. (McGill)
Lecturer in Business Administration

Margaret R. Harry, M.A. (Manitoba)
Lecturer in English

Donna B. Kasdan, M.A. (Michigan State)
Lecturer in Sociology

Sheila E. Kindred, M.A. (Toronto)
Lecturer in Religious Studies

Michael J. Larsen, M.A. (Dalhousie)
Lecturer in English

David C. Perrier, M.A. (Dalhousie)
Lecturer in Sociology

John H. Radford, B.Comm. (St. Mary's), C.A.
Lecturer in Accounting

Lawrence A. Schienbein, M.Sc. (Alberta)
Lecturer in Engineering

Philip A. Street, M.A. (York)
Lecturer in Psychology

Lewis R. Tucker, M.B.A. (Columbia)
Lecturer in Business Administration

M. Susan Walter, M.Ph. (Toronto)
Lecturer in Anthropology

Barry G. White, M.A. (Dalhousie)
Lecturer in Mathematics

ON LEAVE, 1973-74

Janet Baker, M.A. (Queen's)
Assistant Professor of English

Robert G. Boyd, B.A. (Hons.) (Melbourne)
Associate Professor of Political Science

George B. Hallett, M.A. (Dalhousie)
Associate Professor of English

FACULTY 1973-74 / ADMINISTRATIVE OFFICES

George R. Hoffman, S.J. Ph.L.
(Immaculate Conception)
Associate Professor of Theology

Patricia Loiselle, M.A. (Dalhousie)
Lecturer in Sociology

John E. Power, S.J., M.A. (Toronto)
Associate Professor of English

Udayan P. Rege, M.A. (Pennsylvania)
Assistant Professor of Accounting

Michael Wiles, Ph.D. (Leeds)
Associate Professor of Biology

ADMINISTRATIVE OFFICES

Admissions Office

Leo R. MacDonald, Director
Michael Derrick, Admissions Assistant

Athletics

Robert Boucher, Arena Manager
and Hockey Coordinator
Roy Clements, Soccer and Volleyball Coordinator
Brian Heaney, B.Sc., Basketball Coordinator
Allan Keith, B.A., B.P.E., B.Ed.,
Football Coordinator
Kathleen Mullane, B.P.E.,
Women's Athletic Coordinator

Audio Visual

A. T. Sabean, B.A., B.Sc., M.Sc., Director
D. J. MacNeil
Paul E. Rooney

Bookstore

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Business Office

Gerald Blom, Chief Accountant
Matthew Gallagher, Purchasing Officer
Margaret MacNeil, Supervisor, Secretarial Services
Russell Lownds, Receiving

Computer Center

A. M. Tingley, B.E., M.E., Director

Continuing Education

Rev. M. J. Belair, S. J., M.A., Director, Adult Studies
Robert Dietz, Curator, Art Gallery
Denis Healy, B.A., M.Ed., Director,
International Education Center

Library

Barbara Dacey, B.A., B.L.S., Head of Public Services
C. Gosine, A.L.A., Bibliographer
Christine McGillivray, Administrative Assistant
Lloyd Melanson, B.A., M.L.S.,
Head of Technical Services
D. Vaisey, B.A., M.L.S., Reference
Elizabeth Ward, B.A., B.L.S., A.M.L.S.,
Chief Cataloguer

President's Office

Carol M. Markesino, Executive Secretary

Registrar's Office

Dennis W. Pilkey, B.A., Assistant Registrar
Murray Wilson, B.A., B.Ed., Assistant to the
Registrar

Student Services

L. W. Smith, B.A., B.Ed., M.A.,
Head of Counselling
Rev. J. J. Hennessey, S. J., B.A., M.A., Counsellor
Sandra Little, B.A., B.Ed., M.A., Counsellor
Rev. R. Haughian, S.J., B.A., M.A., M.Th.,
Chaplain
Rev. Wayne Gritter, B.A., B.D., Assistant Chaplain
Rev. J. Herauf, S.J., S.T.M., Assistant Chaplain
E. T. Cosgrove, B.Sc., B.E., Financial Aid Officer
Ross MacLeod, B.A., Manpower Advisor

University Services

Corinne Noonan, Director of Public Relations
R. Ratcliffe, Director of Residences
Bruce Smith, B.Comm., Systems Coordinator
G. H. Somers, Dip. Eng., Director of Physical Plant
Peter Weal, Manager, Printing and Stationery

S E C T I O N 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 to 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 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 and teacher education, and graduate study in education and selected disciplines in liberal arts. Five thousand students are currently enrolled in day and evening programs given at its thirty acre campus, located in a residential area in the south end of Halifax. An energetic building campaign has given the University almost a dozen modern buildings, including new highrise academic and residence complexes for married and unmarried students, a Student Center, and a new Science laboratory building, which also houses the University Computer Center. Most of these buildings have been constructed within the last ten years. The important addition of a new Library is scheduled for completion in 1975.

The present 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.

GENERAL INFORMATION

STATEMENT OF OBJECTIVES

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

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

MEMBERSHIPS

Saint Mary's University is a member of, among others, the following organizations: Association of Universities and Colleges of Canada, Association of Atlantic Universities, Association of Commonwealth Universities, and the International Association of Universities.

AFFILIATIONS

Saint Mary's University has been associated with the Nova Scotia Technical College since 1916, providing the first three years of courses leading to the Degree of Bachelor of Engineering in civil, electrical, mechanical, mining, metallurgical, chemical, industrial and geological engineering.

Formal association also exists between the University and several other institutions, including Ignatius College in Guelph and Regis College in Toronto.

RELIGIOUS LIFE

Saint Mary's University has a long tradition of concern for Christian values and Christian education. This trend is still very much alive on campus and is reflected in regular liturgies for the various Christian denominations. Full-time Chaplain service is available to Protestant and Catholic students.

In recognition of the great diversity of religious persuasions within its student body, the University also encourages religious activities among its non-Christian students. During the course of the academic year a variety of religious services, meetings and related activities are held on campus by non-Christian groups.

STUDENT BEHAVIOR

It is assumed that students come to Saint Mary's University for a serious purpose and are prepared to comply with its established customs, policies and rules. The University's few basic regulations are designed to foster an atmosphere in which students are encouraged to maintain elementary standards of decent behavior and self-respect.

As adults, students must accept full responsibility for their actions. However, the University cannot remain unconcerned in matters of conduct. It reserves the right to take appropriate action to prevent any individual or group from interfering with the learning process and to censure those who are guilty of breaches of discipline. The University may, if necessary, suspend or dismiss a student, or name the conditions under which a disciplined student may remain enrolled.

COUNSELLING SERVICES

The Counselling service offers guidance and counselling, without charge, to any regularly enrolled student. Counsellors with professional training are available to assist all students in matters of personal, social, educational, or vocational adjustment.

Types of Service — Counselling on an individual basis; testing as required; referral to other staff members and professors; referral through University Health Services for psychotherapy or medical advice and assistance where required. Occupational information is also available and close liaison is maintained with the Canada Manpower Center on Campus.

S E C T I O N 2

University
Residences

UNIVERSITY RESIDENCES

One of the distinctive features of Saint Mary's University is its new 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 twenty-storey Ignatius Loyola Residence. Constructed during the last four years and awarded a 1971 Canadian Housing Design Council award, these residences are ideally located for Saint Mary's students. 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, a branch of the Royal Bank of Canada, and a laundromat. A further attraction of the Ignatius Loyola Building is the Reverend M. W. Burke-Gaffney Observatory, whose facilities are open to students and the public. For further information see the Astronomy section.

For the 1974-75 academic year, female resident students will be accommodated in Vanier House and on five floors of 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 on either a 9 meal per week board plan or on an a la carte basis. The fee (room only) for the 1973-74 term is \$560 per student. Fees for the 1974-75 academic year will be published not later than June, 1974 in a Financial Information booklet that should be read in conjunction with, and considered part of this Calendar.

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, providing either 19 meals or any 14 meals per week, with unlimited second servings. The 1973-74 fee schedule for Vanier House was:

Single room with 19 meals per week	\$1,050
Single room with 14 meals per week	\$ 995
Double room with 19 meals per week	\$ 975 each occupant
Double room with 14 meals per week	\$ 920 each occupant

Fees for the 1974-75 academic year will be published not later than June, 1974, in a *Financial Information* booklet that should be read in conjunction with, and considered a part of this Calendar.

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 103 apartments of three sizes — one bedroom, two bedrooms and a larger two bedroom. Application for accommodation should be made to the Director of University 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 three suites on that floor and their guests. Students in the Ignatius Loyola Residence are on a board plan which consists of either 19 meals or any 14 meals per week, with unlimited second servings. The fee schedule for the "responsibility suites" in the Ignatius Loyola Residence for the 1973-74 academic term was:

Single room with 19 meals per week	\$1,100
Single room with 14 meals per week	\$1,045
Double room with 19 meals per week	\$1,025 per occupant
Double room with 14 meals per week	\$ 970 per occupant

Fees for the 1974-75 academic year will be published not later than June 1974 in a *Financial Information* booklet that should be read in conjunction with, and considered a part of this Calendar.

Additional information about residence may be obtained by writing to the Director of Residences.

RESIDENCES

OFF-CAMPUS HOUSING

In co-operation with the Students' Representative Council the Residence office maintains a list of off-campus housing available to those students desiring accommodations outside the University.

PARKING FEE

Residence fees do not include on-campus parking. A separate fee is charged.

Outside Parking \$25 per year
Underground Parking \$12 per month, or \$100 for twelve months, payable in advance.

Parking Regulations and parking fees are stipulated each year in a brochure titled *Campus Parking Regulations — Saint Mary's University*, which is available to all faculty, students, and staff during registration or at any time, at the Security Office.

BULLETIN BOARDS

Student announcements and notices must be in good taste and must be placed on the bulletin boards provided. They must, in addition be approved by the Students Representative Council, and in some instances, by the Dean of Students.

USE OF GROUNDS AND BUILDINGS

Requests for the use of University grounds and buildings for other than individual student activities must be made through the office of the Dean of Students.

S E C T I O N 3

Academic
Regulations
and
Admission
Requirements

ACADEMIC REGULATIONS

Responsibility

It is the responsibility of each student, faculty member, and administrative officer concerned with academic matters to be familiar with the rules and regulations published in this Calendar.

Definitions

Academic Year: The instructional period extending from September until Spring convocation.

Admission: Acceptance of an applicant as a student.

Concentration (also called a Major): A field of specialization in a particular subject or subjects.

Course: A unit of instruction in a particular subject.

Option: A course or group of courses chosen from a specific list.

Elective: A course freely chosen by the student.

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

Registration: Enrolment of a student in a course, courses or program.

Semester: A period of instruction corresponding to one half of the regular academic year.

Subject (also called a discipline): A specific field of study, e.g., accounting, chemistry, history.

Summer Sessions: The instructional period extending from mid-May through August.

Number of Courses in a Year

1. a) Full time students must be registered through the Registrar's Office for three or more courses. The normal load for a full-time student is five courses. Students registered for fewer than three courses are classified as part-time.

b) Students working towards a Bachelor's degree may not take more than five courses except by permission of the Dean of the Faculty who may, in exceptional circumstances, allow a student to take six courses in a semester.

c) Students may audit courses with the consent of the instructors concerned; they must register formally through the Registrar's Office as auditors in these courses; they are not entitled to submit exercises or write examinations in these courses.

2. Students registered for degree programs are not permitted to take courses for credit simultaneously at other educational institutions unless they have received permission from the Dean of the Faculty, formally communicated through the Registrar's Office.

Student Advising

3. a) Each student registered for a course or program will, as soon as possible after registration, be assigned an academic advisor. The advisor will be expected to familiarize himself with the student's program and progress, assist the student in planning for options and electives, and provide a continuing personal liaison between the student and the University on academic matters.

b) Students entering their first year of University study will be assigned advisors by the Dean of the Faculty.

c) Students registered for a general degree program will be assigned advisors by the Dean of the Faculty.

d) Students concentrating in a discipline or registered for an honors degree will be assigned advisors by the Chairman of the Department.

Grading System

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

ACADEMIC REGULATIONS

b) Instructors must make known in writing, within two weeks of the beginning of a course, the grading system to be used in the course. The written statement must include the relative weight which will be given to examinations, tests, written assignments and other means of evaluation.

Rating, Grades and Quality Points

5. a) The rating of a student's performance in a course is expressed in equivalent grades and quality points:

Rating		Grades		Quality Points
Excellent	=	A	=	4.0
		B+		3.5
Good	=	B	=	3.0
		C+		2.5
Satisfactory	=	C	=	2.0
		C-		1.5
Marginal Pass	=	D	=	1.0
Fail		F	=	0.0
Pass by supplementary examination		P		1.0
Approved withdrawal with failing record		WF		0.0

b) When appropriate, the following special grades may be recorded but will not be included in computing the quality point average:

AE (aegrotat: no grade assigned)
W (approved withdrawal)

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

d) Students who have not completed the work of the course, either by not taking the final examination or not meeting other course requirements, may, in special circumstances and with the approval of the Dean, be given the temporary grade of "IC" (incomplete) by the instructor; an "IC" will be the equivalent of an "F" for quality point computation; if no permanent grade has been submitted to the Registrar's Office by the instructor within one month of the end of the course, a permanent grade of "F" will be recorded.

Quality Point Average

6. a) A quality point average is used to determine the standard of a student's performance for the year.

b) Each letter grade is given a quality point equivalent as above.

c) The quality point average for the year is computed by dividing the total number of quality points by the total number of full courses or their equivalent.

Standing Required for Continuance

7. (The following regulations will become effective for students registering for the first time in September, 1974).

a) All students are expected to attain satisfactory academic standards. The minimum standard considered to be satisfactory is a quality point average of 1.5.

b) A full time student who, at the end of the first year of university studies, has not attained a quality point average of 1.0 will be placed on probation. If, at the end of the second year, a quality point average of 1.5, or a cumulative quality point average of 1.25 for the work of the two years has not been attained, the student will be requested to withdraw for the next academic year.

Definitions

i) "probation" is a conditional status given to a student who has shown evidence of academic weakness.

ii) "request to withdraw" is a formal notice from the Registrar's Office requesting that a student withdraw from academic work for a specified period or permanently.

c) A full time student, who at the end of any year of University studies other than the first year, does not attain a quality point average of 1.5 or have a cumulative quality point average of 1.25, will be placed on probation.

d) A student whose probationary status has not been removed at the end of one year will be requested to withdraw for the next academic year.

e) A part time student who, at the end of five full year courses or equivalent, has not attained a quality point average of 1.25 will be requested to withdraw for an academic year.

f) A student who has been requested to withdraw must apply to the Registrar's Office for re-admission. The University does not guarantee that re-admission will be granted. A student who has been re-admitted must achieve a quality point average of 1.5 in course work subsequently undertaken; otherwise, the student may be requested, on the recommendation of the Dean of the Faculty, to withdraw permanently from the University.

ACADEMIC REGULATIONS

g) A student must achieve a cumulative quality point average of 1.5 in order to qualify for a Bachelor's degree even though other requirements for the degree, including the stipulated number of courses, may have been satisfied.

Final Examinations

8. a) Final examinations are held at times scheduled and notified by the Registrar's Office. Final examinations for courses ending in the first semester will be held in December; final examinations for all other courses will be held in April. The holding of a final examination in a course is at the discretion of the Department concerned.

b) Students are not permitted to take final examinations unless they have registered by the prescribed date within the academic year in which they present themselves.

c) Students are expected to take final examinations in all courses where these examinations are required.

d) In special circumstances, the Dean of the Faculty may give a student permission to postpone an examination in any course for not more than a year; this permission will be granted only if the final examination is weighted at fifty per cent or more of the course grade.

Christmas Evaluations

9. a) Instructors will submit to the Registrar's Office an evaluation of all students registered in courses at the end of the first semester. In the case of courses being completed during the first semester, final grades will be given. In continuing full year courses, temporary grades will be assigned and will be recorded as such by the Registrar's Office.

b) December examinations which affect Christmas evaluations will be scheduled by the Registrar's Office if they exceed in time the regular class period of the course. Two or more tests or examinations, offered within the regular class periods during the last three weeks of the first semester, are not permitted as a substitute for the December examination scheduled through the Registrar's Office.

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Supplementary Examinations

10. a) Supplementary examinations may be given at the discretion of the Department. A pass (P) or fail (F) grade will be recorded for the course. Students who have failed more than two courses during the year may not take a supplementary examination. A maximum of three supplementary examination passes will be accepted for credit towards a degree.

b) Application for a supplementary examination will be made to the Registrar's Office by the student within one month of the completion of the course and must be accompanied by a non-refundable processing fee of \$10.00.

Special Examinations

11. Students who for any legitimate reason fail to take a final examination on the scheduled date may be permitted by the Dean of the Faculty to take a special examination. Normal grades will be given. The processing fee is \$10.00 for one special examination and \$20.00 for two or more examinations. Special examinations will normally be scheduled at the same time as supplementary examinations.

Failure in a Course

12. A student fails a course when he obtains in that course a final grade which is lower than a D. No quality point credit will be given for failed courses.

Appealing of Grades

13. a) Examination papers and class records of students who fail by a slight margin, or are at the boundary of two grades, will be examined with special care by the instructor concerned. Because of this, it is not probable that the original grade will be changed on appeal. A student who wishes to question his final grade may, however, submit to the Registrar a request for reconsideration. The application must reach the Registrar within one month of the end of the course and must be accompanied by a fee of \$10.00. This fee will be refunded to the student if, as a result of the reconsideration, a failing mark is raised to a pass or if a grade is raised to a higher grade.

ACADEMIC REGULATIONS

b) The reconsideration will be conducted by two examiners, with professional expertise in the subject area, to be named by the Committee on Academic Standing. It shall involve a re-reading of the final and other examinations, if any, and a review of the student's course record. It shall be the responsibility of the student and the instructor to provide the examiners with all available evidence on tests, exercises, papers, reports and other graded material in the course. The report of the examiners and the evidence upon which it was based will be submitted to the Chairman of the Committee on Academic Standing. The Committee will communicate its decision to the Registrar's Office within two weeks of receiving the report.

Final Standing in Cases of Illness

14. Students who because of medical or compassionate reasons are unable to write a final examination may apply to the Dean of the Faculty for aegrotat standing. If this request is granted, the instructors involved will be asked to provide an estimated final grade or, if that is not possible, to advise whether the student could be granted credit for the course without a grade; in the latter case, the course or courses concerned will be assigned a grade of "AE" and 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.

Adding and Dropping a Course

15. A student who registers for a course and does not formally withdraw is considered to be taking the course. Formal withdrawal may be authorized by the Chairman or Dean, as appropriate: in the case of students registered for a major concentration or honors program, authorization will be given by the Chairman; in the case of students who have not selected a major concentration or have registered for a general degree, authorization will be given by the Dean; in all cases, the authorization must be recorded by the Registrar's Office. Permission to add or drop a course will not normally be granted after the deadlines indicated in this Calendar.

Retaking a Course

16. A student may be permitted to retake any course. If the course includes a laboratory, either class or laboratory portions may be retaken. Each course counts only once in the program for the degree. Each failure counts in computing quality points for the year and for the degree.

Withdrawal from the University

17. A student whose attendance, work or progress is deemed to be unsatisfactory may, upon the recommendation of the Dean of the Faculty, be requested to withdraw from the University.

Credit for Courses Taken Elsewhere

18. a) Any student registered at Saint Mary's may be authorized by the Dean of the Faculty to take courses elsewhere for credit on a degree program in the Faculty. Ordinarily, credit will not be given for more than five courses.

b) A student seeking a degree on the partial basis of credits obtained elsewhere before registration will normally be expected to complete at least half the degree course requirements at Saint Mary's.

c) A student who transfers credits from another university towards a Saint Mary's degree will not be granted credit for courses with the grade of D or equivalent.

Second Undergraduate Degree

19. Students who hold a first degree and wish to register in a different Faculty for a second undergraduate degree will be required to complete all of the degree requirements, as specified by the Dean of that Faculty, and will normally be expected to take a minimum of five additional courses.

ADMISSION REQUIREMENTS

Students seeking admission to Saint Mary's University should address all enquiries, applications or correspondence to

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

Application Procedures

1. a) Application forms may be obtained by writing to the above address or telephone (902) 422-7331, local 257 or 258.

b) Completed application forms should reach the Admissions Office by September 1, 1974 and must include provincial or other accredited school certificates which give matriculation grades or marks, and a processing fee of \$5.00 which is non-returnable.

c) 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.

d) An applicant who has 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 applicant to the above address.

e) A student whose mother tongue is not English may be required to take an English language comprehension and usage test before being considered for admission. A student whose mastery of English is not considered to be adequate for University studies may be required to take a non-credit course in English usage.

Admission Requirements

Nova Scotia

2. Students entering from the Province of Nova Scotia school system must have completed

either

a) Grade XI (Junior Matriculation) with satisfactory grades in English and four other academically recognized subjects. Students intending to concentrate in commerce, engineering or science must include mathematics as one of the five courses taken.

or

b) Grade XII (Senior Matriculation) with satisfactory grades in English and four other academically recognized subjects, as defined below:

i) Students intending to concentrate in arts may be admitted to a three year degree or a four year honors program if they meet the requirement of five completed courses in Grade XII, with satisfactory grades, as defined below;

ii) students intending to concentrate in commerce may be admitted to a three year degree or a four year honors program if they meet the requirement of satisfactory grades in English, mathematics, and three other academically recognized subjects, as defined below;

iii) students intending to concentrate in science, engineering, or pre-professional studies (e.g., medicine and dentistry) may be admitted to a three year degree or a four year honors program if they meet the requirement of satisfactory grades in five courses, including English, mathematics, two science and one other academically recognized subject, and the additional requirement of having superior grades (i.e., 65 per cent or above) in the mathematics and science subjects.

c) Students who have completed Grade XII but whose final grades do not meet the standards for admission to a three year degree or a four year honors program will 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 those subjects. No credit will be granted for Grade XII work done after admission to the University.

Definitions:

i) "satisfactory grades" means an average in five subjects of 60 per cent with no mark below 50 per cent,

ii) "academically recognized subjects" means any subject offered in the university preparatory program of the Nova Scotia school system,

ADMISSION REQUIREMENTS

New Brunswick

3. a) Students entering from the New Brunswick school system who have completed Grade XII are subject generally to the provisions outlined for Nova Scotia Grade XII (Senior Matriculation) students.

b) 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 as provided above for Nova Scotia Grade XI (Junior Matriculation) applicants

Prince Edward Island

4. Students who have completed Grade XII in the Prince Edward Island school system will ordinarily be admitted to a four year degree program. Students who have attained an average grade of 70 per cent will be considered for admission to a three year degree or a four year honors program.

Newfoundland

5. Students who have completed Grade XI in the Newfoundland School system may be admitted to a four year degree program.

Other Provinces

6. The requirements for admission to a four year degree program are:

a) Quebec: High School leaving certificate (Grade XI). Students who have been awarded a CEGEP diploma will ordinarily be admitted to a three year degree or a four year honors program but may be granted additional advanced standing.

b) 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 to a three year degree or a four year honors program.

c) Manitoba, Saskatchewan and Alberta: Grade XI (Junior Matriculation) certificate. Students who have completed Grade XII (Senior Matriculation) may be considered for a three year degree or a four year honors program.

d) British Columbia: Completion of a four year secondary school program.

United States

7. a) Students who have graduated from high school with 16 points — 4 in English and 12 in other academic subjects — will be considered for admission to a four year degree or a five year honors program. Students seeking admission to commerce, engineering and science must have 3 points in mathematics.

b) Students must arrange to provide the Admissions Office with a high school transcript, a confidential evaluation form from the school principal or counsellor, and CEEB and SAT test results.

Other Countries

8. a) The completion of the equivalent of four years at a North American high school or of the English GCE at Ordinary Level will be required for admission consideration. Passes must be obtained, at the minimum, in five subjects including English, and in mathematics for admission to commerce, engineering and science. A better than average academic record will be required.

b) A student who has completed work beyond the secondary school standard may be considered for advanced credit.

c) An overseas student whose first language is not English, or who has not attended an English language secondary school, will 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.

ADMISSION REQUIREMENTS

Transfer Credit or Advanced Standing

9. a) Students who have completed work at other universities or post secondary educational institutions, or have done senior matriculation, are eligible for consideration for transfer credit or advanced standing.

Definitions:

i) "transfer credit" is credit granted by Saint Mary's University for work completed at another university.

ii) "advanced standing" is the placement of a student in a course or program suitable to the level of preparation attained; it is granted for work completed before admission to a university.

b) Before transfer credit or advanced standing will be considered, a student must have the institution concerned send an official transcript of the work done to the Admissions Office.

c) No requests for transfer credit or advanced standing will be considered after the lapse of one year from the student's first registration at Saint Mary's.

d) A maximum of ten credits, including a maximum of five from high school or senior matriculation level work, will normally be accepted for transfer credit or advanced standing in a four or three year degree program.

e) Unsatisfactory grades (e.g., D or lower) are not accepted for transfer credit or advanced standing.

GRADUATE STUDIES

10. Candidates for admission to the Master's program must,

a) hold a Bachelor's degree from a university of recognized standing, and have completed an undergraduate program in the subject area chosen from his graduate study comparable to an Honors degree from Saint Mary's University.

b) have the approval of the Committee on Graduate Studies, and of the department concerned.

11. Candidates who have not completed the requirements for admission may, on recommendation of the department concerned, be admitted by the Committee on Graduate Studies to a program of preliminary study.

12. Certain departments may have special requirements for admission in addition to the general requirements.

13. Application for admission should be made to the Director of Admissions. The application form calls for an official transcript of the student's academic record and letters of recommendation from two persons in a position to judge the applicant's capacity for graduate study. The form and all supporting documents must ordinarily be on hand by May 31st.

REGISTRATION

Procedures

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

Dates

2. The dates for registration will be as given on pages 79, 80 and 81 of this Calendar.

Student Responsibility

3. a) Students are responsible for ensuring that their course registration is accurate and complete. Course prerequisites, as listed in this Calendar, should be noted prior to registration.

b) Students are responsible for making sure that courses for which they register are suitable to the requirements of the degree program and will be acceptable as credits towards a degree.

c) No credit will be given for courses in which a student has not been formally registered.

d) Subject advisors and University counsellors will be available to assist students before and during the registration process.

Cancellation of Courses

4. If the number of students registered for a course is not sufficient to warrant its being offered, the course may be cancelled.

Late Registration

5. a) A fee of \$10.00 will be charged to students who, without prior agreement with the Registrar's Office, apply to register after the final date for registration indicated in this Calendar.

b) A student will not be permitted to register for any course after the lapse of time indicated below from the beginning of classes in that course:

- | | | |
|------|---------------------|---------|
| i) | Full year course | 2 weeks |
| ii) | One semester course | 1 week |
| iii) | Summer course | 3 days |

Changes in Registration

6. a) A student will not normally be authorized to change registration after the deadline indicated in this Calendar.

b) A change in registration must be formally authorized and be recorded by the Registrar's Office. Authorization will be given by the Dean in the case of students who have not selected a major concentration or are in a general degree program; it will be given by the Chairman in the case of students who have registered for a major concentration or honors program.

c) A change in registration does not become effective until it has been acknowledged to the student by the Registrar's Office.

S E C T I O N 4

**Faculties
and
Courses**

General, Major and Honors Programs
Master's Degrees and Pre-Professional

ARTS
SCIENCE
COMMERCE
ENGINEERING
EDUCATION

FACULTY OF ARTS

DEGREE OF BACHELOR OF ARTS — GENERAL

1. Subject to the regulations set forth in the Calendar, the student must complete the equivalent of twenty full courses following Junior Matriculation, or fifteen full courses following Senior Matriculation.
2. During the regular academic year, the student will normally take five full courses. In exceptional circumstances, students with an average grade of B or better may, with the permission of the Dean, be permitted to take a sixth course.
3. Each candidate for the B.A. must receive credit for:
 - a) one university course in English
 - b) one course in history (Senior Matriculation credit will suffice)
 - c) one university course in philosophy
 - d) one university course in a social science (anthropology, economics, geography, political science, psychology, sociology).
4. At least 50 per cent of the student's elective work (i.e. excluding the above four compulsory courses) must be done at the 300 level or above. This would normally mean eight courses for a student with Junior Matriculation, and six for one with Senior Matriculation.
5. Subsequent to the first year, every non-major student except for those registered in the West European Studies Program (see Page 146), must have his program approved and supervised by the Dean.

DEGREE OF BACHELOR OF ARTS — MAJOR

1. Each candidate must satisfy the requirements for the general program.
2. A major concentration may be taken in anthropology, Asian studies, classics, economics, English, French, geography, German, history, Latin, mathematics, philosophy, political science, psychology, sociology, Spanish or religious studies.
3. Each candidate must complete at least five courses, at the 200 level or above, in the major subject.
4. The candidate's program must be approved and supervised by the Department in which the major is taken, or — in the case of Asian studies — by the Chairman of the Committee on Asian Studies.

DEGREE OF BACHELOR OF ARTS — HONORS

The general requirements for honors degrees are as follows:

1. Students of above-average ability are urged to make application to follow an honors program before the end of their sophomore year. 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 Chairman of the Department concerned, and must receive the approval of the appropriate Dean of Faculty.
2. All honors programs must consist of twenty full courses or equivalents beyond the freshman year, and must satisfy the requirements of the general Bachelor's degree. A student must have the approval of the Committee on Academic Standing to transfer from an honors program to the general program.

FACULTY OF ARTS

DEGREE OF MASTER OF ARTS IN HISTORY

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

1. The candidate will be required to demonstrate a reading knowledge of at least one foreign language by passing a test carried out in cooperation with the language department concerned. French is specified for candidates intending to write a thesis in the history of Canada.
2. A thesis may be written in the following three fields only: Canadian History, Canadian-American Relations, and Tudor and Stuart England.
3. Before proceeding to the thesis, the student following the course-and-thesis approach must pass an oral examination in which he will be expected to demonstrate knowledge in (a) his field of study and (b) the ideas of leading historians. A similar examination will be required of candidates in the course program.
4. Two months prior to the termination of his courses, the candidate will be invited to select from among the members of the History Department, the chairman and committee members of his examination board. While the Department will make every effort to meet his requests, it cannot guarantee that his selection will be complied with fully.

DEGREE OF MASTER OF ARTS IN PHILOSOPHY

The University's general requirements for admission to Graduate Studies and for the Master of Arts 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, 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 SCIENCE

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

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 subsequently apply 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 Chairman of the Department concerned, and must receive the approval of the Dean of Science.

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 a student to prepare himself adequately for continued study at the graduate level, if his performance and motivation develop in that way.

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.

SCIENCE DEGREE REQUIREMENTS

Since one of the objects of the University is to give special emphasis to the Christian tradition and values in higher education, all science students are urged to devote a part of their formal course work to a study of this tradition and these values in the History, Philosophy and Religious Studies Departments.

1. Subject to the regulations set forth in this Calendar, the candidate must complete the equivalent of 20 full courses following junior matriculation, or 15 full courses following senior matriculation. Not more than seven credits of the required twenty may be at the 100 level without the approval of the Dean of Science. All numbering is based on a 20 course program.
2. The candidate will normally take five full courses during the regular academic year.
3. Each candidate for the Degree of Bachelor of Science must receive credit for:
 - (a) one University course in English
 - (b) two courses in mathematics (Mathematics 110.1, 111.2, 210.1, 211.2)
 - (c) one course in physics
 - (d) two courses in the humanities in addition to (a) — (the humanities herein intended are English, history, modern languages, philosophy, religious studies)
 - (e) one course in history, philosophy, or religious studies in addition to (d).

FACULTY OF SCIENCE

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 nor 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) three Science courses from subjects other than the subject of concentration in addition to the required mathematics and physics courses;
 - (c) sufficient free elective courses to complete the degree program.

DEGREE OF BACHELOR OF SCIENCE - MAJOR

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 nor more than nine courses in the major subject;
 - (b) three Science courses not in the major subject and in addition to the required Mathematics and Physics courses;
 - (c) sufficient free elective courses to complete the degree program.
6. The candidate's program must be approved by the Department in which the major is taken and must satisfy any core program specified by that Department and approved by the Science Faculty. 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 concerned.
7. Each candidate must obtain a grade of not less than C in every course in the major subject. 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 concerned.

DEGREE OF BACHELOR OF SCIENCE-HONORS

8. An Honors Program with a major may be taken in one of the following subjects: biology, chemistry, mathematics, physics, psychology.
9. Each candidate for an Honors Bachelor of Science Degree shall satisfy requirement number 3.
10. All Honors Programs must consist of 25 full courses following junior matriculation or 20 full courses following senior matriculation.
11. An Honors Program with a combined major may be taken in any two subjects from biology, chemistry, geology, mathematics, physics, psychology.
12. In an Honors Program with a major, the 20 full courses taken beyond the Freshman level must include 10 to 12 full courses beyond the Freshman level in the major subject. Supporting courses and electives will be decided in consultation with and must be approved by the Department of the Major.
13. In an Honors Program with a combined major, the 20 full courses beyond the Freshman level must include 12 to 16 full courses or equivalents beyond the Freshman level in the two subjects. Not more than 9, nor less than 6, full courses shall be taken in either of them. Supporting courses and electives will be decided in consultation with, and must be approved by the Departments of the combined major.
14. A candidate for the Bachelor of Science Degree with Honors must obtain a grade of not less than C in every Honors course as described in sections 12 and 13 with 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 Committee on Academic Standing.

The above new requirements will apply to all incoming students in September 1974. 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.

FACULTY OF SCIENCE

DEGREE OF MASTER OF SCIENCE IN ASTRONOMY

The University's general requirements for admission to Graduate Studies and for the Master's Degree in Astronomy apply to this program. Particular requirements are as follows:

1. Admission to the program requires a Bachelor's degree with a major in physics, or in mathematics (a minor in physics is strongly urged). Undergraduate students at Saint Mary's University would be encouraged to take Astronomy 202.0, 401.1, and 402.2, but these courses are not prerequisites for the graduate courses.
2. Courses required for the Master's degree are Astronomy 601.1, 604.0, 605.0, and 606.0; some courses will be taught in alternate years. Elective courses are two and one-half courses from Astronomy, Physics, or Mathematics, 400 level or above. These courses are to be approved by the faculty advisor.
3. A student will be required to obtain approval of a thesis topic before the end of his first year in the program (normally before May 1).
4. Candidates must normally spend two academic years in residence. This is in addition to any time needed to meet the normal admission requirements.
5. Candidates must complete a program of six full courses (normally four courses the first year) and submit an acceptable thesis. A course average of B (3.0 average) must be maintained.
6. Candidates must pass an oral examination in which they will be expected to demonstrate comprehensive knowledge of basic areas in Astronomy. This examination will normally be given at the beginning of the second year of study.

FACULTY OF COMMERCE

GENERAL INFORMATION

The program of study leading to the degree of Bachelor of Commerce is offered to students who desire the advantage of higher education and wish, at the same time, to prepare themselves for graduate study, or a place in the business community, the public service, or professional life. The program provides a broad background in the humanities and social sciences together with a development of the conceptual foundations of accounting, business administration and economics.

The Faculty offers two undergraduate programs of study — Bachelor of Commerce (General) and Bachelor of Commerce (Honors). The major concentrations in the General Degree Program are in accounting, business administration and economics. The programs available in the Honors Degree are in business administration and economics.

The requirements for the General Degree are described below; the requirements for the Honors Degree appear on page 35.

DEGREE OF BACHELOR OF COMMERCE — GENERAL

Requirements:

1. Subject to the regulations set forth in this Calendar, the student must complete a total of twenty full courses following junior matriculation, or the equivalent of fifteen full courses following senior matriculation.
2. During the regular academic year, the student will normally take the equivalent of five full courses. The five courses to be taken will be decided upon by the student in consultation with the department of his major. A major must be selected not later than the end of the sophomore year.
3. Completion of a major concentration in accounting, or business administration or economics.
4. The Freshman Year
The student must complete five courses as follows:
 - (a) one required course: Mathematics 113
 - (b) four elective courses to be chosen from the following: Anthropology 100 level, Biology 103, Classics 100 level, Economics 100 level, French 100 level, German 100, History 100 level, Latin 102, Physics 111, Political Science 200, Psychology 201, Spanish 101, and a course in Religious Studies.
5. The Sophomore, Junior and Senior Years
 - (a) the student will take 15 courses at the 200 level and above —
 - (b) the student must complete the following courses:
 - (1) English 200
 - (2) Business Administration 240
 - (3) Business Administration 280
 - (4) Economics 202
 - (5) Commercial Law 301
 - (6) A non-commerce elective in one of philosophy, psychology, political science or sociology approved by the Department. (Economics majors are required to complete a course in philosophy).
 - (c) the student must complete a major concentration in one of the following subjects as listed:
 - (1) Accounting — Business Administration 203, 204, 321, 341, 342, 346, 348, 360, 361, and Commercial Law 302 plus two half-courses to be chosen from: Bus. 323, 324, 425, 443, 444, 449, 450, 453, 455.
 - (2) Business Administration — Business Administration 203, 204, 317, 321, 360, 361, 370, 382 and 489.
 - (3) Economics — five full-year course equivalents to include:
Economics 202, 203, 204, 300, 301, and the equivalent of two full Economics courses at the 300 level or above.
 - (d) in addition to the courses listed under (b) and (c) above, the student must complete the equivalent of two approved full-year courses to be chosen from the subject areas of the languages, humanities, social sciences (including economics), natural sciences, or business administration.
 - (e) the remaining courses required under section (a) will be chosen by the student in consultation with his department.

FACULTY OF COMMERCE

Accounting

First Year — Freshman

Mat 113.0 (1)

Mathematics for Commerce Students

Elective (1) Elective (1)

Elective (1) Elective (1)

Second Year — Sophomore

Bus 203.1 or 203.2 (1/2)

Introductory Quantitative Methods for Commerce

Bus 204.1 or 204.2 (1/2)

Introductory Statistics Methods for Commerce

Bus 240.0 (1)

Principles of Financial and Managerial Accounting

Bus 280.0 (1)

Principles of Management

Eco 202.0 (1)

Principles of Economics

Egl 200.0

Third Year and Fourth Year

Bus 321.1 or 321.2 (1/2)

Introduction to Computers

Bus 341.1 (1/2)

Intermediate Financial Accounting — Part I

Bus 342.2 (1/2)

Intermediate Financial Accounting — Part II

Bus 346.1 or 346.2 (1/2)

Introductory Cost Accounting

Bus 348.1 or 348.2 (1/2)

Planning and Control

Bus 360.1 (1/2)

Business Finance — Part I

Bus 361.2 (1/2)

Business Finance — Part II

Cml 301.1 (1/2)

Legal Aspects of Business — Part I

Cml 302.2 (1/2)

Legal Aspects of Business — Part II

A non-commerce elective in one of philosophy, psychology, political science or sociology approved by the Department.

Elective (1/2) Elective (1)

Elective (1) Elective (1)

Elective (1)

(Electives must include the equivalent of one full course from Bus 323, 324, 425, 443, 444, 449, 450, 453, 455).

The following programs show the courses and course sequence for each major concentration in the general degree:

Business Administration

First Year — Freshman

Mat 113.0 (1)

Mathematics for Commerce Students

Elective (1) Elective (1)

Elective (1) Elective (1)

Second Year — Sophomore

Bus 203.1 or 203.2 (1/2)

Introductory Quantitative Methods for Commerce

Bus 204.1 or 204.2 (1/2)

Introductory Statistics for Commerce

Bus 240.0 (1)

Principles of Financial and Managerial Accounting

Bus 280.0 (1)

Principles of Management

Eco. 202.0 (1)

Principles of Economics

Egl 200.0 (1)

Third Year — Junior

Bus 370.1 or 370.2 (1/2)

Introduction to Marketing

Bus 360.1 (1/2)

Business Finance — Part I

Bus 361.2 (1/2)

Business Finance — Part II

Bus 317.1 or 317.2 (1/2)

Introduction to Production

Bus 321.1 or 321.2 (1/2)

Introduction to Computers

Bus 382.0 (1)

Organizational Behavior

Cml 301.1 (1/2)

Legal Aspects of Business — Part I

A non-commerce elective in one of philosophy, psychology, political science, or sociology approved by the Department.

Fourth Year — Senior

Bus 489.2 (1/2)

Business Policy

Elective (1/2)

Elective (1)

Elective (1)

Elective (1)

Elective (1)

FACULTY OF COMMERCE

Economics

First Year

Mathematics 113.0 (1)
Mathematics for Commerce Students
Elective
Elective
Elective
Elective

Second Year

Business Administration 240 (1)
Principles of Financial and Managerial Accounting
Business Administration 280 (1)
Principles of Management
Economics 202 (1)
Principles of Economics
Economics 203 (1/2)
Introductory Quantitative Methods for Economists
Economics 204 (1/2)
Introductory Statistics for Commerce
English 200 (1)

Third Year

Commercial Law 301
Legal Aspects of Business — Part I
Economics 300
Intermediate Microeconomic Theory
Economics 301
Intermediate Macroeconomic Theory
*Economics Elective
Philosophy 200.0-209.0
Elective

Fourth Year

*Economics Elective
Elective
Elective
Elective
Elective

*Students wishing to pursue graduate studies are advised to take both Economics 302.0 and 303.0.

DEGREE OF BACHELOR OF COMMERCE — HONORS

The Faculty of Commerce offers Honors Programs in business administration and economics. Students who wish to enter one of these programs must make application for admission on a form available in the Registrar's office. Applicants must meet the admission requirements of the particular program (business administration or economics) and all applications must receive the approval of the department concerned and the Dean of Commerce.

The student is required to complete twenty full courses, or equivalent, beyond the freshman year, and meet the requirements of the particular program.

A student must have the approval of the Committee on Academic Standing to transfer from an honors program to a general program.

Honors Program in Business Administration

1. Admission requirements:
An overall cumulative average of 2.6 at the end of the junior year. Students are advised to apply before the junior year so that academic counselling may be given; conditional admission may be granted at this time.
2. Requirements for Honors Degree:
 - a) completion of twenty full courses (or equivalent) beyond the freshman year;
 - b) the student must meet the requirements for a concentration in business administration in the general program;
 - c) maintenance of a 2.6 overall average;
 - d) i) at least ten full courses (or equivalent) in the Business Administration Department;
ii) a student may substitute a course (to be included in the ten courses) from another department with the permission of the Department of Business Administration;
 - e) completion of the following courses:
 - i) Statistical Analysis for Business (Business 307.1 or .2)
 - ii) Intermediate Microeconomic Theory (Eco. 300.1 or .2)
 - iii) Intermediate Macroeconomic Theory (Eco. 301.1 or .2)
 - iv) Business Research (Business 591.1 or .2);

FACULTY OF COMMERCE

- f) i) a student must complete **functional specialization** in two of the following areas: accounting, economics, finance, management, management science, marketing;
- ii) **functional specialization** in an area means two and one-half courses (or equivalent) at the 300 or 400 level in that area;
- iii) courses from other departments can be included (in the two and one-half courses) with the permission of the Department of Business Administration,
- iv) a listing of courses which satisfy a **functional specialization** in each of the six areas will be prepared annually by the Department of Business Administration.

Honors Program in Economics

1. Admission requirements:
 - a) a 2.6 average in economics;
 - b) junior year or higher standing.
2. Requirements for Honors Degree:
 - a) ten full-year courses or equivalent in economics;
 - b) no grade below C (2.0) in these ten courses (a student may receive a grade lower than C, but it cannot be counted in the ten required courses);
 - c) a minimum average of 2.6 in the ten economics courses presented for honors;
 - d) the student must meet the requirements for a major in economics;
 - e) eight of the ten courses must be on or above the 300.0 level:
 - i) a student may substitute a course from another department which is below or above the 300.0 level with the permission of the Department of Economics;
 - ii) these substitutes will normally be in the Mathematics Department;
 - f) the eight courses on or above the 300.0 level (or equivalent) must contain at least one of the following:
 - i) Mathematical Economics (Economics 302.0)
 - ii) Economic Statistics (Economics 303.0)
 - iii) Advanced Microeconomics (Economics 440.1)
 - Advanced Macroeconomics (Economics 441.2);
 - g) the student will be expected to complete university requirements for graduation;
 - h) twenty full courses, or equivalent, beyond the freshman year are required.

DEGREE OF MASTER IN BUSINESS ADMINISTRATION

The program is open to students who hold a Bachelor's degree from an accredited university and whose academic record indicates the ability to study management and administration at the graduate level. A satisfactory score in the ATGSB is also required. Official transcripts of the student's university record and test should be sent to the Director of Admissions who processes all applications. For additional information, contact the Director of Admissions, Saint Mary's University, Halifax, Nova Scotia, B3H 3C3.

FACULTY OF ENGINEERING

Engineering Studies at Saint Mary's University provide the first three years of a five-year engineering degree in association with the Nova Scotia Technical College. 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. With a Diploma in Engineering a student may enter, without examination, any of the departments at the Nova Scotia Technical College and obtain the degree of Bachelor of Engineering (civil, electrical, mechanical, chemical, metallurgical, mining, industrial, or geological) on the successful completion of the last two years of a five-year course.

DEGREE OF BACHELOR OF SCIENCE AND DIPLOMA IN ENGINEERING

Students entering with Senior Matriculation or equivalent, as defined below, will follow the curriculum given below and designated as Schedule "A". On successful completion of this program the student will receive the Diploma in Engineering and a Degree in Science.

Senior Matriculation Requirements —

A total of five courses from those listed below with a grade standing of 50% in each course and a general average of at least 65% is a necessary entrance qualification for those who plan to follow the program outlined in Schedule "A".

- i English
- ii Mathematics
- iii Physics
- iv Chemistry
- v One from history, geology, geography, ancient and modern languages.

SCHEDULE "A"

FIRST YEAR

Engineering 106.1
Engineering 107.2
Engineering 108.1 or 113.1
Engineering 212.2
Mathematics 210.1/211.2
Physics 221.0
Chemistry 203.0
English 200.0

SECOND YEAR

Engineering 203.1 (203.2)
Engineering 204.1 (204.2)
Mathematics 311.0
Chemistry elective
Modern Physics 320.1
Physics 322.2
Geology 201.0 or elective
Elective

THIRD YEAR

Engineering 302.0
Engineering 314.1
Engineering 304.2
Engineering 303.1
Engineering 306.1
Engineering 308.0
Mathematics 425.0
Elective

DIPLOMA IN ENGINEERING

Students entering with Junior Matriculation or equivalent, as defined in this Calendar, will follow the curriculum given below and designated as Schedule "B". On successful completion of this program the students will be awarded the Diploma in Engineering.

SCHEDULE "B"

FIRST YEAR

Engineering 106.1
Engineering 107.2
Engineering 108.1 or 113.1
Mathematics 116.2
Mathematics 110.1/111.2
Physics 111.0
Chemistry 101.0
English 200.0

SECOND YEAR

Engineering 203.1 (203.2)
Engineering 204.1 (204.2)
Mathematics 210.1/211.2
Chemistry 201.0
Physics 221.0
Geology 201.0 or elective
Elective (one semester)
Engineering 212.2

THIRD YEAR

Engineering 302.0
Engineering 314.1
Engineering 304.2
Engineering 303.1
Engineering 306.1
Engineering 308.0
Mathematics 311.0
Elective

FACULTY OF ENGINEERING

NOTE:

1. Students who plan to enter civil, mining, metallurgical or geological engineering at the Nova Scotia Technical College must substitute Geology 201.0 for the second year elective.
2. Engineering 113.1 (Surveying) is required only of students proceeding to the Nova Scotia Technical College in civil, mining or geological engineering.
3. The selection of courses from the humanities, where not specifically designated, is subject to the approval of the registration advisor.
4. Students with above average results in Grade XII may be permitted to complete the Diploma in Engineering in a 2-year period.
5. 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 Dean of Engineering.

DEGREE OF BACHELOR OF SCIENCE IN ENGINEERING MANAGEMENT

The purpose of this Degree is to provide students with sufficient engineering background and managerial skills to enable them to be employed in positions in management now held, in many instances, by people whose background has been purely in engineering.

The intention of the program is to give students a balanced selection of courses in business administration, physical sciences and the humanities in addition to a thorough grounding in engineering studies. The first year of courses is selected in such a way that on completion of the year a student is able to transfer to Commerce or any other faculty with minimum dislocation and loss of credit.

The course of studies is designed principally for admission from Grade XII, but provision is made to enable a student to enter from Grade XI and complete the program in the normal time.

Students entering from Grade XI would take Mathematics 110.1/111.2 in the first year followed by Physics 111.0 and Mathematics 210.1/211.2 during the following summer, at the end of which they would have the same status as students who entered from Grade XII. The last three years of both streams would be identical.

The program conforms closely with the requirements for the Diploma in Engineering and is structured to permit the student to complete the requirements for the Diploma in Engineering by replacing the elective in the fourth year with Engineering 303.1 (Fluid Mechanics) and Engineering 304.2 (Mechanics of Deformable Bodies) and adding Chemistry 203.0.

YEAR ONE

Mathematics 210.1/211.2
Chemistry 101.0
Engineering 106.1
Engineering 107.2
Social Science — Humanities

YEAR TWO

Mathematics 311.0
Physics 221.0
Engineering 108.1 or 113.1
Engineering 212.2
Business Administration 240.0
Business Administration 280.0

YEAR THREE

Mathematics 314.0
Engineering 203.1 (203.2)
Engineering 204.1 (204.2)
Engineering 302.0
Economics 202.0
Business Administration 370.1 (370.2)
Business Administration 317.1 (317.2)

YEAR FOUR

Elective
Engineering 308.0
Engineering 314.1
Engineering 306.1
Business Administration 489.2
Business Administration 360.1
Business Administration 385.1 (385.2)
Business Administration 361.2

ENGINEERING AND SCIENCE

Students who have obtained the Diploma in Engineering under Schedule "B" may proceed to the Degree of Bachelor of Science by enrolling in the Science Faculty and fulfilling the requirements as outlined under the Science section of this Calendar.

FACULTY OF EDUCATION

BACHELOR OF EDUCATION PROGRAM

This program of studies is designed to give university graduates a professional foundation for careers in teaching. It is a full-time, full-year program consisting of six courses which deal primarily with preparation for teaching in junior and senior high schools.

There are two goals aimed at in this program. The first is to provide students with a basic competence in the skills of teaching academic subjects, the second goal is to encourage the development of those ideas which perceive the process of education as being one which, while providing the facts and skills necessary for living, has, at the same time, the more significant aim of expanding and enriching the mind of the learner. In furtherance of this goal, students are required to undertake a considerable amount of reading and writing with the object of developing their own personal understanding and philosophy of education.

The six courses in the program are:

Philosophy of Education; Psychology of Education; History of Education; General Methods of Teaching; Special Methods of Teaching; Practice Teaching. In the case of Special Methods, students attend the two half classes dealing with the subjects they wish to teach in school. All students, unless previously trained as teachers and having a permanent certificate, take the teaching practice.

The six courses are not intended to be six independent phases of the program. Rather, their content is intended to be integrated in a manner that best conduces to the aims mentioned above, teaching competence and the development of a personal understanding and philosophy of education. The organization of the courses — their placement in the academic year, their combination into integrated units, and so forth — is arranged accordingly and may be changed from year to year in keeping with experience gained.

This program meets the approval of the Department of Education of Nova Scotia, and on successful completion of their studies, 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 status.

Candidates should note that the pass mark for the entire program is a C average, while for individual subjects the pass mark is D. No supplemental examinations are provided. Failure in one subject constitutes failure of the program.

ADMISSION REQUIREMENTS

Candidates must hold a Bachelor's degree from Saint Mary's University or from another recognized university of similar standing.

Candidates who have had professional teacher training at the Nova Scotia Teachers College and who have since acquired a Bachelor's degree at Saint Mary's University, may obtain the Bachelor of Education degree by successfully completing two courses in the program selected in consultation with the Dean of Education or his representative. The School undertakes to offer each year at least one course that would be suitable for this purpose at a time when practising teachers can attend.

Candidates who have had professional teacher training of two or three years duration at a Teachers College in another province of Canada, a College of Education in the United Kingdom or Teacher Training College in the United States, who are licensed as teachers by the Province of Nova Scotia, and who have acquired a Bachelor's degree, may obtain the degree of Bachelor of Education by undertaking a program of study approved by Senate regulation.

FINANCIAL AID

Bachelor of Education students are eligible for loans and bursaries under the Canada Student Loan Plan. (See index). They may apply for a University scholarship through the Director of Financial Aid.

To Apply for Admission

1. Complete application forms and make sure that all documents required are complete and returned with the application.
2. Make sure that supporting documents — transcripts, references, and so on will be sent to the University by those concerned. The Director of Admissions does **not** undertake to send for transcripts or references.
3. Applications should be made as soon as possible, but in any case, applications received after August 15th may not be processed in time for registration in September.
4. The admission of any candidate to the program is probationary, and the status of all candidates is reviewed in January each year.

S E C T I O N 5

Continuing
Education

CONTINUING EDUCATION DIVISION

The Continuing Education Division offers a varied program of credit and non-credit courses designed to enable;

- a) students to take a course or study towards a degree on a part-time basis;
- b) teachers to up-grade their professional standing;
- c) managers in government, industry and commerce to acquire new background and skills;
- d) technicians and other professionals to up-grade their qualifications;
- e) regular students to accelerate or enrich their programs;
- f) students of other universities to take special courses at Saint Mary's University for credit at their own institutions;
- g) adults to enrich their education and life.

CREDIT PROGRAM

Saint Mary's University has developed a major program to serve mature students who wish to take courses or study towards a degree on a part-time basis, that is, in their spare time. An increasing number of courses are being scheduled in late afternoon, evening and weekend time periods so that people 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.

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

At Saint Mary's University:

- a) night courses are the same as day courses;
- b) summer courses are the same as winter courses;
- c) off-campus courses are the same as on-campus courses;
- d) it is possible to earn a degree entirely through part-time study;
- e) there is no full-time or residence degree requirement;
- f) many courses are scheduled to accommodate mothers with young children;
- g) there are no tuition fees for senior citizens.

Two distinct 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.

NON-CREDIT PROGRAM

The coordinated programs described below are offered by the University in cooperation with various sponsoring organizations. Upon completion of a program consisting of several related courses, the student is eligible for a certificate from the sponsoring organization.

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 the industrial, service and governmental sectors. The program has resulted from the identification of management needs through extensive research. This unique program is designed to promote skill-development in general management combined with specialization in functional areas or organizational sectors.

The C.I.M. program consists of **five** required and **two** optional courses:

Required Core Courses:

- a) Organization as Systems
- b) Managerial Accounting
- c) Quantitative Information for Decision-making
- d) Organizational and Human Behavior
- e) Applied Management

CONTINUING EDUCATION

Optional Courses:

- a) Industrial Sector
- b) Public Sector
- c) Wholesale, Retail and Distribution Sector
- d) Managing the Smaller Enterprise

Students who complete successfully seven courses, as indicated 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 in Banking

The Fellows' program consists of ten courses designed to provide formal education for men and women who wish to prepare themselves for responsible positions in banking. It is intended for students who are capable of taking courses at the University undergraduate level. The courses offered cover such subjects as accounting, business administration, financial management, economics, money and banking, business strategy, marketing, information systems, organizational behavior, personnel management, and business law.

Candidates seeking admission to the program should apply through the Personnel Department of the Bank in which they are employed.

Students who complete successfully the program requirements will be awarded a "Certificate of Achievement" by the Institute of Canadian Bankers.

Real Estate Program

This is a four-year program offered in cooperation with the Halifax-Dartmouth Real Estate Board. Courses are offered in the following subject areas:

- Year I: Land Law; Principles of Economics; Building Design and Construction.
- Year II: Real Estate Mathematics and Statistics; Real Estate Practice and Accounting; Land Planning and Development; Local Assessment and Taxation; Urban Land Economics.

Year III: Land Law; Real Estate Financing Methods; Appraisal Principles.

Year IV: Income Tax; Organizational Management; Advanced Appraisal; Real Estate Practice and Accounting; Local Assessment and Taxation; Land Planning and Development; Mortgage Lending Practice; Tax Assessment Practice; Marketing of Real Estate; Real Estate Investment Analysis; Special Problems in Tax Assessment.

Students who successfully complete the program will be designated "Fellow of the Real Estate Institute."

General Offerings

In addition to the coordinated programs, individual courses are offered in such subjects as:

Astronomy
Computer Programming
Interior Design
French Conversation
Interpersonal Relations
Music Appreciation
Basic Logic
English Literature
Women Today
Contemporary Social Problems
Developmental Reading
The Personnel Function
General Real Estate
Life Drawing
Technical Graphics
Canadian Economic Issues
Photography
Investment Management.

Each class meets one evening each week for a two-hour period. There are no entrance requirements, excepting a sincere desire to learn, for most of these general courses.

CONTINUING EDUCATION

MATURE APPLICANTS

To mature persons, including those who do not meet the University's normal entrance requirements, Saint Mary's offers special mature student programs leading to the Bachelor of Arts, Bachelor of Science and Bachelor of Commerce degrees, and the Diploma in Engineering.

Mature applicants are each considered on an individual basis. To qualify for admission as a mature student, an applicant must have been out of school for at least five years and show, through work experience or in other ways, capability of benefitting from university studies.

Mature applicants may apply for admission as part-time or as full-time students.

Mature students admitted to the University are accepted on the condition that they achieve passing grades in the course or courses of study undertaken in the first year or summer session of study. Upon successful completion of the first year or summer session of study, they must apply to the Registrar for reconfirmation of their program.

Mature students are expected to enrol initially in one or more prescribed courses, depending on the program.

Students who have been full-time students at a university are normally not eligible for admission to the mature students program within a five-year period from their last year of registration.

Application Procedure

The application procedure for mature applicants is as follows:

- i) An application for admission form may be obtained by writing or telephoning:
Director of Continuing Education
Saint Mary's University
Halifax, Nova Scotia B3H 3C3
Telephone: (902) 422-7331
ext. 262 or 263
- ii) The completed application for admission form should reach the Director of Continuing Education by September 1, 1974, and should include an accredited school certificate giving grades or marks attained during last year of attendance. (It is recognized that if it has been some time since leaving school this may not be possible).

- iii) An applicant who has 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 applicant to the above address.
- iv) Each applicant must arrange an appointment with the Director of Continuing Education.

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S E C T I O N 6

Description
of
Courses

ANTHROPOLOGY

Associate Professor, Chairman J. Jaquith
Lecturers Stephen Davis, Susan Walter
Paul Erickson, H. F. McGee

Departmental Policy:

1. To obtain a major concentration in Anthropology a student is required to have at least 6 courses in Anthropology including both 210.0 (110) and 260.0 (140,155) and 4 other courses above the 200 level.
2. The program for majors must be approved by the Chairman of the Department and majors must be assigned to a departmental advisor.
3. In the case of renumbered courses a student is advised that only one credit can be obtained for one course, even if that course was offered on different levels in different years. The numbers in parentheses indicate a previous numbering system that is no longer operative. This new program is in effect September, 1974. Continuing students must seek clarification from faculty advisors.
4. 220.0 (153), 230.0 (209) and 310.0 (208) do not have prerequisites and are open to non-majors as are 210.0 (110) and 260.0 (140, 155).
5. Second digits indicate the various sub-fields within Anthropology e.g.
 - 1, 2, 3 Socio-cultural Anthropology.
 - 4, 5 Physical Anthropology
 - 6, 7 Archaeology
 - 8, 9 Other

210.0 (110.0) PRINCIPLES OF SOCIO-CULTURAL ANTHROPOLOGY

Prerequisite: None.

An introduction to the study of socio-cultural systems. Non-western cultures, economic systems, political systems, religions, language and values are contrasted with those of western, industrialized societies.

Lectures: three hours a week, two semesters.

220.0 (153) NATIVE PEOPLES OF NORTH AMERICA

Prerequisite: None.

A survey of the Indian and Eskimo peoples of North America, their cultures and their life histories as groups.

Lectures: three hours a week, two semesters.

230.0 (209) CULTURAL ECOLOGY

Prerequisite: None.

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

Lectures: three hours a week, two semesters.

260.0 (140-155) INTRODUCTION TO PHYSICAL ANTHROPOLOGY AND ARCHAEOLOGY

Prerequisite: None.

The physical evolution and cultural development of man. Topics include the principles of biological evolution, history of the primates, fossil man, and prehistory from the palaeolithic to the neolithic.

310.0 (208) CULTURE CHANGE AND DEVELOPMENT

Prerequisite: None.

An examination of anthropological and other theories of social and cultural change, with references to case studies. Development is considered as a special case of socio-cultural change.

Lectures: three hours a week, two semesters.

320.0 (230) WORLD ETHNOGRAPHY

Prerequisite: Anthropology 210 (110) or consent of instructor.

Vanished and vanishing cultures in Africa, Oceania, North America, South America and Asia, viewed in relation to historical and environmental influences.

Lectures: three hours a week, two semesters.

321.0 (345) ETHNOHISTORY

Prerequisite: 210.0 (110) or consent 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.

Lectures: three hours a week, two semesters.

ANTHROPOLOGY

340.0 (350) HUMAN ETHOLOGY (BIOLOGY OF BEHAVIOR)

Prerequisite: 260.0 or consent of instructor.

The course deals with the 'evolution of human behavior'. It covers the origin of sociability, cooperation of individuals, aggression, primatology and behavioral genetics applied to the biology of human behavior.

Lectures: three hours a week, two semesters.

349.0 MYTH AND SYMBOL

(See Religious Studies 320.0)

360.0 (304) METHOD AND THEORY IN ARCHAEOLOGY

Prerequisite: Anthropology 260.0 (155) or consent 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.

Lectures/discussion: two hours a week, two semesters.

370.0 (231) ARCHAEOLOGY OF NORTH AMERICA

Prerequisite: 260.0 or consent of instructor.

A survey of North American prehistoric culture.

Lectures: three hours a week, two semesters.

380.0 (310) HISTORY OF ANTHROPOLOGICAL THEORY

Prerequisite: 210.0, 260.0 or consent of instructor.

The course deals with the development of the 'study of man' from the Enlightenment to the present. Emphasis on socio-cultural anthropology, using primary and secondary sources.

Lectures: two hours a week, two semesters.

410.0 (303) METHODOLOGY AND FIELDWORK IN SOCIO- CULTURAL ANTHROPOLOGY

Prerequisite: Anthropology 210.0.

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

Lectures: two hours a week, two semesters.

420.0 (445) ECONOMIC ANTHROPOLOGY

Prerequisite: 210.0 (110) or consent of instructor.

The interplay in pre-industrial communities among material conditions, social relations and forms of exchange. Topics include substantive and formalist approaches, resources, the organization of work, reciprocity, surplus goods, leveling devices, redistribution, and market exchange.

Lectures: three hours a week, two semesters.

430.0 (446) POLITICAL ANTHROPOLOGY

Prerequisite: 210.0 (110) or consent of the instructor.

This course considers public goal-oriented behavior in pre-industrial communities. Topics include settlement of disputes, factionalism, and differences in access to and exercise of power.

Lectures: three hours a week, two semesters.

431.0 (447) ANTHROPOLOGY OF LAW

Prerequisite: Anthropology 210.0 or consent of the instructor.

The distinction between custom and law, a general study of the rules governing conduct and the sanctions imposed upon transgressors to maintain order.

Lectures: three hours a week, two semesters.

470.0 (351) THE DAWN OF CIVILIZATION

Prerequisite: 210.0 (110), 260.0 (140 & 155) or consent of instructor.

A study of man's earliest civilization in the light of recent archaeological research; Southeast Asia, the Far East, the Near East and the New World. Open to history students.

Lectures: two hours a week, two semesters.

480.0 SPECIAL TOPICS IN ANTHROPOLOGY

Prerequisite: Open only to majors and seniors.

This is a reading course which will be organized by the instructor(s) involved. Each course will be centered round a specific theme, and the students will be expected, through their readings, to be familiar with all aspects of the chosen area.

Lectures: three hours a week, two semesters.

ASIAN STUDIES

Chairman, Committee on Asian Studies, M. Sun
Associate Professor, History R. G. Boyd
Associate Professor, Political Science W. T. McGrath
Associate Professor, Economics B. S. Robinson
Assistant Professor, Geography

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.

Courses starred with an asterisk will not be offered in 1974-1975.

REGULATIONS

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 five full course credits from among the following courses, which are to be taken from at least three different departments:

ECONOMICS	310.0	Development Economics
	315.0	Comparative Economic Systems
GEOGRAPHY	340.0	Cultural Geography of China
HISTORY	209.0	Modern East Asia
	323.0	Dynastic History of China
	*324.0	Cultural History of Japan
	342.0	China in Revolution
	*511.0	Seminar on Modernization in East Asia
POLITICAL SCIENCE	441.0	Government & Politics in East Asia
	553.0	International Studies Seminar
RELIGIOUS STUDIES	235.0	Introduction to Asian Religions
	*321.0	Primitive Religions in Asia
	*323.0	Religions of India
	324.0	Religions of China
	*326.0	Buddhism

ASTRONOMY

Observatory Director,
Assistant Professor
Professor Emeritus
Associate Professor
Assistant Professor

D. L. DuPuy
M. W. Burke-Gaffney, S. J.
G. F. Mitchell
G. A. Welch

The Burke-Gaffney Observatory opened in early 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 16-inch 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.

A two-year program leading to a Master's Degree in Astronomy is offered. The 600-level courses listed below are graduate courses. Admission and degree requirements are given in the Graduate Studies section of this Calendar. For detailed information, contact the Observatory Director.

201.0 THE ASTRONOMICAL UNIVERSE

Prerequisite: Sophomore standing or permission of the professor.

This course is designed in particular for the non-science student. The subject matter will include the solar system, the life-cycles of stars, the structure of our Galaxy, the nature of external galaxies, and the expanding universe. Recent discoveries and unsolved problems, such as quasars, pulsars, exploding galaxies and "black holes" will be discussed to illustrate the open and evolving nature of scientific investigation.

Lectures: three hours a week, two semesters.

There will be evening observing sessions about twice a month by arrangement.

202.0 INTRODUCTORY ASTRONOMY FOR SCIENCE STUDENTS

Prerequisite: Physics 111.0 or equivalent, Mathematics 110.1 and 111.2 or equivalent.

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.

Instructor: G. F. Mitchell.

401.1 THE SOLAR SYSTEM

Prerequisite: Physics 221.0, Mathematics 310.0.

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 Apollo experiments will be discussed.

Lectures: three hours a week, one semester.

Instructor: D. L. DuPuy.

ASTRONOMY

402.2 STARS AND STELLAR SYSTEMS

Prerequisite: Physics 221.0, Mathematics 310.0.

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.

Lectures: three hours a week, one semester.

Instructor: D. L. DuPuy.

605.0 FUNDAMENTAL ASTROPHYSICS

Prerequisite: Physics 432.2 and 439.2, Math 410.0 (Math 410 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.

606.0 LABORATORY TECHNIQUES IN MODERN ASTRONOMY

Prerequisite: Physics 432.2 and 439.2, Math 410.0 (Math 410 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. A variable star project, radial velocity measures, a radio astronomy project, and Mariner Series experiments will also be included. Basic observations will be obtained by each student with the 16-inch telescope.

607.1 BINARY STARS

Prerequisite: Physics 432.2 and 439.2, Math 410.0 (Math 410 may be taken concurrently).

The purpose of this course is to provide basic methods of analyzing binary star data to deduce physical properties of binary stars. Topics treated will include the elementary two-body problem and orbit theory, visual binaries and Zwier's versus Thiele-Innes methods, spectroscopic binaries and the Lehmann-Filhé method, and eclipsing binaries. These techniques will be applied to newly-discovered x-ray binary systems and the search for possible black holes in multiple systems.

608.2 VARIABLE STARS

Prerequisite: Physics 432.2 and 439.2, Math 410.0 (Math 410 may be taken concurrently).

This course will provide a review of important classes of variable stars (pre-main-sequence variables, post red-giant variables, irregular variables, eruptive and cataclysmic variables), and methods of analyzing data and deriving physical properties of variable stars (Wesselink's method, mass determinations, period-density relation). Elementary pulsation theory and its applications will be discussed. The role of variable stars in the theory of stellar evolution will be emphasized.

BIOLOGY

Associate Professor, Chairman
Professor

Associate Professors

Assistant Professor

B. Kapoor

A. Rojo

E. Rojo, K. Thomas

M. Wiles

H. Bobr-Tylingo

Scheme A: General Science Degree with Biology Concentration

Freshman Year

1. English
2. Math. 110.1 & 112.2
3. Humanities
4. Biology 111.1 & 112.2
5. Chemistry 101.0

Sophomore Year

1. English
2. Math. 210.1 & 211.2
3. Chemistry 202.0
4. Biology 204.0
5. Biology 205.0

Junior Year

1. Two courses from the following:
Biology 302.0
Biology 305.0
Biology 307.1 & 308.2
Biology 310.0
Biology 317.0
2. Chemistry 343.0
3. Physics 201.0
4. Humanities

Senior Year

1. One course from the following:
Biology 302.0
Biology 305.0
Biology 307.1 & 308.2
Biology 310.0
Biology 317.0
2. One course from the following:
Biology 401.1 or 403.1
plus Biology 408.2 or 412.2
Biology 405.0
Biology 406.0
3. History, Philosophy or Religious studies
4. Free elective (preferably Geology)
5. Free elective (preferably Humanities or Social Science)

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 Schools of Medicine and Dentistry.

STUDENTS INTENDING TO TAKE AN HONORS DEGREE IN BIOLOGY SHOULD CONSULT THE CHAIRMAN 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.

BIOLOGY

Scheme B: Science Degree with a Major in Biology

Freshman Year

1. English
2. Mathematics 110.0 & 112.2
3. Humanities
4. Biology 111.1 & 112.2
5. Chemistry 101.0

Sophomore Year

1. English
2. Mathematics 210.1 & 211.2
3. Chemistry 202.0
4. Biology 204.0
5. Biology 205.0

Junior Year

1. Biology 307.1 & 308.2
2. Two courses from the following:
Biology 302.0
Biology 305.0
Biology 310.0
Biology 317.0
3. Chemistry 343.0
4. Humanities

Senior Year

1. Two or three courses from the following:
Biology 302.0
Biology 305.0
Biology 310.0
Biology 317.0
Biology 401.1 or 403.1 plus
Biology 408.2 or 412.2
Biology 405.0
Biology 406.0
Biology 420.0
2. Physics 201.0
3. History, Philosophy or Religious Studies
4. Free elective (preferably Geology, contingent on choice in 1 above)

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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 offer the following five courses:

Honors Year

The student will consult his/her Honors supervisor for the selection of courses.

1. One course from the following:
Biology 401.1 & 408.2
Biology 401.1 & 412.2
Biology 403.1 & 412.2
Biology 405.0
Biology 406.0
Biology 420.0
2. Biology 549.0
3. Two courses from the following:
Biology 501.0
Biology 551.0
Biology 552.0
Biology 553.0
Biology 554.0
Biology 555.0
4. Biology 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.

**Courses starred with an asterisk will not be offered in 1974-75.*

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 two hours per week where demonstrations will sometimes be presented.

BIOLOGY

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 courses: Biology 111.1 and 112.2.

Lectures/Discussions: four hours a week, two semesters.

Instructor: M. Wiles.

111.1 PRINCIPLES OF GENERAL BIOLOGY 1 (SCIENCE)

Prerequisite: none.

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.

Lectures/Semesters: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: K. K. Thomas.

112.2 PRINCIPLES OF GENERAL BIOLOGY 2 (SCIENCE)

Prerequisite: Biology 111.1

As for Biology 111.1. This unit is a continuation of studies undertaken in Biology 111.1.

Lectures/Seminars: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: B. M. Kapoor.

204.0 BOTANY

Prerequisite: Biology 111.1 and 112.2.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: H. Bobr-Tylingo.

205.0 ZOOLOGY

Prerequisite: Biology 111.1 and 112.2.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: E. Rojo.

220.0 HUMAN SOCIETY AND THE ENVIRONMENT (Offered as a summer course)

Prerequisite: none.

An interdisciplinary course on the relationship between human society and the environment. The course will attempt to integrate social, political, economic, legal, historical and ecological aspects of environmental questions by reference to topical matters such as: man as part of nature, energy as a limiting factor in world population growth, environmental quality, the economics of pollution control, planning for the future and Canadian case histories. Field trips will be undertaken to examine various situations at first hand, such as Cape Breton coal mines and Bedford Institute of Oceanography.

Lectures/Seminars: three hours a week, one summer session. Field trips will be undertaken.

Instructor: Staff.

249.1 INTRODUCTION TO MARINE BIOLOGY

Prerequisite: freshman level university biology or its equivalent (Biology 111.1 & 112.2).

A three week summer course sponsored by the Atlantic Universities Inter-University Committee on the Sciences 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. This course is worth a half credit.

Lectures/Seminars: eighteen days of instruction.

Laboratory or field work: eighteen days of instruction.

BIOLOGY

302.0 CYTOLOGY

Prerequisite: Biology 204.0 and 205.0 or permission of the Department.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: B. M. Kapoor.

305.0 GENERAL PHYSIOLOGY

Prerequisite: Biology 204.0, 205.0, Chemistry 202.0 or 343.0 or permission of the Department.

An introduction to the essential aspects of biochemistry and cellular physiology, discussion of how they underlie the basic processes carried on by living organisms.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: K. K. Thomas.

307.1 GENETICS

Prerequisite: Biology 111.1 and 112.2, 204.0 and 205.0, or one concurrently; Chemistry 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.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: E. Rojo.

308.2 BIOSTATISTICS

Prerequisite: Biology 111.1 and 112.2, 204.0 or 205.0 concurrently; Math 110.1 and 111.2.

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 and computer programming will be undertaken, the latter if time permits.

Text: W. Scheffler, *Statistics for the Biological Sciences*, (Addison-Wesley), 1969.

Lectures: three hours a week, one semester.

Calculator or computer time, three hours a week, one semester.

Instructor: M. Wiles.

310.0 ECOLOGY

Prerequisite: Biology 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.

Text: E. P. Odum, *Ecology*, 3rd edition, Saunders, 1971.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters, or field work.

Instructor: M. Wiles.

317.0 EVOLUTION

Prerequisite: Biology 204.0, 205.0, 307.1 and 308.2.

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: L. E. Mettler and T. G. Gregg, *Population Genetics and Evolution*, Prentice-Hall, 1969.

Lectures and Seminars: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: A. Rojo.

401.0 MORPHOLOGY OF VASCULAR PLANTS

Prerequisite: Biology 204.0 and 205.0 or permission of the Department.

BIOLOGY

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

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: B. M. Kapoor.

*403.1 PLANT TAXONOMY

Prerequisite: Biology 204.0 and 205.0 or permission of the Department.

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.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester or field work.

Instructor: B. M. Kapoor.

405.0 BIOLOGY OF FISHES

Prerequisite: Biology 205.0 and 308.2.

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

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

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters, or field work.

Instructor: A. Rojo.

406.0 MICROBIOLOGY

Prerequisite: Biology 302.0, 305.0; Chemistry 101.0 or 202.0.

Morphology, biochemical activity and classification of microorganisms: viruses, bacteria, molds, yeasts, and other microscopic life forms.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: H. Bobr-Tylingo.

408.2 VERTEBRATE EMBRYOLOGY

Prerequisite: Biology 204.0, 205.0 or permission of the Department.

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

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: K. K. Thomas.

412.2 HUMAN GENETICS

Prerequisite: Biology 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.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: E. Rojo.

420.0 COMPARATIVE CHORDATE ANATOMY (Offered as a summer course)

Prerequisite: Biology 205.0 and permission of the Department.

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.

Lectures: one summer session.

Laboratory: one summer session.

Instructor: A. Rojo.

501.0 ADVANCED BACTERIOLOGY

Prerequisite: Biology 406.0.

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

Lectures: two hours a week, and one hour of discussion, two semesters.

Laboratory: three hours a week, seminars and discussions, two semesters.

Instructor: H. Bobr-Tylingo.

BIOLOGY

550.0 MYCOLOGY

Prerequisite: Biology 204.0, 305.0, 302.0; Chemistry 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.

Lectures: two hours a week and one hour of discussion, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: H. Bobr-Tylingo.

552.0 CYTOGENETICS

Prerequisite: Biology 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.

Lectures: two hours a week and one hour of discussion, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: B. M. Kapoor.

553.0 MARINE INVERTEBRATES

Prerequisite: Biology 205.0 and permission of the Department.

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.

Lectures: two hours a week and one discussion period, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: E. Rojo.

554.0 EXPERIMENTAL FISH EMBRYOLOGY

Prerequisite: Biology 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.

Lectures: one hour a week and one seminar, two semesters.

Laboratory: four hours a week, two semesters.

Instructor: A. Rojo.

555.0 ADVANCED PHYSIOLOGY

Prerequisite: Biology 302.0, 305.0 and Chemistry 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.

Lectures: three hours a week and one hour discussion, two semesters.

Lectures: three hours a week and one hour discussion, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: K. K. Thomas.

590.0 RESEARCH THESIS

Prerequisite: Honors standing, fifth year.

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.

Laboratory: practical research work, minimum six hours a week, two semesters.

Instructor: Staff.

BUSINESS ADMINISTRATION

Chairman, Assistant Professor	J. P. O'Neil
Professors	H. G. Beazley; D. A. Fergusson M. J. C. Martin
Associate Professors	V. Baydar; R. D. Connell; D. E. Connelly; A. B. Corbeau;
Assistant Professors	D. A. Hope; Z. H. Qureshi G. A. Badawi; J. Chamard;
Lecturers	D. W. Moore; S. G. Pendse B. R. Archibald; D. J. Brean; C. Brennan; J. R. Collins; J. H. Radford; G. M. Walsh.

PROGRAMS OFFERED IN THE DEPARTMENT OF BUSINESS ADMINISTRATION

The three undergraduate programs offered by the department are outlined in the following pages. For full details of these programs, please refer to sections on Bachelor of Commerce — General, and Bachelor of Commerce — Honors.

Course prefixes used in the outlines are as follows:

Bus	Business Administration
Cml	Commercial Law
Eco	Economics
Egl	English
Mat	Mathematics
Phi	Philosophy

Credit value of each course is indicated in parenthesis after the course number.

1. General Program in Business Administration

FIRST YEAR — FRESHMAN

Mat 113.0 (1) Mathematics for Commerce Students
Elective (1)
Elective (1)
Elective (1)
Elective (1)

SECOND YEAR — SOPHOMORE

Bus 203.1 or 203.2 (1/2) Introductory Quantitative Methods for Commerce
Bus 204.1 or 204.2 (1/2) Introductory Statistics for Commerce
Bus 240.0 (1) Principles of Financial and Managerial Accounting
Bus 280.0 (1) Principles of Management
Eco 202.0 (1) Principles of Economics
Egl 200.0 (1)

THIRD YEAR — JUNIOR

Bus 370.1 or 370.2 (1/2) Introduction to Marketing
Bus 360.1 (1/2) Business Finance — Part I
Bus 361.2 (1/2) Business Finance — Part II
Bus 317.1 or 317.2 (1/2) Introduction to Production
Bus 321.1 or 321.2 (1/2) Introduction to Computers
Bus 382.0 (1) Organizational Behavior
Cml 301.1 (1/2) Legal Aspects of Business — Part I
A non-commerce elective in one of philosophy, psychology, political science or sociology approved by the Department.

FOURTH YEAR — SENIOR

Bus 489.2 (1/2) Business Policy
Elective (1/2)
Elective (1)
Elective (1)
Elective (1)
Elective (1)

2. General Program in Accounting

FIRST YEAR — FRESHMAN

Mat 113.0 (1) Mathematics for Commerce Students
Elective (1)
Elective (1)
Elective (1)
Elective (1)

SECOND YEAR — SOPHOMORE

Bus 203.1 or 203.2 (1/2) Introductory Quantitative Methods for Commerce
Bus 204.1 or 204.2 (1/2) Introductory Statistics for Commerce
Bus 240.0 (1) Principles of Financial and Managerial Accounting
Bus 280.0 (1) Principles of Management
Eco 202.0 (1) Principles of Economics
Egl 200.0

THIRD YEAR AND FOURTH YEAR

Bus 321.1 or 321.2 (1/2) Introduction to Computers
Bus 341.1 (1/2) Intermediate Financial Accounting — Part I
Bus 342.2 (1/2) Intermediate Financial Accounting — Part II
Bus 346.1 or 346.2 (1/2) Introductory Cost Accounting
Bus 348.1 or 348.2 (1/2) Planning and Control
Bus 360.1 (1/2) Business Finance — Part I
Bus 361.2 (1/2) Business Finance — Part II
Cml 301.1 (1/2) Legal Aspects of Business — Part I
Cml 302.2 (1/2) Legal Aspects of Business — Part II

BUSINESS ADMINISTRATION

A non-commerce elective in one of philosophy, psychology, political science or sociology approved by the Department.

Elective (1/2)

Elective (1)

Elective (1)

Elective (1)

Elective (1)

(Electives must include the equivalent of one full course from Bus 323, 324, 425, 443, 444, 449, 450, 453, 455).

A Commerce graduate who has followed the accounting concentration and obtained the required grades is normally in a position to sit for the uniform final examinations of the Institute of Chartered Accountants of Canada two years after receiving the Commerce degree.

Commerce graduates may receive exemption from many of the courses and examinations conducted by the Atlantic Provinces Association of Chartered Accountants. 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 of Business Administration.

Arrangements for exemption from courses and examinations also exist with the Institutes of Chartered Accountants in other provinces.

Exemptions from courses and examinations are also granted by the Society of Industrial Accountants to Commerce graduates who register in the industrial accounting course sponsored by the Society.

Honors Program in Business Administration

This program requires 20 full course credits beyond the first (freshman) year. After the Commerce freshman year, the program outline is as follows:

SOPHOMORE

Bus 203.1 or 203.2 (1/2) Introductory Quantitative Methods for Commerce

Bus 204.1 or 204.2 (1/2) Introductory Statistics for Commerce

Bus 240.0 (1) Principles of Financial and Managerial Accounting

Bus 280.0 (1) Principles of Management

Eco 202.0 Principles of Economics

Egl 200.0

JUNIOR

Bus 370.1 or 370.2 (1/2) Introduction to Marketing

Bus 360.1 (1/2) Business Finance — Part I

Bus 361.2 (1/2) Business Finance — Part II

Bus 317.1 or 317.2 (1/2) Introduction to Production

Bus 321.1 or 321.2 (1/2) Introduction to Computers

Bus 382.0 (1) Organizational Behavior

Cml 301.1 (1/2) Legal Aspects of Business

A non-commerce elective in one of philosophy, psychology, political science or sociology approved by the Department.

SENIOR

Bus 307.2 (1/2) Statistical Analysis for Business

Eco 300.1 (1/2) Intermediate Microeconomic Theory

Eco 301.2 (1/2) Intermediate Macroeconomic Theory

Elective (1/2)

Elective (1)

Elective (1)

Elective (1) (non-business)

HONORS

Bus 489.2 (1/2) Business Policy

Bus 591.1 or 591.2 (1/2) Business Research

Elective (1)

Elective (1)

Elective (1)

Elective (1) (non-business)

Note: Electives must be chosen so as to complete functional specialization in two of the following areas: accounting, economics, finance, general management, management science, marketing. Functional specialization in an area means two and one-half (2 1/2) courses (or equivalent) at the 300 or 400 level in that area. A listing of courses which will satisfy the specialization requirements in each of the six areas is prepared annually by the Department of Business Administration.

Note: courses offered by the Department are grouped under the following subject areas:

Quantitative Methods (00 - 09)

Production (10 - 19)

Computers (20 - 29)

Accounting (40 - 59)

Finance (60 - 69)

Marketing (70 - 79)

Management (80 - 89)

Other (90 - 99)

BUSINESS ADMINISTRATION

QUANTITATIVE METHODS (00 - 09)

203.1 and 203.2 INTRODUCTORY QUANTITATIVE METHODS FOR COMMERCE

Prerequisite: Mathematics 113.0 or Grade XII Mathematics.

The purpose of this course is to provide an overview of calculus with an emphasis on application, an upgrading of algebraic techniques and an introduction to various other quantitative techniques for commerce.

Lectures: three hours a week, one semester, half course.

204.1 and 204.2 INTRODUCTORY STATISTICS FOR COMMERCE

Prerequisite: Mathematics 113.0 or Grade XII Mathematics.

An introduction to probability and statistics with emphasis on business and economic applications.

Lectures: three hours a week, one semester, half course.

Note: this is the same course as Economics 204.2.

301.1 and 301.2 OPERATIONS RESEARCH

Prerequisite: Business Administration 203.1 or 203.2 and 204.1 or 204.2.

This course is designed for students who require a deeper understanding of the concepts and mathematical model building techniques in management than that provided in Bus. 203. It will extend the material covered in Bus. 203 by examining standard O.R. techniques in some detail with stress on both their values and limitations as management tools.

Lectures: three hours a week, one semester, half course.

302.1 PRINCIPLES OF MATHEMATICAL PROGRAMING

Prerequisite: Business Administration 301.1 or 301.2 and 321.1 or 321.2.

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.

Lectures: three hours a week, one semester, half course.

307.2 STATISTICAL ANALYSIS FOR BUSINESS

Prerequisite: Business Administration 204.1 or 204.2.

A further study of statistics and its application to the solution of business problems; analysis of variance, sampling, correlation, index numbers, time service analysis, seasonal index forecasting, and Baysian statistics will form the foundation of the course.

Lectures: three hours a week, one semester, half course.

308.1 and 308.2 MULTIVARIATE ANALYSIS

Prerequisite: Business Administration 307.2 and 321.1 or 321.2.

This course is designed for those students who wish to extend their knowledge of the techniques used in applied statistics. Topics covered include analysis of variance and multiple regression as well as other more advanced techniques such as factor analysis and discriminant analysis. Emphasis is placed upon use of the computer to facilitate the analysis of data.

Lectures: three hours a week, one semester, half course.

409.1 and 409.2 SEMINAR IN OPERATIONS RESEARCH AND STATISTICS

Prerequisite: Business Administration 301.1 or 301.2, 307.2, and 321.1 or 321.2.

This is a seminar course which will examine specific research and/or application areas within O.R. and Statistics. Its content will vary depending on the interests of the students and professor.

Lectures: three hours a week, one semester, half course.

PRODUCTION (10 - 19)

317.1 and 317.2 INTRODUCTION TO PRODUCTION MANAGEMENT

Prerequisite: Business Administration 280.0, Mathematics 113.0 or equivalent.

An introduction to the production function and process, including coverage of the systems concept and the basic techniques for decision making in the areas of planning and control.

Lectures: three hours a week, one semester, half course.

BUSINESS ADMINISTRATION

318.2 TECHNIQUES OF PRODUCTION MANAGEMENT

Prerequisite: Business Administration 203.1 or 203.2, 317.1 and 321.1 or 321.2.

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.

Lectures: three hours a week, one semester, half course.

COMPUTERS (20 - 29)

321.1 and 321.2 INTRODUCTION TO COMPUTERS

Prerequisite: Business Administration 240.0, Mathematics 113.0 or equivalent.

Introduction to computer concepts; computer programming, using Fortran IV; study of computer systems, information systems, and data processing functions, systems analysis and flowcharting.

Lectures: three hours a week, one semester, half course.

323.2 INFORMATION SYSTEMS I

Prerequisite: Business Administration 321.1 or 321.2.

The study of computer-based data processing and information systems, management problems of computers in business such as organization, control and feasibility.

Lectures: three hours a week, one semester, half course.

324.2 THE USE OF COBOL IN DATA PROCESSING

Prerequisite: Business Administration 321.1 or 321.2.

Cobol program organization, file organization, description and accessing, edit, sort, file maintenance and report writing programs, arrayed data, integration concepts, multi-programming concepts.

Lectures: three hours a week, one semester, half course.

425.1 INFORMATION SYSTEMS II

Prerequisite: Business Administration 323.2.

Systems theory, data-based integrated data processing, management information systems in the various functional areas of business including accounting, credit, marketing, sales, inventory, production. The control, privacy and audit of information.

Lectures: three hours a week, one semester, half course.

ACCOUNTING (40 - 59)

240.0 PRINCIPLES OF FINANCIAL AND MANAGERIAL ACCOUNTING

A study of basic accounting concepts, and their application to business transactions and financial statements. An introductory consideration of asset and liability accounts, and the managerial uses of accounting data.

Lectures: four hours a week, two semesters, full course.

341.1 INTERMEDIATE FINANCIAL ACCOUNTING PART I

Prerequisite: Business Administration 240.0.

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.

Lectures: three hours a week, one semester, half course.

342.2 INTERMEDIATE FINANCIAL ACCOUNTING PART II

Prerequisite: Business Administration 341.1.

Part II of a two course series which provides a comprehensive study of financial accounting and financial reporting to shareholders.

Lectures: three hours a week, one semester, half course.

443.1 ADVANCED FINANCIAL ACCOUNTING I — CORPORATE ACCOUNTING

Prerequisite: Business Administration 342.2.

An advanced study of mergers and acquisitions, consolidated financial statements, branch accounting for foreign operations, and other selected corporate accounting topics.

Lectures: three hours a week, one semester, half course.

444.2 ADVANCED FINANCIAL ACCOUNTING II — SPECIAL TOPICS

Prerequisite: Business Administration 342.2.

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

Lectures: three hours a week, one semester, half course.

BUSINESS ADMINISTRATION

346.1 INTRODUCTORY COST ACCOUNTING

Prerequisite: Business Administration 240.0.

This is a basic course in cost accounting principles, techniques and procedures. Product costing, non-manufacturing costs with emphasis on managerial uses of cost accounting techniques.

Lectures: three hours a week, one semester, half course.

348.2 PLANNING AND CONTROL

Prerequisite: Business Administration 240.0 and 280.0.

Covers concepts and techniques of planning and control such as profit planning, financial forecasting, budgets, performance measurements, management control systems, analysis of performance.

Lectures: three hours a week, one semester, half course.

449.1 and 449.2 MANAGEMENT CONTROL SYSTEMS

Prerequisite: Business Administration 348.1 or 348.2.

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.

Lectures: three hours a week, one semester, half course.

450.1 and 450.2 AUDITING

Prerequisite: Business Administration 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.

Lectures: three hours a week, one semester, half course.

453.1 TAXATION

Prerequisite: Business Administration 342.2 or 361.2.

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

Lectures: three hours a week, one semester, half course.

455.2 ACCOUNTING SEMINAR

Prerequisite: Business Administration 342.2.

An intensive study of the problems of income determination, asset valuation and liability and equity measurement, a study of the accounting theory that is proposed as a framework for the resolution of these problems; investigation of the relationship of financial accounting to such areas as finance, motivation system of the firm, operations research, management information system.

Lectures: three or four hours a week, one semester, half course.

FINANCE (60 - 69)

360.1 BUSINESS FINANCE — PART I

Prerequisite: Business Administration 240.0, 280.0, 203.1 or 203.2 and 204.1 or 204.2.

A basic course in business finance introducing the student to the Canadian financial environment, instruments of finance, external financing, capital budgeting. This course is to be followed by Business Finance — Part II.

Lectures: three hours a week, one semester, half course.

361.2 BUSINESS FINANCE — PART II

Prerequisite: Business Administration 360.1.

The second course of a two course series in business finance. The course covers financial analysis, cost of capital, sources of capital, dividend policy, lease financing, management of assets.

Lectures: three hours a week, one semester, half course.

463.1 FINANCIAL MANAGEMENT

Prerequisite: Business Administration 361.2.

Managerial in emphasis, the course covers problems of capital structure and valuation of a firm, the cost of capital in relation to financing problems, dividend policies and their relation to retained earnings, mergers and reorganizations.

Lectures: three hours a week, one semester, half course.

464.2 CORPORATION FINANCE

Prerequisite: Business Administration 463.1.

A study of current literature in corporation finance emphasizing empirical findings and application of theory to practice with the help of case studies.

Lectures: three hours a week, one semester, half course.

BUSINESS ADMINISTRATION

466.1 INVESTMENTS

Prerequisite: Business Administration 361.2.

The analysis of investment values, study of stock and bond markets, evaluation of investment techniques, investment analysis by industries, management of personal finance and portfolio.

Lectures: three hours a week, one semester, half course.

467.2 PORTFOLIO MANAGEMENT

Prerequisite: Business Administration 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, the selection of portfolios which appear most likely to satisfy stated investment objectives.

Lectures: three hours a week, one semester, half course.

MARKETING (70 - 79)

370.1 and 370.2 INTRODUCTION TO MARKETING

Prerequisite: Business Administration 280.0 and Economics 202.0.

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

Lectures: three hours a week, one semester, half course.

371.2 MARKETING MANAGEMENT

Prerequisite: Business Administration 370.1 or 270.2.

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.

Lectures: three hours a week, one semester, half course.

372.2 MARKETING COMMUNICATION AND ADVERTISING

Prerequisite: Business Administration 370.1 and 370.2.

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

Lectures: three hours a week, one semester, half course.

373.1 MANAGEMENT OF MARKETING CHANNELS

Prerequisite: Business Administration 370.1 or 370.2.

A study of the marketing distribution system, retailing and wholesaling, merchandising, and relevant legislation.

Lectures: three hours a week, one semester, half course.

374.2 SALES MANAGEMENT

Prerequisite: Business Administration 370.1 or 370.2.

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.

Lectures: three hours a week, one semester, half course.

375.1 INTERNATIONAL MARKETING

Prerequisite: Business Administration 370.1 or 370.2.

An introduction to the nature and environment of international marketing including the study of the international consumer, product policy, distribution promotion, research and management.

Lectures: three hours a week, one semester, half course.

376.1 or 376.2 CONSUMER BEHAVIOR

Prerequisite: Business Administration 370.1 or 370.2.

A study of the marketing functions of industrial producers whose products are employed in the manufacture of other products or become parts of other goods and services, behavior of industrial, governmental and institutional buyers.

Lectures: three hours a week, one semester, half course.

377.1 or 377.2 INDUSTRIAL MARKETING

Prerequisite: Business Administration 370.1 or 370.2.

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.

Lectures: three hours a week, one semester, half course.

BUSINESS ADMINISTRATION

378.1 MARKETING RESEARCH

Prerequisite: Business Administration 204.1 or 204.2 and 370.1 or 370.2.

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

Lectures: three hours a week, one semester, half course.

MANAGEMENT (80 - 89)

280.0 PRINCIPLES OF MANAGEMENT

A study of fundamental concepts of management, decision making, management planning, organizing, motivating and controlling. A prime objective of this course is to introduce the systems concept as a foundation for further study in the program.

Lectures: three hours a week, two semesters, full course.

382.0 ORGANIZATIONAL BEHAVIOR

Prerequisite: Business Administration 280.0.

An 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.

Lectures: three hours a week, two semesters, full courses.

481.1 and 481.2 ORGANIZATION THEORY: STRUCTURE, PROCESS, ANALYSIS AND DESIGN

Prerequisite: Business Administration 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.

Lectures: three hours a week, one semester, half course.

483.1 or 483.2 INTERPERSONAL BEHAVIOR I

Prerequisite: Business Administration 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.

Lectures: three hours a week, one semester, half course.

484.2 INTERPERSONAL BEHAVIOR II

Prerequisite: Business Administration 483.1 or 483.2.

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.

Lectures: three hours a week, one semester, half course.

385.1 and 385.2 PERSONNEL MANAGEMENT

Prerequisite: Business Administration 280.0.

A study of the conceptual and practical aspects of the personnel function in organizations, with a special emphasis on business organizations. The course focuses on the major issues, procedures and problems involved in manpower planning, recruitment and selection, compensation, training and development, and maintenance of human resources.

Lectures: three hours a week, one semester, half course.

386.1 and 386.2 INDUSTRIAL RELATIONS

Prerequisite: Business Administration 280.0.

An introduction to the field of industrial relations, a study of union structure and operation, collective bargaining and allied material.

Lectures: three hours a week, one semester, half course.

BUSINESS ADMINISTRATION

487.1 or 487.2 SMALL BUSINESS MANAGEMENT

Prerequisite: Business Administration 361.2 and 370.1 or 370.2.

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.

Lectures: three hours a week, one semester, half course.

388.1 BUSINESS AND ITS ENVIRONMENT

Prerequisite: Business Administration 280.0 and Economics 202.0.

Business and its economic and political environment, the social responsibilities of business.

Lectures: three hours a week, one semester, half course.

489.2 BUSINESS POLICY

Prerequisite: Business Administration 361.2, 370.1 or 370.2 and one additional full credit in Business Administration at the 300 level or above.

The perspective of top management, sizing up situations, formulating policies, discovering opportunities and planning programs of action, organizing administrative personnel and putting plans into action, control, follow up and appraisal, day to day administrative problems, the business leader and public responsibility.

Lectures: three hours a week, one semester, half course.

OTHER (90 - 99)

591.1 and 591.2 BUSINESS RESEARCH

Prerequisite: permission of the Department.

The student will undertake an original investigation of a business problem and submit a report on his findings and recommendations.

Lectures: seminars and independent study, half course.

COMMERCIAL LAW

301.1 LEGAL ASPECTS OF BUSINESS — PART I

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.

Lectures: three hours a week, one semester, half course.

302.2 LEGAL ASPECTS OF BUSINESS — PART II

Prerequisite: Legal Aspects of Business — Part I, 301.1.

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.

Lectures: three hours a week, one semester, half course.

CHEMISTRY

Chairman, Associate Professor D. H. Davies
Professors J. W. Murphy, S.J., A. T. Sabean
Associate Professors J. Ginsburg, E. R. Hayes
K. Vaughan, J. C. O'C. Young
C. M. Elson

The program of the Chemistry Department is designed to satisfy two functions:

(1) to fulfill the requirements for the general degree of Bachelor of Science, the degree of Bachelor of Science with major and the Honors Bachelor of Science degree.

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.

(2) to introduce students in other disciplines to the idea 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.

NOTE: Students failing to complete a laboratory course prior to the date of examination will not be eligible to write the examination.

101.1 INTRODUCTION TO CHEMISTRY

Prerequisite: none.

The fundamental laws and principles of chemistry are explored and applied in the study of selected nonmetals, metals and their compounds.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

201.0 GENERAL CHEMISTRY FOR PHYSICAL SCIENCES

Prerequisite: Chemistry 101.0 or equivalent, Mathematics 210.1 and 211.2 to be taken concurrently.

An introduction to the chemistry of gases, liquids, solids and solutions.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

202.0 GENERAL CHEMISTRY FOR LIFE SCIENCES.

Prerequisite: Chemistry 101.0 or equivalent, Mathematics 210.1 and 211.2 to be taken concurrently.

A practical introduction for students in life sciences to the chemical behavior of gases, liquids, solids and solutions.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

203.0 GENERAL CHEMISTRY FOR ENGINEERS

Prerequisite: Chemistry 101.0 or equivalent, Mathematics 210.1 and 211.2 to be taken concurrently.

A practical introduction for engineering students to the chemical behavior of gases, liquids, solids and solutions.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

209.0 THE CHEMISTRY OF LIFE: THE HUMAN ELEMENT

Prerequisite: Sophomore standing or permission of the professor.

A course designed for non-science students. Chemical concepts fundamental to understanding the nature of molecules occurring in living systems will be presented. To gain insight into the process of scientific inquiry and how the scientist as a human being affects the course of scientific development, critical stages in the development of atomic and molecular theory and events leading to the formulation of the structure of DNA will be discussed. The unifying theme is that science is not the advance of a monolithic juggernaut but the gradual accomplishment of human endeavor.

This course will not normally be used as credit towards a science degree.

Lectures/Seminars: three hours a week, two semesters.

241.0 INTRODUCTION TO ORGANIC CHEMISTRY

Prerequisite: Chemistry 201.0 or equivalent (may be taken concurrently).

An introduction to the major classes of organic compounds, their simple reactions and methods of preparation, physical properties and the nomenclature of organic chemistry.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

CHEMISTRY

311.0 INTRODUCTORY PHYSICAL CHEMISTRY

Prerequisite: Chemistry 201.0, Mathematics 311.0 (this course may be taken concurrently).

Fundamental thermodynamics, electrochemistry, kinetic theory of matter, surface chemistry and catalysis.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

321.0 INORGANIC CHEMISTRY

Prerequisites: Chemistry 201.1 or equivalent.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

331.0 ANALYTICAL CHEMISTRY FOR CHEMISTS AND GEOLOGISTS (GEOLOGY 355.0)

Prerequisite: Chemistry 201.0, Geology 201.0 for Geology students. It is recommended that other students have Geology 111.0.

An integrated lecture-laboratory course with emphasis on analytical methods of importance to geologists and chemists, e.g., gravimetric analysis, colorimetry, fluorimetry, flame photometry and atomic absorption.

Lectures and Laboratories: six hours a week, two semesters.

342.0 BIOCHEMISTRY

Prerequisite: Chemistry 201.0 and 241.0 or equivalents.

An introduction to the organic chemistry of compounds of biological importance: vinyl and condensation polymers, polysaccharides, lignins, amino acids, proteins, nucleic acids, enzymes and co-enzymes, heterocyclic compounds, sugars, alkaloids, steroids, and terpenes.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

343.0 ELEMENTARY ORGANIC CHEMISTRY

Prerequisite: Chemistry 202.0 or equivalent.

A comprehensive treatment of organic chemistry for non-chemistry majors. The principal functional classes, reaction mechanisms, stereo-chemistry and physical methods are discussed in the lectures and illustrated in the laboratory.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

371.0 INTRODUCTION TO ENVIRONMENTAL CHEMISTRY

Prerequisite: Chemistry 101.0 or equivalent.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

372.0 MARINE CHEMISTRY

Prerequisite: Chemistry 201.0 and Mathematics 210.1, 211.2 or equivalents.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

411.0 PHYSICAL CHEMISTRY

Prerequisite: Chemistry 311.0, Mathematics 311.0.

Basic quantum theory, statistical thermodynamics, chemical kinetics and reaction mechanisms.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

CHEMISTRY

431.0 ANALYTICAL CHEMISTRY

Prerequisite: Chemistry 201.0 and one other Chemistry course.

Electrochemical and spectroscopic methods of instrumental analysis and an introduction to the techniques of separation chemistry.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

441.0 INTERMEDIATE ORGANIC CHEMISTRY

Prerequisite: Chemistry 241.0 or equivalent (or Chemistry 343.0 with permission of the Chemistry Department).

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

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

500.0 RESEARCH THESIS

Prerequisite: restricted to final year students in the Honors Program.

The student will carry out a research project under the direction of one of the members of the Department and will prepare a thesis on his work. The thesis is presented orally.

Laboratory: a minimum of six hours a week, two semesters.

511.0 ADVANCED TOPICS IN PHYSICAL CHEMISTRY

Prerequisite: Chemistry 411.0.

A course on special topics selected from advanced areas of physical chemistry.

Lectures: three hours a week, two semesters.

Laboratory: none.

513.0 QUANTUM CHEMISTRY

Prerequisite: Chemistry 411.0, Physics 210.0, 211.1 and Mathematics 311.0.

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.

Lectures: three hours a week, two semesters.

Laboratory: none.

531.0 SELECTED CHAPTERS IN INSTRUMENTAL ANALYSIS

Prerequisite: Chemistry 431.0.

A lecture-seminar-laboratory course designed to present topics in electronic circuits, radio-chemistry, spectroscopy and electrochemistry.

Lectures and Laboratory: five hours a week, two semesters.

541.0 ADVANCED ORGANIC CHEMISTRY

Prerequisite: Chemistry 441.0 and Chemistry 411.0 (the latter 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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

CLASSICS

Assistant Professors G. T. Thomas, V. McB. Tobin

DEPARTMENTAL POLICY

To obtain a major in Classics a student must complete at least five courses in the department, four of which must be at the 300 level.

Students who are seriously interested in Classical studies are strongly advised to do some work in at least one of the Classical languages. Although the department does not strictly require linguistic studies, students should realize the importance of Latin and Greek as tools which can give direct access to the ancient world. Knowledge of at least one of these languages is required for entrance into any graduate school. A student's program must be approved by a member of the department. Appropriate supporting courses in other departments will be suggested.

Courses starred with an asterisk will not be offered in 1974-1975.

LATIN

LATIN 100.0

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

Text: DeWitt, *College Latin*.

Lectures: four hours a week, two semesters.

Instructor: G. T. Thomas.

LATIN 201.0

INTRODUCTION TO LATIN EPIC POETRY

Emphasis is placed on the exact rendering of the thought content of certain selections into idiomatic English. Prose composition stresses the exact rendering of English into idiomatic Latin.

Texts: Vincent and Mountford, *Outline of Latin Prose Composition*. Vergil, *Aeneid* (Books II and IV will be studied from the Latin text; the remainder of the *Aeneid* will be considered in English).

Lectures: three hours a week, two semesters.

*LATIN 301.0

THE POETRY OF HORACE

A critical analysis and appreciation of Horace's art and ideals. Prose composition.

Texts: Horace, *Odes*, *Satires*, *Arts Poetica*.

LATIN 403.0

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

LATIN 404.0

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

GREEK

GREEK 101.0

INTRODUCTORY GREEK

An introductory course covering the major grammatical points of the Greek language.

Lectures: three hours a week.

Instructor: V. Tobin.

This course will be followed in succeeding years by more advanced courses in the reading and interpretation of classical authors.

GREEK 201.0

SECOND YEAR GREEK

Prerequisite: Greek 101.0.

An application of the major grammatical points of the Greek language through the reading of the selected works of classical authors:

- i. Homer, *Iliad*
- ii. Xenophon, *Anabasis*
- iii. the dramatists
- iv. lyric poetry

Lectures: three hours a week, two semesters.

Instructor: V. Tobin.

CLASSICS

CLASSICAL LITERATURE

CLASSICS 301 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.*

Lectures: three hours a week (or equivalent).

Instructor: V. Tobin.

GREEK PHILOSOPHY CLASSICS 250.0

See Philosophy 250.0.

CLASSICAL HISTORY

*CLASSICS 120.0 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.

Lectures: three hours a week.

Instructor: G. T. Thomas.

CLASSICS 303.0 HISTORY OF GREECE

A concentrated study of selected topics dealing with the main features of Greek history, stressing both the greatness and the weakness of ancient Greek society. This course is designed as a companion and parallel to Classics 304.0, which deals in the same manner with the history of Rome. This course may also be used as a history credit.

Lectures: three hours a week (or equivalent).

Instructor: G. T. Thomas.

CLASSICS 304.0 HISTORY OF ROME

A concentrated study of selected topics dealing with the main features of Roman history, stressing both the greatness and weakness of the Roman world. This course is designed as a companion and parallel to Classics 303.0, which deals in the same manner with the history of Greece. This course may also be used as a history credit.

Lectures: three hours a week (or equivalent).

Instructor: G. T. Thomas.

*CLASSICS 305.0 HELLENISTIC HISTORY

Prerequisite: one course in Classics or history or consent of the instructor.

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 the 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.

Lectures: three hours a week or equivalent.

Instructor: G. T. Thomas.

CLASSICS 310.0 HISTORY OF ISRAEL

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.

Lectures: three hours a week or equivalent.

Instructor: V. Tobin.

*CLASSICS 334.0 ROMAN HISTORY THROUGH READING OF PRIMARY SOURCE MATERIAL

Prerequisite: Classics 120.0 or 304.0, or permission of instructor.

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.

Lectures: three hours a week or equivalent.

Instructor: G. T. Thomas.

ECONOMICS

Chairman, Assistant Professor
Professor Emeritus
Professor
Associate Professors

Visiting Associate Professor

E. J. Doak
S. Swianiewicz
J. J. Vorstermans
R. D. Foster,
W. T. McGrath
Rev. A. Hogan

Recommended courses leading to a B.Comm. with a major in Economics.

FIRST YEAR

Mathematics 113.0●
Economics 101.0 or 102.0
Elective
Elective
Elective

SECOND YEAR

Business Administration 240.0●
Business Administration 280.0●
Economics 202.0●
Economics 203.1● - 204.2●
English 200.0●

THIRD YEAR

Legal Aspects of Business
Part 1, 301.1 or 301.2●
Economics Elective(s)●
Economics 300.1● - 301.2●
Philosophy 201.2 - 209.0
Elective(s)

FOURTH YEAR

Economics Electives(s)● **
Elective(s)
Elective(s)
Elective(s)
Elective(s)

●Denotes required course.

** Students intending to pursue graduate studies are advised to take both Economics 302.0 and Economics 303.0●

Recommended courses leading to a B.A. with a Major in Economics.

FIRST YEAR

Economics 101.0 or 102.0
Mathematics 113.0
Elective
Elective
Elective

SECOND YEAR

Economics 202.0●
Economics 203.1●-204.2.●
English 200.0●
History 111 (120) or 202
Philosophy 201.0 - 209.0

THIRD YEAR

Economics 300.1● - 301.2●
Economics Elective(s)●**
Elective(s)
Elective(s)
Elective(s)

FOURTH YEAR

Economics Elective(s)●**
Elective(s)
Elective(s)
Elective(s)
Elective(s)

●Denotes required course.

** Students intending to pursue graduate studies are advised to take both Economics 302.0 and Economics 303.0.

NOTE: Requests for waiving a course prerequisite should be made to the Department.

Courses starred with an asterisk will not be offered in 1973-74.

101.0 ECONOMIC HISTORY OF EUROPE

The economic history of Europe from Aegean civilizations to the establishment of the Common Market. Stages of economic growth, birth of European civilization, medieval economic society, mercantilism, the first Industrial Revolution, laissez-faire and industrial capitalism, Europe since 1914.

Lectures: three hours a week, two semesters, full course.

Instructor: J. Vorstermans.

ECONOMICS

102.0 ECONOMIC THEORY IN HISTORICAL PERSPECTIVE

A course in the development of modern economic society with particular emphasis on the Canadian and U.S. economies. The presentation of microeconomic and macroeconomic theory, problems and policies is designed for students not planning to major in economics.

Lectures: three hours a week, two semesters, full course.

202.0 PRINCIPLES OF ECONOMICS

An introduction to economic analysis covering macroeconomic theory, national income determination, national accounting, business fluctuations, money and banking, international economics, economic growth, economic policy, general price theory, theory of the firm, market structures, production, cost, revenue and profit maximization, theory of distribution.

Lectures: three hours a week, two semesters, full course.

203.1 INTRODUCTORY MATHEMATICS FOR ECONOMISTS

Prerequisite: Mathematics 113.0 or Grade XII Mathematics.

An introduction to certain basic mathematical tools of interest to economists. The course is designed especially for potential economics majors.

Lectures: three hours a week, one semester, half course.

204.2 INTRODUCTORY STATISTICS FOR COMMERCE

Prerequisite: Mathematics 113.0 or Grade XII Mathematics.

An introduction to probability and statistics with emphasis on business and economic applications.

Lectures: three hours a week, one semester.

Laboratory: one hour a week, one semester, half course.

NOTE: This is the same course as Business Administration 204.1 or 204.2.

*230.0 THE ATLANTIC ECONOMY

The subject matter covered includes the economic history of the Atlantic region within the Canadian Confederation; a structural and statistical description of the Atlantic economy and some of the major indicators and consequences of relative regional economic retardation; and the major models and hypotheses that have been developed to explain regional growth. The policies used by other countries with regional economic problems are examined. The policies of DREE towards the Atlantic economy are studied. Federal monetary, fiscal and manpower policies are also examined in relation to the development of the Atlantic economy. The course concludes with a symposium.

300.1 and 300.2 INTERMEDIATE MICROECONOMIC THEORY

Prerequisite: Economics 202.0 and 203.1

Theory of consumer behavior and demand; theory of production and cost, behavior of the firm under different market structures, theory of income distribution, general equilibrium, welfare economics.

Lectures: three hours a week, one semester, half course.

Instructor: E. J. Doak.

301.1 and 301.2 INTERMEDIATE MACROECONOMIC THEORY

Prerequisite: Economics 202.0 and 203.1.

National income accounting, models of aggregate demand and income determination, theory of prices, wages and employment, models of economic growth, international aspects.

Lectures: three hours a week, one semester, half course.

Instructor: E. J. Doak.

*302.0 MATHEMATICAL ECONOMICS

Prerequisite: Mathematics 113.0, Economics 202.0 (also Economics 203.1-204.2).

An introduction to the mathematical approach to economic analysis. Approximately half of the course will be devoted to topics from microeconomics. The other half will deal with macroeconomic models of short-run and long-run problems.

Lectures: three hours a week, two semesters, full course.

ECONOMICS

303.0 ECONOMIC STATISTICS

Prerequisite: Economics 202.0, 203.1, 204.2, or equivalent.

Functions of statistical methods, collection, analysis and interpretation of statistical data, frequency distribution, measures of central tendency and dispersion, binomial, normal, and sampling distributions, testing hypotheses and estimations or parameters, index numbers, time series, regression and correlation analysis.

Lectures: three hours a week, two semesters.

Laboratory: one hour a week, full course.

304.1 ECONOMIC HISTORY OF NORTH AMERICA

Prerequisite: Economics 202.0.

This course acquaints students with the leading events and processes in the economic history of North America in general, and of Canada in particular. Among the topics to be discussed are the development of agriculture, industry and trade, the economic conditions which shaped banking developments, the colonial links and incentives, industrial and financial capitalism, twentieth century developments of industry, labor organizations, investments and trade patterns.

Lectures: three hours a week, one semester, half course.

*305.0 THE DEVELOPMENT OF THE MODERN EUROPEAN ECONOMY

Prerequisite: Economics 202.0 or permission of the instructor.

A study of the economic history of the rise of Europe from the Middle Ages to the present, with special emphasis on the rise of capitalism and the industrial revolution in Great Britain, France and Germany.

Lectures: three hours a week, two semesters, full course.

307.0 MONEY AND BANKING

Prerequisite: Economics 202.0.

Money, its standards, supply and value, inflation and foreign exchange, Canadian Banking System and other banking systems and public finance, international monetary problems and their solutions, developments in international trade.

Lectures: three hours a week, two semesters, full course.

Instructor: J. Vorstermans.

310.0 DEVELOPMENT ECONOMICS

Prerequisite: Economics 202.0.

Alternative theories of growth and development, economic structures of developing and developed countries; economic and non-economic determinants of growth, development policy, role of government, monetary policy, foreign trade and foreign aid, some lessons of experience in growth and change.

Lectures: three hours a week, two semesters, full course.

311.0 DEVELOPMENT OF ECONOMICS IDEAS

Prerequisite: Economics 202.0.

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.

Lectures: three hours a week, two semesters, full course.

313.1 or 313.2 INTERNATIONAL FINANCE

Prerequisite: Economics 202.0.

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.

Lectures: three hours a week, one semester, half course.

314.1 or 314.2 INTERNATIONAL TRADE

Prerequisite: Economics 202.0.

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.

Lectures: three hours a week, one semester, half course.

ECONOMICS

315.0 COMPARATIVE ECONOMIC SYSTEMS

Prerequisite: Economics 202.0.

Analysis of the differences in decision-making and in the institutional frame work of the three basic types of contemporary economies: (1) those produced by the North Atlantic civilization, (2) those built up in consequence of the imposition of Communist doctrine, (3) those marked by the underdevelopment prevailing in Asia, the Middle East and the subtropical areas of the world.

Lectures: three hours a week, two semesters, full course.

316.0 INDUSTRIAL ORGANIZATION

Prerequisite: Economics 202.0 and 300.1 or 300.2.

The concept of industry, institutional forms of economic units, market structure, policies for promotion of competition, the methods of governmental control of key industries, international aspects of industrial organization.

Lectures: three hours a week, two semesters, full course.

318.1 or 318.2 INTRODUCTION TO PUBLIC FINANCE

Prerequisite: Economics 202.0.

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.

Lectures: three hours a week, one semester, half course.

Instructor: R. D. Foster.

319.0 LABOR ECONOMICS

Prerequisite: Economics 202.0 or permission of the instructor.

Factors affecting wages, working conditions and employment in industrial societies, the role of market forces and collective bargaining in wage determination, the development of labor unions and collective bargaining in Canada, the United States and Europe, the effect of labor unions on the economy, our changing labor force and manpower policies for the future.

Lectures: three hours a week, two semesters, full course.

320.1 or 320.2 THE CANADIAN FINANCIAL SYSTEM

Prerequisite: Economics 202.0.

General nature of the financial system, historical trends in financial institutions and ideas, elements of financial theory, private financial institutions, government financial institutions.

Lectures: three hours a week, one semester, half course.

Instructor: E. J. Doak.

321.1 or 321.2 CANADIAN ECONOMY SEMINAR

Prerequisite: Economics 202.0.

A course on current economic issues in Canada: population and labor force, unemployment, inflation, international trade, balance of payments and foreign exchange rates, regional economic disparities, poverty, the business cycle, monetary and fiscal policy, government lending institutions, income security programs, pollution, housing and urban problems.

Lectures: three hours a week, one semester, half course.

Instructor: E. J. Doak.

323.0 SOVIET-TYPE ECONOMIES

Prerequisite: Economics 202.0.

This course includes: development of Soviet economics — historical background, institutional framework, the rate of growth, the problems of saving, investment and central planning; the origin of the Soviet bloc — Communist international economics, the problems of economic integration in Eastern and Western Europe, East-West trade, economic reforms in Eastern Europe; Soviet-type economies in Asia.

Philosophy 209.0 Marxist Philosophy is an appropriate supporting humanities elective for this course.

Lectures: three hours a week, two semesters, full course.

*324.1 and 324.2 ECONOMICS OF TRANSPORTATION I & II

Prerequisite: Economics 202.0, 203.1 or 203.2, and 204.1 or 204.2.

ECONOMICS

An introduction to the general principles of transportation economics with emphasis on the interface between business transportation and government, the application of economic principles to the analysis of transportation problems and the application of management decisions and physical distribution and transportation systems.

Lectures: three hours a week, two semesters, two half courses.

330.0 REGIONAL AND NATURAL RESOURCE ECONOMICS

Prerequisite: Economics 202.0.

In the first part of the course, problems of regions are examined from an economic point of view. Topics covered include the study of regional growth and decline, reasons for economic disparities in Canada, location theory, and a critical review of regional policies. The second part of the course deals with the use of our natural resources. At issue are problems of conservation, environmental pollution, and the impact of increasing resource scarcities. Emphasis is on the application of theories and tools to the Atlantic region.

*331.2 ECONOMIC DEVELOPMENT OF LATIN AMERICA

Prerequisite: Economics 202.0.

An introduction to the study of social-economic profile of the region of Latin America from Colonial times to the Urban Revolution. Topics discussed include geography, agriculture, industrialization, international trade, intra-regional relations, and economic planning.

Lectures: three hours a week, one semester, half course.

419.1 or 419.2 ISSUES IN PUBLIC FINANCE

Prerequisite: Economics 318.1 or 318.2. Introduction to Public Finance or Economics 300 and Economics 301.

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.

Lectures: three hours a week, one semester, half course.

Instructor: R. D. Foster.

440.1 ADVANCED MICROECONOMICS

Prerequisite: Economics 300.1 or 300.2.

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.

Lectures: three hours a week, one semester, half course.

441.2 ADVANCED MACROECONOMIC THEORY

Prerequisite: Economics 301.1 or 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.

Lectures: three hours a week, one semester, half course.

*444.2 APPLICATIONS OF CONTEMPORARY ECONOMIC HISTORICAL ANALYSIS

Prerequisite: Economics 300.1 or 300.2 and 301.1 or 301.2 or permission.

Emphasis is given to those issues which relate to the growth of the economy of North America. Economic theory is applied in the investigation of these historical problems. The objective of this course is to introduce the student to the methodology and problems of modern economic history, and to develop facility in applying economic theory to the resolution of these problems.

Lectures: three hours a week, one semester, half course.

447.0 ADVANCED STUDY IN A SPECIAL SUBJECT

Prerequisite: Economics 202.0 and permission.

This course is intended to provide members of the department with the opportunity of presenting to students the results of recent research studies.

Lectures: three hours a week, two semesters, full course.

EDUCATION

Dean; Associate Professor
Associate Professors

D. Weeren
F. Phillips

Assistant Professors

L. Scobbie, F. Dockrill
B. E. Davis, M. MacMillan
S. Robinson, B. Hanrahan

Courses starred with an asterisk will not be offered in 1974-75.

501.0 PHILOSOPHY OF EDUCATION

A study of fundamental questions about the nature and aims of education.

Lectures/Seminars: three hours a week, two semesters.

Instructors: B. Davis, B. Hanrahan.

502.0 PSYCHOLOGY OF EDUCATION

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

Lectures/Seminars: three hours a week, two semesters.

Instructors: F. Dockrill, L. Scobbie.

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.

Lectures/Seminars: three hours a week, two semesters.

Instructors: M. MacMillan, S. Robinson.

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.

Lectures/Seminars: three hours a week, two semesters.

Instructors: F. Phillips, D. Weeren.

505.0 PRACTICE TEACHING

Practice teaching sessions will consist of observation and practice teaching in the public school system. The extent and dates of these sessions will be arranged by the Education staff.

520.1 through 550.1 CONTENTS AND METHODS OF SPECIFIC FIELDS

The courses within this range of numbers discuss the concepts and competencies to be developed in the various teaching fields at the junior and senior high level, and methods conducive to that development. B.Ed. candidates select two courses from the offerings provided each year.

Lectures/Seminars: for each course, one-and-one-half hours a week, two semesters.

Instructors: Staff.

EDUCATION 610.0 RESEARCH TECHNIQUES AND DESIGN OF EXPERIMENTS

An introduction to methodology, interpretation and use of educational research. Subjects covered will include general methods of research, hypotheses, and hypothesis testing, design of experiments, surveys and case studies, questionnaires, historical research, elementary statistics, evaluation of theses in progress. Credit for this course will be given on completion of a thesis.

Lectures/Seminars: one and one-half hours a week, two semesters.

Instructors: Staff.

EDUCATION 620.1 or 620.2 CURRICULUM STUDIES

An examination of the basic assumptions underlying the study of curriculum, attempting to provide students with a theoretical understanding of curriculum studies. It is normally taken in conjunction with 632.1. Conceptualizations of Psychological Development.

Lectures/Seminars: three hours a week, one semester.

Instructor: S. Robinson.

EDUCATION 621.1 or 621.2 PROBLEMS IN CURRICULUM

Prerequisite: Education 620.1 or (620.2). Curriculum Studies or equivalent or the permission of the professor.

A course covering problems in the field of curriculum, focussing where possible upon the application of the theory of curriculum to practical concerns in the field of education.

Instructor: S. Robinson.

EDUCATION

PSYCHOLOGY 630.1 or 630.2

PRINCIPLES OF LEARNING

Prerequisite: Psychology 301.0, Psychology of Learning, Education 502.0, Educational Psychology, or permission of the professor.

Discussions of the basic tenets of modern learning theory as developed through the findings of experimental psychology. Topics include: development of learning theory, conditioning, reinforcement, stimulus control of behavior, punishment and memory.

Lectures/Seminars: three hours a week, one semester.

Instructor: F. Dockrill.

PSYCHOLOGY 631.1 or 631.2

SPECIAL ASPECTS OF LEARNING

Prerequisite: Psychology 630.1 or 630.2, Principles of Learning or equivalent, or permission of the professor.

A seminar course discussing topics dealt with by current learning studies which have particular relevance to school learning. The following are examples of areas dealt with: concept learning, creativity, intelligence, perceptual learning and transfer of training.

Lectures/Seminars: three hours a week, one semester.

Instructor: F. Dockrill.

PSYCHOLOGY 632.1 or 632.2

CONCEPTUALIZATIONS OF PSYCHOLOGICAL DEVELOPMENT

Prerequisite: minimally, Education 502.0, Psychology of Education or equivalent, or permission of the professor.

A course governing the main theoretical orientations in the fields of intellectual, emotional, social and moral development. The application of these conceptualizations in school and community situations will be examined, with particular emphasis on Piaget's ideas on intellectual development and their relevance to curriculum studies.

This course is designed to be taken conjointly with Ed. 620.1, Curriculum Studies and Ed. 621.1, Problems in Curriculum.

Lectures/Seminars: three hours a week, one semester.

Instructor: L. Scobbie.

PSYCHOLOGY 633.1 or 633.2

PSYCHOPATHOLOGY OF DEVELOPMENT AND EDUCATION

Prerequisite: Education 502.0, Psychology of Education, desirably Psychology 630.1 or 631.2, Principles of Learning and Special Aspects of Learning, and Psychology 632.1, Conceptualizations of Psychological Development, or their equivalent, or permission of the professor.

A study of the causation of anomalies in personality organization, character and learning, and an examination of their effects on behavior in school and other social situations.

Lectures/Seminars: three hours a week, one semester.

Instructor: L. Scobbie.

PHILOSOPHY 640.1 or 640.2

PHILOSOPHY OF EDUCATION: PHILOSOPHICAL CRITIQUE OF MOTIVATION (I)

An examination of the cultural significance of the metaphysics of motivation. As a study of social exigencies in the learning situation, the course involves the reading and discussion of such philosophical sources as Plato, Aristotle, Buber, Fromm, Johann, Marcel, on the nature of love, and more precisely, a consideration of the nature of the affective relation between student and teacher.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Hanrahan.

PHILOSOPHY 641.1 or 641.2

PHILOSOPHY OF EDUCATION: PHILOSOPHICAL CRITIQUE MOTIVATION (II)

The course is a problematic approach to the affective features of concrete learning situations. Some of the works used are *Education and Ecstasy*, *Freedom to Learn*, and *Existential Encounters for Teachers*.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Hanrahan.

UNIVERSITY DIARY

1974-1975

1974

FIRST SUMMER SESSION

MAY

14 Tuesday Registration for first summer session.
15 Wednesday Classes begin.
17 Friday Closing date: for (a) course changes; (b) late registration.

JUNE

28 Friday First summer session examinations.

SECOND SUMMER SESSION

JULY

2 Tuesday Registration for second summer session.
3 Wednesday Classes begin.
5 Friday Closing date: for (a) course changes; (b) late registration.
12 Friday Last day for receiving applications for supplemental examinations in courses taken during the regular academic year and in the first summer session.

AUGUST

16 Friday Second summer session examinations.

SEPTEMBER

5-6 Thursday-Friday Supplemental examinations for academic year 1973-1974 and first summer session, 1974.

FIRST SEMESTER

9-11 Monday-Wednesday Registration for 1974-1975 academic year.
9 Monday REGISTRATION:
9:00-11:30 a.m. (a) *Returning* seniors and juniors;
(b) Bachelor of Education students;
2:00-4:30 p.m. (c) *Returning* sophomores (i.e. those with three or more course credits);
(d) Bachelor of Education students;
7:00 - 8:30 p.m. (e) *Returning* part-time students.
10 Tuesday REGISTRATION:
9:00-11:30 a.m. (a) New sophomore students (i.e., those having at least three advanced standing credits);
2:00-4:30 p.m. (b) Transfer students;
(c) New freshman students (i.e., those with less than three advanced standing credits);
7:00-8:30 p.m. (d) New part-time students;
(e) Master degree candidates in all Faculties.
11 Wednesday REGISTRATION:
9:00-11:30 a.m. (a) New freshmen students;
2:00-4:30 p.m. (b) *Returning* part-time students.
7:00-8:30 p.m. (a) Classes begin.
12 Thursday (b) Late registration permitted with payment of a \$10.00 fee.
19 Thursday Final date for late registration.
26 Thursday Last date for adding or dropping a course for first semester courses (i.e., those designated .1).

1974

OCTOBER

3 Thursday

Last date for adding or dropping a course for full year courses (i.e., those designated .0).

14 Monday

Last date for filing application for degrees to be awarded in May 1975. Thanksgiving Day. No classes.

NOVEMBER

11 Monday

Remembrance Day. No classes.

DECEMBER

8 Sunday

Patronal Feast of the University.

11 Wednesday

Last day of classes.

12-21 Thursday-Saturday

Final examinations in first semester courses and mid-year examinations in full year courses.

21 Saturday

First semester ends.

1974

1975

1974							1975																														
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Floris Day

**1975
SECOND SEMESTER**

JANUARY

6	Monday	Classes resume 8:30 a.m.
6-15	Monday-Wednesday	Confirmation of registration for second semester courses, including payment of fees.
13	Monday	Last day for adding or dropping a course for second semester courses (i.e., those designated .2).
23-24	Thursday-Friday	Supplemental examinations for second summer session 1974 and first semester courses.

FEBRUARY

February 24		
to		
March 2	Monday-Sunday	Mid-term study break. No classes.

MARCH

3-28	Monday-Friday	Pre-registration for the 1975-1976 academic year.
14	Friday	Charter Day. Extracurricular activities cease.
28	Friday	Good Friday. No classes.
31	Monday	Easter Monday. No classes.

APRIL

11	Friday	Last day of classes.
14	Monday	Final examinations begin.
26	Saturday	Final examinations end.

MAY

12	Monday	Spring Convocation.
13	Tuesday	Registration for first summer session.
14	Wednesday	First summer session begins.
16	Friday	Closing date for: (a) course changes; (b) late registration.

JUNE

27	Friday	First summer session examinations.
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JULY

2	Wednesday	Registration for second summer session.
3	Thursday	Second summer session begins.
7	Monday	Closing date for: (a) course changes; (b) late registration.
11	Friday	Closing date for receiving applications for supplemental examinations in courses taken during the regular academic year 1974-1975 and in the first summer session, 1975.

AUGUST

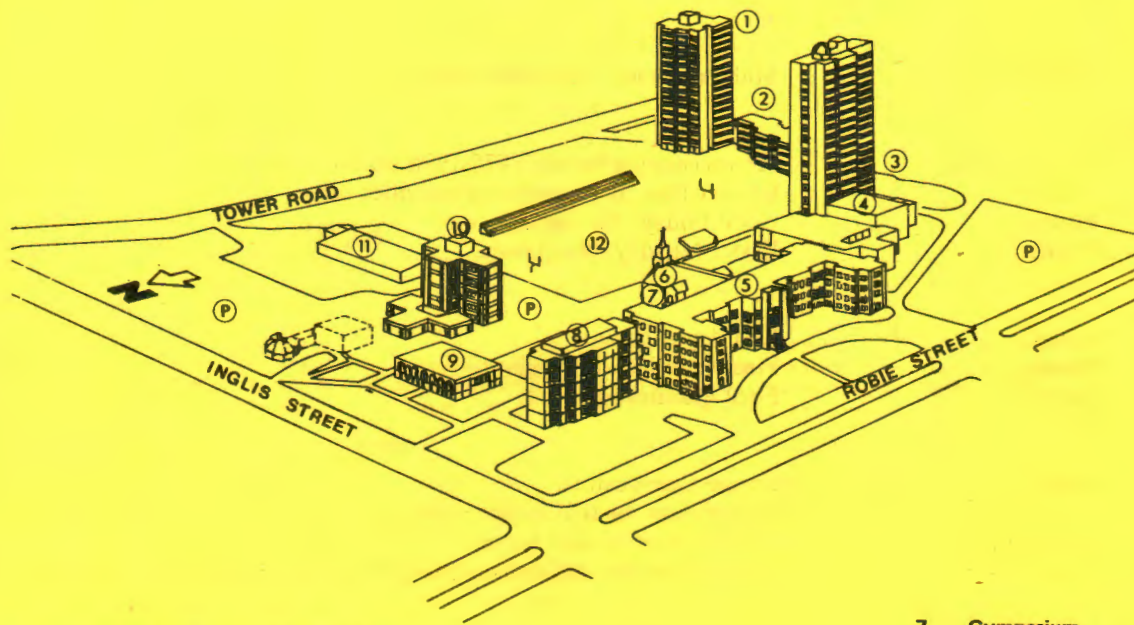
15	Friday	Second summer session examinations.
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PLEASE NOTE:

- (a) There may be a President's holiday during the second term.
- (b) Students in the Bachelor of Education program are advised that this Academic Calendar Year is subject to change in order to accommodate the special needs of their program.

CAMPUS GUIDE

Saint Mary's University



1. Edmund Rice Residence (High Rise I)
2. Vanier Residence (Low Rise)
3. Ignatius Loyola Residence (High Rise II)
4. Ignatius Loyola Academic Complex
5. Main Administration Building
6. Reading Room

7. Gymnasium
 8. Chemistry-Biology Building
 9. Library
 10. Student Center
 11. Winter Arena
 12. Huskies Stadium
- P. Parking

EDUCATION

*PHILOSOPHY 642.1 or 642.2 PROBLEMS OF EDUCATIONAL PHILOSOPHY

A graduate level introduction to philosophical thought about education.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Davis

*PHILOSOPHY 643.1 or 643.2 PHILOSOPHY OF EDUCATIONAL PROBLEMS

A philosophic investigation of problematic issues in contemporary education.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Davis.

PHILOSOPHY 644.1 or 644.2 DEVELOPMENTS IN THE SCIENCE AND PHILOSOPHY OF LANGUAGE

An introduction to transformational grammar, logic, and logical structures in English, semantics, and some of the results of descriptive linguistics. Developments in philosophy relevant to the scientific investigation of language are stressed.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Davis.

PHILOSOPHY 645.1 or 645.2 PROBLEMS IN THE PHILOSOPHY OF LANGUAGE

Investigation of selected issues in the philosophic study of language.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Davis.

PHILOSOPHY 646.1 or 646.2 APPLICATIONS OF THE SCIENCE AND PHILOSOPHY OF LANGUAGE TO THE TEACHING OF ENGLISH

Prerequisite: Philosophy 644.1 or 644.2, Developments in the Science and Philosophy of Language, or equivalent, or permission of the professor.

A consideration of the results of scientific and philosophical investigations of language and their application toward improvement of the English curriculum.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Davis.

*PHILOSOPHY 647.1 or 647.2 THEORY OF KNOWLEDGE (I)

A lecture and seminar course based on Lonergan's *Insight* and directed towards developing an epistemology inherent in the learning process. The course sets out from the point of view of a personal self-appropriation of one's own dynamic cognitive structure.

Sources: Lonergan, *Insight*; Buford, *Toward a Philosophy of Education*; Vandenberg, *Being and Education*; *Essays in Existential Phenomenology*.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Hanrahan.

*PHILOSOPHY 648.1 or 648.2 THEORY OF KNOWLEDGE (II)

Consideration of the question, "What kind of student activity do I look for and recognize as the result of teaching?" In addition to personal cases discussed, some references involving such a question will be Plato, *Meno*; Holt, *How Children Fail*; Hutchins, *The Learning Society*; Postman and Weingartner, *Teaching as a Subversive Activity*.

Lectures/Seminars: three hours a week, one semester.

Instructor: B. Hanrahan.

EDUCATION 650.1 or 650.2 INTRODUCTION TO COMPARATIVE EDUCATION

This course examines the principal characteristics of education in a number of countries and areas outside Nova Scotia, the methodology and bibliographical tools of comparative education, and the utility of comparative education for the practising teacher and administrator.

Lectures/Seminars: three hours a week, one semester.

Instructors: F. Phillips and D. Weeren.

EDUCATION 651.1 or 651.2 PROBLEMS IN COMPARATIVE EDUCATION

Prerequisite: Education 650.1 or 650.2 Introduction to Comparative Education, or equivalent, or permission of the professor.

Selected educational problems will be examined with the aid of the discipline of comparative education.

Lectures/Seminars: three hours a week, one semester.

Instructors: F. Phillips and D. Weeren.

EDUCATION

*EDUCATION 652.1 or 652.2

ADVANCED COMPARATIVE EDUCATION

Prerequisite: Education 650.1 or 650.2 Introduction to Comparative Education, or equivalent, or permission of the professor.

An intensive study of the history, methodology and current status of comparative education.

Lectures/Seminars: three hours a week, one semester.

Instructors: F. Phillips and D. Weeren.

*EDUCATION 653.1 or 653.2

COMPARATIVE EDUCATION: ANGLO-AMERICAN

Prerequisite: Education 650.1 or 650.2. Introduction to Comparative Education, or equivalent, or permission of the professor.

A comparative study of the education systems in selected English-speaking countries.

Lectures/Seminars: three hours a week, one semester.

Instructor: F. Phillips.

*EDUCATION 654.1 or 654.2

COMPARATIVE EDUCATION: CONTINENTAL

Prerequisite: Education 650.1 or 650.2. Introduction to Comparative Education, or equivalent, or permission of the professor.

A comparative study of the education systems in selected European countries, including France, and selected societies with related educational roots, including French-Canada.

Lectures/Seminars: three hours a week, one semester.

Instructor: D. Weeren.

EDUCATION 660.1 or 660.2

INTRODUCTION TO EDUCATIONAL ADMINISTRATION

The general theory of administration, covering such topics as decision-making, planning, role of authority, attempting to develop in students techniques and procedures of analyzing and meeting administrative problems.

Lectures/Seminars: three hours a week, one semester.

Instructor: M. MacMillan.

EDUCATION 661.1 or 661.2

PROBLEMS IN ADMINISTRATION

A practical application of the principles examined in 660.1 or 660.2, with particular consideration of administrative problems relating to personnel, pupils, buildings, instructional materials and financing.

Lectures/Seminars: three hours a week, one semester.

Instructor: M. MacMillan.

*EDUCATION 662.1 or 662.2

INTRODUCTION TO SUPERVISION

A study of the part played by supervisors in building an efficient administrative organization, together with such topics as leadership, changing concepts of supervision, teacher expectations of supervisors, and problems relating to teachers.

Lectures/Seminars: three hours a week, one semester.

Instructor: M. MacMillan.

*EDUCATION 633.1 or 633.2

PROBLEMS IN SUPERVISION

An examination of problems arising in the field of supervision including such topics as visits to classrooms, analysis of pupils' needs, individual and group conferences and development of instructional materials.

Lectures/Seminars: three hours a week, one semester.

Instructor: M. MacMillan.

EDUCATION 690.1 or 690.2

INDIVIDUAL STUDY

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

The course provides an opportunity for a student directed by a professor to undertake special 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.

ENGINEERING

Acting Dean of Engineering, Associate Professor

Dean Emeritus, Professor
Associate Professor
Assistant Professor
Adjunct Assistant Professor
Lecturer

D. B. Warner
J. L. Ryan
D. L. Mulrooney
W. P. Boyle
D. A. Roy
L. A. Schienbein

106.1 ENGINEERING DESIGN GRAPHICS

Engineering drawing and sketching with emphasis on sketching, analysis and synthesis of problems by using graphical methods as part of the design process, reading drawings, simple design projects.

Text: James H. Earle, *Engineering Design Graphics* (Addison Wesley); Earle, Cleland, Stark, Mason, Bardell, Vogel and Guerard, *Engineering Graphics and Design Problems* (Addison Wesley).

Lectures: two hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: L. A. Schienbein.

107.2 DESIGN AND DESCRIPTIVE GEOMETRY

Prerequisite: Engineering 106.1.

Basic descriptive geometry, plotting graphs and nomographs, graphical analysis and curve fitting, team design projects with emphasis on creativity.

Text: *Engineering Design Graphics* as for Engineering 106.1; Earle, Cleland, Stark, Mason, Bardell, Vogel and Guerard, *Design and Descriptive Geometry Problems* (Addison Wesley).

Lectures: two hours a week one semester.

Laboratory: three hours a week, one semester.

Instructor: L. A. Schienbein.

108.1 PRINCIPLES OF ENGINEERING

Prerequisite: none.

A course for freshmen which discusses the philosophy of design and introduces concepts of energy, economics and human factors and how these concepts are used by engineers in the solution of problems. Solution techniques indicated include an introduction to computer programming.

Text: Daitch, *Introduction to College Engineering* (Addison Wesley Publishing Co. 1973 (paperback))

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. P. Boyle.

113.1 SURVEYING

Prerequisite: none.

A course covering the theory and practices involved in surveying for engineering projects. The topics included are: surveying instruments, measurement of distance, difference in elevation, direction angles, area and earthwork calculations, circular curves, photogrammetry and mapping.

Text: Smirnof, *Measurements for Engineering and Other Surveys* (Prentice-Hall).

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. L. Mulrooney.

120.0 TECHNOLOGY AND SOCIETY

Prerequisite: none. This course is designed for the non-engineering student.

The complaint against technology, history of technological change, response to technological change, predictions of disaster, the question of adequate precautions, the interrelations of technology with science, industry and government.

Text: N. deNevers, ed., *Technology and Society* (Addison Wesley).

Lectures: three hours a week, two semesters.

Instructor: D. L. Mulrooney.

ENGINEERING

203.1 (203.2) ENGINEERING MECHANICS (STATICS)

Prerequisite: Engineering 106.1-107.2, Mathematics 210.1-211.2, 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).

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. P. Boyle.

204.1 (204.2) COMPUTER SCIENCE

Prerequisite: Mathematics 110.1-111.2.

An introduction to computer methods and the analysis of engineering problems using the computer, including introduction, history, philosophy, number systems, computer logic, logic circuits, physical computer components, machine language and Fortran IV language.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: L. A. Schienbein.

212.2 ENGINEERING MEASUREMENTS

Prerequisite: Mathematics 210.1-211.2 (concurrently).

This course presents the theory of measurements and applications of probability and statistics to measurements. Analysis of experimental data is included. The generalized measurement system is discussed and examples are presented. Lab work emphasizes ingenious use of measurement systems involving creativity, synthesis and analysis.

Text: Holman, *Experimental Methods for Engineers* (McGraw-Hill); Crandall and Seabloom, *Engineering Fundamentals in Measurements, Probability, Statistics and Dimensions* (McGraw-Hill).

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. B. Warner.

220.0 POLLUTION CONTROL

Prerequisite: second year standing. This course is open to students of all faculties.

An introduction to the fundamental concepts of pollution control. Problems of water, air, soil and noise pollution are presented from various points of view. Pollutant characteristics, their effects on the environment and on public health, the technology of waste treatment and pollution control, legal controls, resource management, sociological considerations. Pollution control experience in Nova Scotia will be used to illustrate course material where applicable.

Lectures: two hours a week, two semesters.

Seminars: one hour a week, two semesters.

Instructors: D. B. Warner, D. L. Mulrooney.

302.0 ENGINEERING MECHANICS (DYNAMICS)

Prerequisite: Mathematics 210.1-211.2, Mathematics 311.0 (concurrently), Engineering 203.1 (203.2).

Equations of motion in rectangular and polar coordinates, relative motion, rectilinear, curvilinear and rotational motion of particles and rigid bodies, oscillating motion, moments of inertia, work, energy and power, impulse and momentum.

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

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: W. P. Boyle.

303.1 FLUID MECHANICS

Prerequisite: Mathematics 210.1-211.2.

Fluid properties, fluid statics, conservation of mass and energy. Euler's equation of motion and Bernoulli's equation, linear momentum equation and applications, dimensional analysis and similitude, viscous effects on fluid flow, fluid measurement.

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

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: L. A. Schienbein.

ENGINEERING

304.2 MECHANICS OF DEFORMABLE BODIES

Prerequisite: Engineering 203.1 (203.2), Mathematics 210.1-211.2.

Stress and Strain — concepts and definitions, fundamentals of elasticity, torsional loading, flexural loading, statically indeterminate structures.

Text: Higdon, Olsen, Stiles and Weese, *Mechanics of Materials, 2nd edition* (John Wiley).

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. L. Mulrooney.

306.1 ENGINEERING THERMODYNAMICS

Prerequisite: Physics 221.0, Mathematics 210.1-211.2.

Energy and the first law, properties and state, energy analysis of thermodynamic systems, entropy and the second law, consequences of second law, thermodynamic systems.

Text: Reynolds, *Thermodynamics, 2nd edition* (McGraw-Hill).

Laboratory: three hours a week, one semester.

Instructor: D. B. Warner.

308.0 SYSTEM DYNAMICS

Prerequisite: Physics 221.0, Mathematics 311.0 (concurrently).

The analysis of linear systems is dealt with in some detail and considerable emphasis is placed upon their practical applications. Topics include fundamental laws of electrical engineering circuit parameters, network theorems, impedance, solution of DC and AC network problems, magnetic circuits, transformers, introduction to electromechanical energy conversion, semiconductor electronics.

Text: Vincent Del Toro, *Electrical Engineering Fundamentals* (Prentice-Hall, 1972).

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: D. A. Roy.

314.1 ENGINEERING MATERIALS

Prerequisite: Chemistry 203.0, Physics 221.0, Mathematics 210.1-211.2.

Electrons and bonding, atomic packing, crystal structure, imperfections in crystals, non-crystalline solids, the shapes and distributions of phases in solids, equilibrium diagrams, non-equilibrium diagrams, non-equilibrium phase transformations, macroscopic properties of materials.

Text: Moffatt, Pearsall and Wulff, *The Structure and Properties of Materials, Volume I* (John Wiley); J. E. Gordon, *The New Science of Strong Materials* (Penguin Books).

Lectures: three hours a week, one semester.

Instructor: D. L. Mulrooney.

ENGLISH

Chairman, Assistant Professor	D. H. Parkin
Professor	J. G. Harrison
Associate Professors	R. H. Crowther, L. Falk, T. E. Flynn, G. B. Hallett, K. MacKinnon, R. Perkyns, J. Power, S.J.
Assistant Professors	J. Baker, C. J. Byrne, D. P. Healy, D. Pigot, A. T. Seaman, C. J. Terry, K. R. Tudor, T. A. Whalen.
Lecturer	M. J. Larsen

The Introductory Program:

English 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, Engineering 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.

The Non-Major Program:

After English 200.0, students who do not wish to major in English may select courses from the 300-310 range, or at other levels in consultation with the department. The 300-310 courses are designed specifically for non-majors and will not require a specialized degree of preparation.

The Major Program:

An English major is required to complete 6 (six) English courses beyond English 200.0. The core of the English program comprises the following 3 (three) courses: English 340.0 — **The Study of Poetry**, English 341.0 — **A Study of the Novel: Defoe to Lawrence**, and English 354.0 — **Shakespeare**. These a student must take after successful completion of English 200.0. The core courses may be taken simultaneously or over two consecutive years, depending on whether a student expects to complete his degree in three or four years.

Additionally, an English major should complete three further English courses as electives in the third and fourth year, depending on the particular program being followed.

Students will normally follow either of two schemes:

Three Year Degree	Four Year Degree
First Year: English 200.0	First Year: English 200.0
Second Year: English 340.0 English 341.0 English 354.0	Second Year: English 340.0 English 341.0
Third Year: English Elective English Elective English Elective	Third Year: English 354.0 English Elective
	Fourth Year: English Elective English Elective

The Honors Program

All prospective Honors students should refer to the section of this calendar pertaining to honors degrees and apply to the Registrar's Office for enrolment in Honors after their first year in the university. Honors students will normally take English 552.0, the Honors Seminar and at least one of English 550.0 and 551.0. Please consult the chairman of the department for further advice.

Note on revised prerequisites and major requirements:

The revised prerequisites and major requirements which appear in this year's calendar will not be applied rigidly to students who have already commenced a major program. Such students are encouraged to discuss their forthcoming courses with a member of the department.

At this juncture between old and new prerequisites, a credit in the old English 130.0 will be considered as equivalent to English 200. Prospective English majors should have an above average grade in the old English 130.0 or 201.0.

**Courses starred with an asterisk will not be offered in 1974-75.*

ENGLISH

110.0

Students eligible for advance standing in English will be given this number for a course credit.

200.0 INTRODUCTORY ENGLISH

Prerequisite: Junior or Senior Matriculation or equivalent.

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. Accreditation will depend on a pass in both course work and a final 'Use of English' examination.

Lecture and seminar: 3 hours a week, two semesters. One extra hour a week on language tutorials for selected students.

300.0 COMPARATIVE LITERATURE: EUROPE

Prerequisite: English 200.0 or equivalent.

A seminar course examining some of the characteristics of West European literature and a consideration of whether or not it is worth reading. Details of texts will be posted.

Lectures: three hours a week, two semesters.

Instructor: C. J. Terry.

301.0 THE MODERN NOVELLA

Prerequisite: English 200.0 or equivalent.

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*.

Lectures: three hours a week, two semesters.

Instructor: T. Flynn.

302.0 CONTEMPORARY CANADIAN LITERATURE

Prerequisite: English 200.0 or equivalent.

Though the whole purpose of this course is to create an exploratory and experimental atmosphere, this purpose would also include 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 might include: Callaghan, MacLennan, Ross, Ringuet, Buckler, Garner, Richler, Moore, Atwood, Laurence, Nowlan, Purdy, Layton, and others.

Lectures: three hours a week, two semesters.

Instructor: J. Baker.

*303.0 SHAKESPEARE

Prerequisite: English 200.0 or equivalent.

Provisionally, intensive study will be required of the following texts: *Love's Labours Lost*, *The Merchant of Venice*, *Twelfth Night*, *As you Like It*, *Hamlet*, *Othello*, *Antony and Cleopatra*, *The Winter's Tale*. Reference will be made to other Shakespearian plays, and to such literary background material of the Elizabethan period as will enrich the study of the major texts.

Lectures: three hours a week, two semesters.

304.0 THE DEVELOPMENT OF DRAMA IN THE THEATRE

Prerequisite: English 200.0 or equivalent.

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.

Lectures: three hours a week, two semesters.

Instructor: R. Perkyns.

*305.0 INTRODUCTION TO LINGUISTICS

Prerequisite: English 200.0 or equivalent.

The course surveys past and present approaches to linguistic science with reference to phonetics, phonemics, morphology, syntax, semantics, and classification of languages.

Lectures: three hours a week, two semesters.

306.0 RELIGION AND DRAMA (See Religious Studies 305.0)

Prerequisite: English 200.0 or equivalent.

Instructor: E. Stiegman.

*307.0 RELIGION IN 20TH CENTURY POETRY (See Religious Studies 336.0)

Prerequisite: English 200.0 or equivalent.

ENGLISH

308.0 LITERATURE IN ATLANTIC CANADA

Prerequisite: English 200.0 or equivalent.

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. Writers to be examined will include: C. G. D. Roberts, B. Carman, R. Norwood, E. J. Pratt, K. Leslie, C. Bruce, F. Cogswell, A. Nowlan, M. Acorn, T. McCulloch, T. C. Haliburton, G. M. Grant, A. MacPhail, L. M. Montgomery, M. MacPhail, T. Raddall, H. MacLennan, E. Buckler, H. Horwood, S. Gray, R. Smith, and A. R. Scammell.

Lectures: two lectures, one seminar a week.

309.0 LITERATURE BETWEEN THE WARS: 1918-1939

Prerequisite: English 200.0 or equivalent.

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

Lectures: three hours a week, two semesters.

340.0 THE STUDY OF POETRY

Prerequisite: Grade of C in English 200.0 or equivalent.

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.

Lecture and seminar: 3 hours a week, two semesters.

Instructors: J. G. Harrison, T. A. Whalen.

341.0 A STUDY OF THE NOVEL: DEFOE TO LAWRENCE

Prerequisite: Grade of C in English 200.0 or equivalent.

A study of major novels and movements from the 18th century to the present. Close attention will be paid to methods and problems of reading and analysis. Texts will be selected to illustrate a variety of general topics such as realism, romanticism, gothicism, allegory, naturalism, social and psychological realism. Authors may include Defoe, Austen, Dickens, Eliot, Hardy, James, Conrad and Lawrence.

Lecture/Seminar: three hours a week, two semesters.

Instructors: M. Larsen, K. Tudor.

350.0 HISTORY OF THE ENGLISH LANGUAGE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

Instructor: L. Falk.

352.0 CHAUCER AND THE 14TH CENTURY

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

Instructor: D. Pigot.

*353.0 TUDOR POETRY AND PROSE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

A study of the poetry and prose mainly of the Tudor era. Major emphasis will be given to the works of Wyatt, Surrey, Sidney, and Spenser.

Lectures: three hours a week, two semesters.

354.0 SHAKESPEARE

Prerequisite: English 200.0 and enrolment in the English major program, or permission of the department.

A study of at least six major plays of Shakespeare. Each year, one of the following will be studied in particularly close detail: *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Antony and Cleopatra*, *The Tempest*.

Supplementary reading will be required in such areas as Greek tragedy, Medieval drama, post-Shakespearean tragedy and comedy, and poetry of the 16th and 17th centuries.

Lecture and seminar: 3 hours a week, two semesters.

Instructor: T. A. Whalen.

ENGLISH

355.0 ELIZABETHAN AND JACOBEAN DRAMA

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

This course excludes attention to Shakespeare and concentrates mainly on the dramatic works of Marlowe, Jonson, Beaumont, Fletcher, and Webster.

Lectures: three hours a week, two semesters.

Instructor: G. B. Hallett

356.0 17TH CENTURY POETRY AND PROSE: 1600-1660.

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

An enquiry into the change of civilization in England during the 17th century, with comparative reference to some European sources. The inquiry will include the questions: Is the poetry and prose of this period worth reading? What is worth reading in it? Why (or why not) is it worth reading?

Lectures: three hours a week, two semesters.

Instructor: D. H. Parkin

400.0 RESTORATION AND 18TH CENTURY POETRY AND PROSE: 1666-1780

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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

Lectures: three hours a week, two semesters.

Instructor: J. Power, S.J.

*401.0 THE NOVEL: DEFOE TO AUSTEN

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

402.0 THE 19TH CENTURY NOVEL

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

Instructor: T. E. Flynn

403.0 ROMANTIC POETRY

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

Instructor: A. Seaman.

404.0 VICTORIAN POETRY AND PROSE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

Instructor: J. G. Harrison.

*405.0 19TH CENTURY NORTH AMERICAN LITERATURE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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

Lectures: three hours a week, two semesters.

*406.0 20TH CENTURY NORTH AMERICAN LITERATURE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

ENGLISH

*407.0 MODERN ENGLISH POETRY

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lectures: three hours a week, two semesters.

408.0 20TH CENTURY DRAMA

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

A study of the major dramatists from the late 19th century to contemporary movements. Dramatists to be studied include Ibsen, Chekhov, Strindberg, Shaw, Synge, O'Casey, O'Neill, Pirandello, Brecht, Wilder, Williams, Miller, Beckett, Ionesco, Pinter, Osborne and Albee.

Lectures: three hours a week, two semesters.

Instructor: R. Perkyns.

410.0 THE MODERN NOVEL

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lecture/seminar: three hours a week, two semesters.

Instructor: C. J. Terry

411.0 THEORY AND PRACTICE OF CRITICISM

Prerequisite: English 340.0 and 341.0. Students may select the course only if they have the approval of the Department.

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

Lectures: three hours a week, two semesters.

Instructor: R. H. Crowther.

412.0 THE DEVELOPMENT OF ENGLISH CANADIAN LITERATURE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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, Innis, G. P. Scott.

Instructor: K. MacKinnon.

Lecturers/Seminars: three hours a week, two semesters.

413.0 MODERN ANGLO-IRISH LITERATURE

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

A study of the contradictions and fissures in modern Ireland as these are seen through the imagination of her writers. An attempt will be made to relate this study to the social and intellectual background of the Atlantic area which is beset by many of the same problems as Ireland and blessed with similar advantages as well. The writers studied will include: W. B. Yeats, J. M. Synge, G. B. Shaw, Sean O'Casey, Maurice O'Sullivan, Liam O'Flaherty, James Joyce, P. U. Kavanaugh, Padraic Colum, Sean O'Faolain, James Stephens, J. B. Kane, and Brian Freele.

Lectures: three hours a week, two semesters.

Instructor: C. Byrne.

*414.0 DRAMA & SOCIETY - RESTORATION TO LATE 19TH CENTURY

Prerequisite: English 340.0 and 341.0 or concurrent enrolment therein, or permission of the department.

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.

Lecture and Seminar: three hours a week.

ENGLISH

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 invited to discuss their special interest with a member of the department during the preceding academic year. In any case, a list of current offerings will be available at registration.

Tutorials: by arrangement with supervisor.

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 invited to discuss their special interest with a member of the department during the preceding academic year. In any case, a list of current offerings will be available at registration.

Tutorials: by arrangement with supervisor.

550.0 SPECIAL AUTHOR

Prerequisite: enrolment 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, two semesters.

551.0 SPECIAL SUBJECT

Prerequisite: enrolment 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, two semesters.

552.0 LITERATURE AND CRITICISM SEMINAR

Prerequisite: enrolment 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.

Seminars: two hours a week, two semesters.

Instructor: C. J. Terry.

GEOGRAPHY

Associate Professor
Assistant Professor

D. Day
B. Robinson

Geography 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 will initially develop a major program that will be of use to people who wish to teach geography or who are concerned with urban and regional development.

NOTE: Students who have taken Anthropology 152.0, 209.0, 220.0 or 340.0 are not permitted to take Geography 152.0, 209.0, 220.0 or 340.0.

General requirements for majors

- (1) To obtain a major in Geography a student is required to have six university credits in Geography above the 152.0 level. Geography 152.0 does not count towards the major.
- (2) Students without university experience are advised to commence their studies in Geography with course 152.0. Students with junior matriculation *must* begin their geography program with course 152.0.
- (3) No less than four of the six courses comprising the major must be taken at the 300.0 level or above. Geography 300.0 must be taken by all majors.
- (4) In order to graduate with a major in Geography, a student must maintain an average of C or more in Geography courses.
- (5) All majors must follow a program of study established in conjunction with, and approved by, a member of the Geography Department and must have the program approved by the department at the beginning of each year.

**Courses marked with an asterisk will not be offered in 1974-75. It is anticipated that Geography 203.0 and Geography 402.0 will be offered during the 1975 summer session.*

152.0 INTRODUCTION TO HUMAN AND PHYSICAL GEOGRAPHY

The course establishes the general physical characteristics of the world's natural environments and then goes on to examine simple human relationships within these environments.

The main theme in the physical section centers on the earth as a unit. The link between man and 'space-ship earth' will be considered in the context of human adaptations to limited resources.

Lectures: three hours a week, two semesters.

Instructor: B. Robinson.

200.0 GEOGRAPHY OF CANADA

A study of the geography of Canada with special emphasis on the Atlantic Provinces. Topics considered will include the influence of the physical environment on human activity, the utilization of resources, the spatial distribution of industrial and tertiary sector development, population distribution and movement, regional problems, interregional relationships and the geographical background to national development problems. The course will include an examination of government attempts to promote change through various regional development and planning programs.

Lectures: three hours a week, two semesters.

Instructor: D. Day.

*203.0 PHYSICAL GEOGRAPHY

Prerequisite: Geography 152.0 or permission of the instructor.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters, or field work.

GEOGRAPHY

209.0 CULTURAL ECOLOGY

Prerequisite: Geography 152.0.

A student who wants to use this course as a credit towards a geography major must have either Geography 152.0 as a prerequisite or take Geography 200.0 or 203.0 concurrently with Geography 209.0.

Instructor: B. Robinson.

NOTE: (See Anthropology 230.0).

220.0 INTRODUCTION TO CULTURAL GEOGRAPHY

Prerequisite: Geography 152.0.

A study of the cultural imprint of man on the world's landscapes. The course ranges from primitive societies to modern urban systems and includes brief introductions to mapping techniques, map interpretation and simple statistical procedures.

Lectures: three hours a week, two semesters.

Instructor: B. Robinson.

300.0 HALIFAX-DARTMOUTH AND THE ATLANTIC REGION

Prerequisite: a 200 level Geography course or permission of instructors.

The course will study selected aspects of the geography of Halifax-Dartmouth and the Atlantic Provinces primarily through the use of basic geographical techniques such as mapping, map interpretation, air photo interpretation, surveys and field work.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters or field work.

Instructor: D. Day

301.0 ELEMENTS OF ECONOMIC GEOGRAPHY

Prerequisite: Geography 152.0 or permission of the 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 development, to regional economic interaction and to efforts to promote the geographical reorganization of economic activity.

Lectures: three hours a week, two semesters.

302.0 SETTLEMENT GEOGRAPHY

Prerequisite: Geography 152.0 or 200.0, or 220.0 or permission of the 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.

Lectures: three hours a week, two semesters.

304.0 GEOGRAPHY OF THE SEAS

Prerequisite: Geography 152.0 or permission of the 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.

Lectures: three hours a week and field work.

Instructor: D. Day.

GEOGRAPHY

***310.0 GEOGRAPHY OF THE UNITED STATES**

Prerequisite: Geography 152.0 or one 200 level Geography course or permission of the 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.

Lectures: three hours a week, two semesters.

340.0 CULTURAL GEOGRAPHY OF CHINA

Prerequisite: preference will be given to students who attended geography courses on lower levels.

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.

Lectures: three hours a week, two semesters.

Instructor: B. Robinson.

***402.0 URBAN ANALYSIS AND URBAN PLANNING**

Prerequisite: Geography 302.0 or permission of the instructor.

An examination of the theories, models and research procedures used in the spatial analysis of urban areas and a critical review of efforts to plan urban development and redevelopment. Topics include urban systems and functions, urban land use and land values, spatial economic processes, urban growth, the rural urban fringe, individual spatial behavior, intra-urban circulation, the spatial framework of public and private decision-making and an appraisal of North American and European attempts at urban planning.

Lectures: three hours a week, two semesters and field work.

GEOLOGY

Chairman, Associate Professor C. A. R. de Albuquerque
Professor D. Hope-Simpson
Associate Professor Q. A. Siddiqui

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.

The core courses in both programs are the five Geology courses numbered 311.0, 322.0, 324.0, 411.0 and 413.0.

Registration in other 400-level Geology courses is open, as an elective, to students enrolled for the Science degree.

Students enrolled in the Geology major program will normally take courses numbered 450 to 499, with a choice of specialization in the fields of 'hard rock' or 'soft rock' geology.

Registration in courses numbered 310 and above is with consent of the Department. Normally 400-level courses will follow 300-level courses, although some prerequisites may be waived with the consent of the Department.

Students should seek advice from the Department as to their electives and supporting courses. For example, students wishing to specialize in 'soft rock' geology should choose supporting courses in biology, while those in 'hard rock' should give their preference to chemistry.

Senior students are encouraged to participate in research projects being carried out in the Department.

Courses starred with an asterisk will not be offered in 1974-75.

111.0 INTRODUCTION TO GEOLOGY

The Earth as a planet; minerals and rocks, surface and deep-seated processes. Structural evolution of North America with special reference to the Maritime area. Historical Geology. Economic Geology.

Lectures: three hours a week, two semesters.

Laboratory/Seminar: two hours every second week.

Field work as specified.

Instructor: D. Hope-Simpson.

201.0 PRINCIPLES OF GEOLOGY

Prerequisite: Physics 111.0 and/or Chemistry 101.0 or equivalent.

Earth materials, geological cycles, geologic time. External processes: deformation, the earth's interior, volcanoes, plutonism, metamorphism. Evolution of the lithosphere.

Field work: maps and mapping.

Text: *Geology Today* (C.R.M. Publications).

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructors: C.A.R. de Albuquerque, Q. A. Siddiqui.

204.0 THE FACE OF THE EARTH

Prerequisite: none.

The earth's upper mantle and crust. The development of continents and ocean basins. Continental drift. The evolution of North America. Special topics will be presented in seminars.

Lectures: three hours a week.

Laboratory/Seminar: one hour every two weeks.

311.0 CRYSTALLOGRAPHY AND MINERALOGY

Morphological classification and atomic structure of crystals; chemical mineralogy and determinative mineralogy, optical mineralogy.

Text: Kerr, *Optical Mineralogy*; Deer, Howie and Zussman, *Introduction to Rock-forming Minerals*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

322.0 PALEONTOLOGY

Fossils, their nature and mode of preservation. The morphology, classification and stratigraphic ranges of the main groups of invertebrate fossils. Elementary vertebrate paleontology.

Text: R. Moore, *Invertebrate Fossils*; Raup and Stanley, *Principles of Paleontology*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: Q. A. Siddiqui.

GEOLOGY

324.0 STRATIGRAPHY AND HISTORICAL GEOLOGY

Principles of stratigraphy. Historical geology and tectonic evolution of North America. Principles of stratigraphic paleontology; paleoecology; facies; faunal and floral assemblages.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

355.0 ANALYTICAL CHEMISTRY FOR CHEMISTS AND GEOLOGISTS (CHEMISTRY 331.0)

An integrated lecture-laboratory course at the intermediate level with emphasis on analytical methods of importance to chemists and geochemists.

Lecture/Laboratory: six hours a week, two semesters.

411.0 PETROLOGY

The optical properties of minerals. The description and interpretation of igneous sedimentary and metamorphic rocks.

Text: Turner and Verhoogen, *Igneous and Metamorphic Petrology*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: C. A. R. de Albuquerque.

413.0 STRUCTURAL AND FIELD GEOLOGY

Primary and secondary structures of rocks; field mapping; map interpretation; graphical analysis of structural field observations; tectonics. Students are strongly recommended to attend the Maritime Universities Geological Field School early in May preceding or following this course.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

*453.0 IGNEOUS AND METAMORPHIC PETROLOGY

Modern concepts and theories of petrogenesis. Study of selected suites of igneous rocks and metamorphic complexes. Igneous rocks, lunar rocks and meteorites.

Text: Turner and Verhoogen, *Igneous and Metamorphic Petrology*; Winkler, *Petrogenesis of Metamorphic Rocks*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: C. A. R. de Albuquerque.

*455.0 GEOCHEMISTRY

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

Text: K. H. Wedepool, *Geochemistry*.

Lectures: three hours a week, two semesters.

Instructor: C. A. R. de Albuquerque.

457.0 ECONOMIC GEOLOGY

The occurrence and classification of ore-deposits; theories of origin; field and laboratory investigations; surface and underground mapping problems.

Text: to be announced. Reference to Journals.

Lectures: three hours a week, two semesters.

Laboratory: Three hours a week, two semesters.

462.0 MICROPALAEONTOLOGY

Principles of Micropaleontology: major groups of micro-fossils and their use in the petroleum industry. Paleocology and correlation. Techniques of collection, preparation and identification.

Text: F.P.C.M. Van Morkhoven, *Post Palaeozoic Ostracoda*; J. A. Cushman, *Foraminifera*.

Lectures: two hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Field work as required.

Instructor: Q. A. Siddiqui.

*464.0 SEDIMENTOLOGY

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

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

*456.0 PETROLEUM GEOLOGY

The origin, migration and accumulation of oil and natural gas. Types of oil bearing structures, basic principles in oil exploration, geological and geographical distribution of oilfields.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

HISTORY

Chairman, Assistant Professor E. Haigh
 Professors S. Bobr-Tylingo, J. R. MacCormack
 Associate Professors R. Bollini, M. Sun
 G. F. W. Young
 Assistant Professors R. H. Cameron, C. Howell
 B. Kieseckamp, W. Mills
 D. W. Robson

DEPARTMENTAL POLICY

1. To obtain a major concentration in history a student is required to have five university credits in history beyond 120.0. A history credit from high school will satisfy the Bachelor of Arts requirement for a compulsory history credit but will not count towards the history concentration. A history major must have six university history credits in the B.A. degree program.
2. The History Department strongly advises that students without university experience begin their studies in the History Department with the 120.0 level courses. Please note: Students with junior matriculation must begin their studies in the Department on the 120.0 level.
3. At least 50% of a student's elective work must be done at the 300.0 level or above. Suggested supporting courses for history majors include: political science, economics, anthropology, sociology, and religious studies.
4. For double numbered courses (300.0 600.0), undergraduates will enrol at the 300.0 level and graduates at the 600.0 level. Graduate students will be expected to attain a higher standard of achievement.
5. The honors program in history follows the regulations as stated in this calendar.
6. All students majoring in history are strongly advised to have two university credits in a foreign language. In the case of students majoring in Canadian History, French is specified as the language.
 PLEASE NOTE: This language requirement, however, is no longer compulsory for a history major.
7. The program for a major in history must be approved by the Department.

COURSE DESCRIPTIONS (GENERAL)

- (a) All history courses are full credit and are year-length courses.
- (b) History 121.0, 122.0, 123.0 and 124.0 are survey courses which fulfill the University requirement of one history credit for the B.A. degree. These courses normally combine lectures with small tutorial group meetings. Three hours a week is the time allotment. These courses can also be counted toward a major in History.
- (c) History courses on the 200.0 level and 300.0 level are frequently structured to consist of both lectures and seminars. 200.0 level courses normally meet for 3 hours a week, 300.0 level courses for at least 2 hours a week.
- (d) History courses on the 500.0 level are seminar courses designed for advanced work by history majors and honors students in their junior and senior years and for Master's candidates. These classes meet for at least 2 hours a week.
- (e) History courses on the 600.0 level are graduate courses. Certain courses at other levels may be taken for graduate credit and will be designated as follows: for example, 340.0 (640.0).

The following courses will be offered by the Department of History during the 1974-75 academic year:

121.0	203.0	303.0	323.0	500.0	690.0
122.0	204.0	312.0	325.0	504.0	
123.0	209.0	313.0	333.0	515.0	
124.0	210.0	314.0	334.0		
	212.0	315.0	336.0		
	220.0	316.0	338.0		
		317.0	339.0		
		318.0	342.0		
		319.0	343.0		
		321.0	346.0		
		322.0			

HISTORY

The courses below marked with an asterisk () will not be offered during the 1974-75 academic year. Students are urged to check with the Department prior to registration to confirm the Department's offerings.*

100.0

Students eligible for advanced standing in History will be given this number for a credit.

121.0 CIVILIZATION IN THE WEST

A course designed to explore the origins and development of the characteristic political, legal, and cultural institutions of western civilizations and their impact on other cultures.

Instructor: R. Bollini.

122.0 SURVEY OF THE HISTORY OF CANADA

A survey course 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.

Instructor: B. Kieseckamp.

123.0 SURVEY OF THE HISTORY OF THE UNITED STATES

A survey of U.S. History from its colonial beginnings to the present. Attention will be given to central themes from the Revolution to World War II.

Instructor: C. Howell.

124.0 A HISTORY OF BRITAIN - 1066 TO THE PRESENT

This course is a general survey of British civilization from the Anglo-Saxon period to the present. The emphasis falls on significant themes rather than narrative history.

Instructor: H. Cameron.

203.0 THE TWENTIETH CENTURY

An historic 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.

Instructor: G. F. W. Young.

204.0 EUROPE 1815 - 1945

An introduction to 19th and 20th century Europe with particular emphasis on the diplomatic background of the First and Second World Wars.

Instructor: S. Bobr-Tylingo.

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.

Instructor: M. Sun.

210.0 MODERN LATIN AMERICA

A survey of the emergence and historical development of the Latin American nations since their independence from Spain and Portugal in the early 19th century. The course will focus especially on the political, economic and social evolution of the more populous nations.

Instructor: G. F. W. Young.

*211.0 THE HISTORY OF SCIENCE

The course will cover the major innovations and developments in science and theory from 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.

Instructor: E. Haigh.

212.0 THE 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.

Instructor: E. Haigh

220.0 BRITISH EMPIRE-COMMONWEALTH

A study of trends in 18th and 19th century Britain with special emphasis on the practice and theory of imperialism.

Instructor: W. Mills.

303.0 (603.0) TUDOR AND STUART ENGLAND

Prerequisite: one university History course or the consent of the instructor.

A history of England with special emphasis on the development of the English parliament.

Instructor: J. R. MacCormack.

HISTORY

*306.0 (606.0) MONARCHY AND REVOLUTION

Prerequisite: one university History course or the consent of the instructor.

Between 1648 and 1815, the West made its greatest efforts to build a consensus from the remnants of medieval polity and the strengths of the new, analytical ideal. As the culmination of these efforts, the Atlantic revolutions of the last quarter of the 18th century are at the center of this course.

Instructor: R. Bollini.

*311.0 (611.0) MEDIEVAL ENGLAND

Prerequisite: one university History course or the consent of the instructor.

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

Instructor: H. Cameron.

312.0 (612.0) MEDIEVAL EUROPE

The main currents of medieval European history with special emphasis on the intellectual and cultural aspects.

Instructor: H. Cameron.

313.0 (613.0) EUROPE 1815-1870

In this course particular emphasis will be placed on the history of France, on the revolutions of 1848-1849, and on the unification of Germany and Italy.

Instructor: S. Bobr-Tylingo.

314.0 (614.0) EUROPE 1870-1945

Emphasis will be placed upon the background of World Wars I and II and the problems of modern industrial society.

Instructor: S. Bobr-Tylingo.

315.0 (615.0) 19TH CENTURY BRITAIN

Prerequisite: one university History course or the consent of the instructor.

A study of society and values in the leading world power of the age.

Instructor: H. Cameron.

316.0 (616.0) FOUNDATIONS OF AMERICAN HISTORY: COLONIAL PERIOD TO 1789.

Prerequisite: one university History course or the consent of the instructor.

A course which is concerned with the founding of the American nation. Attention will be given to colonization, the growth of the Thirteen Colonies, their relationship with Great Britain culminating in the Revolution, and the establishment of the United States of America.

317.0 (617.0) AMERICA IN THE 19TH CENTURY

Prerequisite: one university History course or the consent of the instructor.

A course which discusses the growth of the United States from an agrarian, importing nation to an industrial, exporting nation. Emphasis will be on the internal problems of developing the country, the expansion into the West, the Civil War, and the triumphs of the industrialists.

318.0 (618.0) AMERICA IN THE 20TH CENTURY

Prerequisite: one university History course or the consent of the instructor.

A course concerned with the rise of financial capitalism and its relationship to the development of the United States as a world power.

Instructor: C. Howell.

319.0 (619.0) CANADIAN-AMERICAN RELATIONS

This course will examine basic developments in Canadian-American relations. Emphasis will be on the events of the geographical region of New England and the Maritime Provinces. 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.

Instructor: C. Howell.

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.

Instructor: W. Mills.

HISTORY

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.

Instructor: W. Mills.

323.0 (623.0) DYNASTIC HISTORY OF CHINA 618-1911

Prerequisite: two History courses or the consent of the instructor.

A study of society, government and intellectual development in China during the T'ang, Sung, Ming and Ch'ing dynasties, with special attention to factors affecting the rise and decline of dynasties.

Instructor: M. Sun.

*324.0 (624.0) CULTURAL HISTORY OF JAPAN 710-1868

Prerequisite: two History courses or the consent of the instructor.

A study of the evolution of Japanese society and culture from the Nara period to the Tokugawa shogunate in the 19th century. Special emphasis will be placed on the transition from the period of imitation of the Chinese model to the emergence of a characteristically Japanese culture.

Instructor: M. Sun.

325.0 (625.0) THE IBERIAN EMPIRES IN THE NEW WORLD 1492-1810

Prerequisite: one History course or the consent of the instructor.

The history of colonial Latin American with special emphasis on the Iberian maritime expansion, conquest, and colonization of the New World; the survival and continuing influence of the Amerindian peoples in the colonial world; the impact of the African negro on colonial society; and the administration, economy and final collapse of the empire.

Instructor: G. F. W. Young.

*326.0 (626.0) THE IBERIAN PENINSULA FROM ROMAN TIMES TO THE PRESENT

Prerequisite: one History course or the consent of the instructor.

A study of the History of Spain and Portugal from their Roman foundations to the present, with special emphasis on the period since the reign of Ferdinand and Isabella.

*327.0 (627.0) A HISTORY OF NEW FRANCE TO 1791

Prerequisite: one university History course or the consent of the instructor.

This course will involve a study of the cultural, social, political, and economic development of the French regime in America. In addition, it will attempt to deal with the immediate consequences of the Conquest insofar as they were reflected in this development.

*328.0 (628.0) A HISTORY OF BRITISH NORTH AMERICA 1763-1867

Prerequisite: one university course in History or the consent of the instructor.

This course will examine the major political, social, economic, religious, and intellectual trends evident in British North America in the period following the Treaty of Paris, 1763. Special attention will be given to the historiography of this period.

*329.0 (629.0) HISTORY OF CANADA 1849-1920

Prerequisite: one university course in History or the consent of the instructor.

This course deals with the problems arising from the attempt to build a British North American nation in the age of Macdonald and Laurier.

Instructor: B. Kieseckamp.

333.0 (633.0) A HISTORY OF CANADA IN THE 20TH CENTURY

Prerequisite: one university History course or the consent of the instructor.

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.

Instructor: B. Kieseckamp.

HISTORY

334.0 (634.0) MYTH AND HISTORY: THE PROBLEM OF INTERPRETING HUMAN EXISTENCE

Prerequisite: consent of the instructor.

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 Religious Studies 306.0.

Instructor: R. Bollini.

*335.0 (635.0) RESTORATION AND 18TH CENTURY ENGLAND

Prerequisite: one university History course or consent of the instructor.

The emphasis will fall on the continuity and development of institutions, procedures and ideas. Politics and the constitution receive special attention.

Instructor: H. Cameron.

336.0, 346.0 ENVIRONMENT, INSTITUTIONS (636.0, 646.0) AND VALUES IN CANADA AND THE UNITED STATES DURING THE 19TH AND 20TH CENTURIES

Prerequisite: two university History courses, one of which must be in either Canadian or American History, or the consent of the instructor.

Students must register concurrently in 336.0 and 346.0 and will receive two credits. These courses will examine the development of institutions and attitudes in Canada and the United States during the 19th and 20th centuries. Unlike traditional courses in Canadian-American relations it will deal with the development of the peculiar North-American life-style. Particular emphasis will be put on the role of the frontier and of religion and ideology in the development of national institutions, national myths, and national consensus.

Students will be expected to utilize primary as well as secondary materials including various literary, philosophical, and religious writings.

Instructors: B. Kieseckamp and C. Howell.

*337.0 (637.0) RUSSIA IN REVOLUTION

Prerequisite: two university History courses or consent of the instructor.

The course will begin with the Decembrist revolt of 1825 and end at the time of Lenin's death when Stalin's rise to absolute power was beginning. It will deal with the social, political and intellectual dissent in response to autocratic intransigence which swept 19th century Russia 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.

Instructor: E. Haigh.

338.0 (638.0) THE HISTORY OF FREEDOM IN EAST AND WEST

Prerequisite: one university History course or the consent of the instructor.

The 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.

Instructor: J. R. MacCormack.

339.0 (639.0) RUSSIA AND THE U.S.S.R. SINCE 1917

Prerequisite: two university History courses or consent of the instructor.

The 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.

Instructor: E. Haigh.

*340.0 (640.0) HISTORY OF THE ATLANTIC PROVINCES

Prerequisite: one university History course or the consent of the instructor.

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.

HISTORY

*341.0 (641.0) BRITAIN IN THE 20TH CENTURY

Prerequisite: one university course in History or the consent of the instructor.

The course will attempt to outline and to explain the drastic changes which occurred in the international status and social fabric of the United Kingdom in the present century.

Instructor: H. Cameron.

342.0 (642.0) CHINA IN REVOLUTION 1850-1950

Prerequisite: one university History course.

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.

Instructor: M. Sun.

500.0 READING COURSES IN HISTORY

Prerequisite: the consent of the 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.

Instructor: Staff.

*501.0 THE PURITAN REVOLUTION AND THE CROMWELLIAN PROTECTORATE

Prerequisite: History 303.0 or consent of the instructor.

A pro-seminar with particular emphasis on political and economic changes during the Puritan revolution.

Instructor: J. R. MacCormack.

*503.0 GERMAN FOREIGN POLICY 1890-1945

The history of Germany with special emphasis on German foreign policy.

504.0 BRITISH FOREIGN POLICY 1890-1945

Prerequisite: One of History 203.0, 314.0, 315.0, or the consent of the instructor.

Particular emphasis will be placed on Anglo-American relations, the Anglo-French Entente before 1914, and Anglo-German relations 1930-1945. Students will be expected to do considerable research in the diplomatic documents of the period.

Instructor: J. R. MacCormack.

*505.0 UNITED STATES FOREIGN POLICY 1890-1945

Prerequisite: at least one university course in U.S. History or the consent of the instructor.

Emphasis will be placed on the emergence of the United States as a world power prior to World War I; the retreat into isolation after 1918 and American-Japanese relations to 1941.

*506.0 THE POLITICS OF THE PEACE SETTLEMENT 1919-1921

A seminar in which students will be expected to work closely in the documentary sources.

*508.0 KNOWLEDGE, VALUES AND FREEDOM (cross-listed in 3 other Departments).

Prerequisite: one university course in either History, Philosophy or Religious Studies, or the consent of the instructor.

An inter-departmental 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.

*509.0 THE ERA OF THE AMERICAN CIVIL WAR

A course concerned with the causes and impact of the American Civil War.

HISTORY

*510.0 A PERIOD IN THE HISTORY OF NOVA SCOTIA

Prerequisite: at least one university course in Canadian History or the consent of the instructor.

A course designed especially for Honors History students who will be afforded an opportunity to use the original material in the Public Archives of Nova Scotia. The course will be conducted as a seminar with the presentation of papers on given topics as well as discussion of these papers and related topics.

*511.0 MODERN EAST ASIA, SELECTED PROBLEMS IN MODERNIZATION

Prerequisite: History 209.0 or the consent of the instructor.

The influence of the West on the modernization efforts of China and Japan during the 19th and 20th centuries.

*512.0 SPECIAL TOPICS IN PRECONFEDERATION CANADIAN HISTORY

Prerequisite: at least one university course in Canadian History or the consent of the instructor.

This course will enable students to explore certain historiographical problems in Canadian History and to use primary source material more extensively than is possible in lecture courses.

*513.0 SELECTED PROBLEMS IN CONFEDERATION CANADIAN HISTORY

Prerequisite: at least one university course in Canadian History or the consent of the instructor.

The course is designed to introduce the student in a detailed way to some of the major problems of the Canadian national experience. Particular emphasis will be placed on one or more of the following: the political, economic, social intellectual, and/or religious dimensions of this experience. Students will be introduced to some of the primary documents of the period.

*514.0 PRO-SEMINAR IN LATIN AMERICAN HISTORY

Prerequisite: History 210.0 or the consent of the instructor.

A reading seminar involving an in-depth study and an historiographical research and interpretive paper on a selected period and/or problem in the history of Latin America. The aim of this course is to give students interested in the area a working knowledge of the historiography and an introduction into the problems of original research of the period and/or problem under consideration. While not absolutely required, a reading knowledge of Spanish or Portuguese is strongly desirable.

515.0 DEPARTMENTAL SEMINAR ON HISTORIOGRAPHY

Prerequisite: Senior or graduate standing.

A course designed to familiarize students with various viewpoints dealing with historical material. Each instructor will present a viewpoint of historiography and invite comments. Students in turn will present papers dealing with related topics.

Instructors: History staff.

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 credit will be granted for this course.

Cross-Listed Courses.

The Department is prepared to allow some courses offered by the Departments of Classics, Anthropology and Religious Studies to be cross-listed and counted in a student's History concentration. Students must, in those cases, seek the Department's permission.

MATHEMATICS

Chairman, Associate Professor	K. Singh
Associate Professors	D. Kabe, Y. P. Singh
Assistant Professors	F. Chao, M. T. Kiang P. Scobey
Lecturers	W. Finden, B. White

All courses listed below with the exceptions of Math 321.1 (321.2), 331.1 (331.2), 408-409, 414.0, 420.0, 435.0, 445.0, 449.0, 456-457, and 525.0 are intended to be offered every year. Out of the excepted list the courses to be offered during 1974-75 subject to satisfactory enrolment are Math 408-409, 414.0 and 456-457.

**Courses with an asterisk will not be offered in 1974-75.*

Mathematics courses listed below include courses intended for math majors as well as so-called 'service' courses designed to meet the needs of students majoring in other departments. Two courses falling in the latter category are Math 113.0 and Math 116.2. These courses are not suitable for math majors. The following five courses are required of all math majors.

- (i) Math 110.1 (110.2), 111.1 (111.2) (or credit for Grade XII Math)
- (ii) Math 210.1 (210.2), 211.1 (211.2)
- (iii) Math 310.0 or 311.0
- (iv) Math 320.1 (320.2), 330.1 (330.2)
- (v) Math 349.0

Besides these five, math majors are expected to complete at least two more math courses selected in consultation with the department.

The department also offers an honors program for math majors of above average ability. Math majors in their sophomore year with a grade point average of 2.5 or better in their math courses should consider enrolling in the honors program and, if so inclined, are advised to consult with the department before making a formal application. Honors students are required to take nine full math courses beyond the sophomore level (numbered 300 or above) including courses required for math majors and Math 410 which is compulsory for math honors students.

Math 115.0 is the course designed to meet the needs of liberal arts students who desire a math course but do not have a strong background in mathematics. This course is also open to math majors.

Math 225.0, Math 308-309, and Math 408-409 are intended for students interested in computer science and numerical analysis. These are also open to math majors.

Math 314.0, 414.0, and 420.2 are intended for students interested in probability and statistics. These are also open to math majors.

110.1 (110.2) ALGEBRA AND TRIGONOMETRY I

Prerequisite: Grade XI Mathematics.

Introduction to algebra and trigonometry.

Sets and operations, real numbers, functions, relations, graphs of elementary functions, exponential functions, linear and quadratic inequalities, logarithm.

Lectures: three hours a week, one semester.

Tutorials: one hour a week, one semester.

111.1 (111.2) ALGEBRA AND TRIGONOMETRY II

Prerequisite: Mathematics 110.1 (110.2).

Solution of triangles, trigonometry, polynomials; remainder theorem; sequences, mathematical induction; analytical geometry, algebra of complex numbers.

Lectures: three hours a week, one semester.

Tutorials: one hour a week, one semester.

113.0 MATHEMATICS FOR COMMERCE STUDENTS

Prerequisite: Grade XI Mathematics.

Elementary set theory, real numbers, relations and functions, graphs, exponential and logarithmic functions, sequences and series, permutations, combinations, binomial theorem, inequalities, polynomial functions, systems of linear equations, matrices and solution of linear systems, limits.

Lectures: three hours a week, two semesters.

Tutorials: one hour a week, two semesters.

MATHEMATICS

115.0 HISTORY AND DEVELOPMENT OF MATHEMATICS

Prerequisite: none.

The development of arithmetic, including elementary classification of numbers, the concept of unity to algebraic operations, and artificial numbers. The development of Euclidean and analytic geometry with applications to optics and earth measures. The progress of a system of measures, of trigonometry and the concept of limits from the Greeks to Leibnitz, Newton, and Cauchy. Special attention will be paid to the effects of mathematics on the cultural development of the period.

Lectures: three hours a week, two semesters.

Instructor: F. Chao.

116.2 INTRODUCTION TO DIFFERENTIAL AND INTEGRAL CALCULUS TECHNIQUES

Prerequisite: Mathematics 110.1 (110.2) or concurrently.

Functions and graphs, limits and continuity, derivatives as the rate of change, geometrical meaning of derivative, integration as summation and as the inverse process of differentiation, definite integration, geometrical meaning, techniques for differentiation and integration of elementary function.

Lectures: three hours a week, one semester.

Instructor: D. Kabe.

210.1 (210.2) DIFFERENTIAL CALCULUS

Prerequisite: Grade XII Mathematics or Mathematics 111.1 (111.2).

Inequalities, absolute values, functions, and their graphs, limits and continuity, derivatives, implicit differentiations, application of derivatives to geometrical problems, mechanics and maxima, minima, second derivatives, Rolle's theorem, mean value theorem, differentials and approximations.

Lectures: three hours a week, one semester.

Tutorials: one hour a week, one semester.

211.1 (211.2) INTEGRAL CALCULUS

Prerequisite: Mathematics 210.1 (210.2).

Antiderivative, the definite integral, fundamental theorem of integral calculus, applications of definite integral, techniques of integration, parametric coordinates.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

225.0 ELEMENTS OF COMPUTER SCIENCE

Prerequisite: Grade XII Mathematics but Grade XI Mathematics also may be acceptable.

Algorithms and flowcharts. Input, output, storage, arithmetic and control. Simple machine language, looping and branching. Computer representation of numbers. Implication of finite word lengths and order of operations. Overflow and round off. Data representation and storage, data manipulation. Numerical applications, functions and procedures, character strings, roots of equations, maxima and minima, areas, averages, root-mean-square. A study of FORTRAN and its application. Time-sharing. Data Processing.

Lectures: three hours a week, two semesters.

Tutorials: one hour a week, two semesters.

Instructor: W. Finden.

308.1 (308.2) ELEMENTARY NUMERICAL ANALYSIS, PART I

Prerequisite: Math 211.1 (211.2).

The analysis of various techniques used for solving non-linear equations and the concept of the interpolating polynomial.

Lectures: 3 hours a week, one semester.

Tutorials: one hour a week, one semester.

309.1 (309.2) ELEMENTARY NUMERICAL ANALYSIS, PART II

Prerequisite: Mathematics 211.1 (211.2).

Numerical differentiation, numerical integration, study of solution to systems of linear equations.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

MATHEMATICS

310.0 CALCULUS II

Prerequisite: Mathematics 211.1 (211.2).

Coordinate systems (polar, cylindrical, spherical), indeterminate forms, l'Hopital's rule, improper integrals, determinants and Cramer's rule, vector algebra and three dimensional geometry, vector calculus, partial differentiation, maxima and minima of functions of two variables, multiple integration, infinite sequences and series, convergence, Taylor's theorem in one and two dimensions.

Lectures: three hours a week, two semesters.

Tutorial: one hour a week, two semesters.

Instructor: D. Kabe.

311.0 CALCULUS II FOR ENGINEERING AND SCIENCE STUDENTS

Prerequisite: Mathematics 211.1 (211.2).

Matrices and determinants, vector algebra, infinite sequence series, partial derivations, double integrals, line integrals, algebra of complex numbers, first order differential equations, linear differential equations with constant coefficient. Various engineering applications will be discussed. (Except for its greater emphasis on applications this course covers almost the same material as Math 310.0 and is considered equivalent to that for all departmental purposes).

Lectures: three hours a week, two semesters.

Tutorials: one hour a week, two semesters.

Instructor: F. Chao.

314.0 APPLIED STATISTICS

Prerequisite: Mathematics 211.1 (211.2).

Elements of set theory, probability, conditional probability, Bayes-Laplace rule, binomial, hypergeometric, Poisson, multinomial, uniform, exponential, gamma, beta, and normal distributions. Mathematical expectation, moments, moment generating functions, Chebychev's theorem, sums and random variables, sampling distributions, chi-square, F and T distribution, point and interval estimation, tests of hypotheses, linear regression and correlation, bivariate normal distribution, the method of least squares.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: D. Kabe.

320.1 (320.2) LINEAR ALGEBRA, PART I.

Prerequisite: Mathematics 211.1 (211.2).

This course is meant to equip the student with the minimal basic techniques of linear algebra. Topics to be covered include a complete discussion of linear equations over a field, matrices and their inverses, vector spaces and subspaces, bases dimension and coordinates, linear transformations and their representation by matrices, a brief introduction to inner product spaces.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

321.1 (321.2) LINEAR ALGEBRA PART II

Prerequisite: Mathematics 320.1 (320.2).

This course is intended as a continuation of Math 320 and presents further concepts and techniques of linear algebra. Topics to be covered include determinants, Cramer's rule, minimal polynomials and the Cayley-Hamilton theorem, Canonical forms under similarity, further discussion of inner product spaces, bilinear and quadratic forms.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

330.1 (330.2) ABSTRACT ALGEBRA PART I

Prerequisite: Mathematics 211.1 (211.2).

This course introduces the student to a study of formal algebraic systems with emphasis on group theory and mappings that preserve operations. Topics to be covered include sub-groups, cyclic groups, permutation groups, cosets and factor groups, isomorphisms and homomorphisms and discussion on obtaining more specialized systems from groups by 'adding axioms'.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

*331.1 (331.2) ABSTRACT ALGEBRA, PART II

Prerequisite: Mathematics 330.1 (330.2).

This course is a continuation of Math 330 and discusses additional algebraic structures. Topics to be covered include rings and ideals, integral domains, euclidean, principal ideal and unique factorization domains, fields and field expansions.

Lectures: three hours a week, one semester.

Tutorial: one hour a week, one semester.

MATHEMATICS

349.0 ANALYSIS I

Prerequisite: Mathematics 211.1 (211.2).

Sets, functions, and relations, real numbers field, upper and lower bounds, countability, sequences and subsequences, accumulation points, metric spaces, continuous function, uniform continuity, sequences and series of functions, uniform convergence, integration.

Lectures: three hours a week, two semesters.

Instructor: M. T. Kiang.

408.1 (408.2) ADVANCED NUMERICAL ANALYSIS, PART I

Prerequisite: Mathematics 309.1 (309.2).

The practical applications of the theory in Math 308-309 are discussed along with more advanced theory. Topics to be covered include: errors in numerical analysis, non-linear equations, system of linear equations, systems of non-linear equations and some topics in functional approximations.

Lectures: three hours a week, one semester.

409.1 (409.2) ADVANCED NUMERICAL ANALYSIS PART II

Prerequisite: Mathematics 309.1 (309.2).

This is a continuation of the practical applications as in Math 408.1 (408.2). Topics to be covered include functional approximations, least squares, numerical integration, eigen values, ordinary differential equations.

Lectures: three hours a week, one semester.

410.0 CALCULUS III

Prerequisite: Mathematics 310.0 or 311.0.

Uniform convergence, series and limits vector algebra and matrices, multivariate calculus, Fourier series, Green's, Stokes and divergence theorem, Jacobian and implicit functions theorem.

Lectures: three hours a week, two semesters.

Instructor: P. Scobey.

414.0 INTRODUCTION TO MATHEMATICAL STATISTICS

Prerequisite: Mathematics 310.1 or 311.0.

Non-parametric methods, simple tests and estimation of hypotheses, elements of sampling theory, analysis of variance and related design of experiments.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

*420.0 ACTUARIAL MATHEMATICS — MATHEMATICS OF INSURANCE

Prerequisite: Mathematics 310.0 or 311.0.

Elements of probability, survival function of one or more persons, measures of mortality, commutation functions, premiums and reserves, continuous and varying annuities, stationary population theory, basic actuarial functions, single and multiple life contingencies.

Lectures: three hours a week, two semesters.

425.0 ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS

Prerequisite: Mathematics 310.0 or 311.0.

Classical techniques of solving first and second order equations, systems of equations series solutions, transform methods, introductions to partial differential equations and discussion of simple types.

Lectures: three hours a week, two semesters.

Instructor: Y. P. Singh.

*435.0 THEORY OF FUNCTIONS OF A COMPLEX VARIABLE

Prerequisite: Mathematics 310.0 or 311.0.

A complex plane. Elementary transformations and mapping, 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.

Lectures: three hours a week, two semesters.

MATHEMATICS

*445.0 INTRODUCTORY OPERATIONS RESEARCH

Prerequisite: Mathematics 310.0 or 311.0 and (or concurrently) Mathematics 312.0.

The first half of the course will be devoted to a thorough discussion of linear programming, including geometry of convex sets in dimensional space, a theoretical development of the simplex algorithm, and duality. Approximately one half of the second semester will be devoted to dynamic programming, with the remainder of the term taken up by special topics to be selected from game theory and its relation to linear programming, transportation problems, network problems, decomposition of linear programming problems, integer programming, queuing theory, classical optimization theory, calculus of variations. The selection of topics will vary from year to year, depending on the interest of the students.

Lectures: three hours a week, two semesters.

*449.0 ANALYSIS II

Prerequisite: Mathematics 349.0.

A study of sets, sequences and functions including the Bolzano-Weierstrass, Heine-Borel and Baire Category theorem, measure theory, Lebesgue integration, Fator's, Egoroff's, Lusins' and Birkoff's ergodic theorems, properties of functions of bounded variation.

Lectures: three hours a week, two semesters.

456.1 (456.2) INTRODUCTION TO APPLIED MATHEMATICS PART I

Prerequisite: Mathematics 311.0 or concurrently with Math 425.0.

Review of methods for solving ordinary linear differential equations with constant coefficient, series solution with application to Bessel, and other equations. Differential equations with initial conditions, Green's functions and Laplace transforms, vector and tensors analysis, line integrals, multiple integrals, surface integrals.

Lectures: three hours a week, one semester.

457.1 (457.2) INTRODUCTION TO APPLIED MATHEMATICS PART II

Prerequisite: Mathematics 311.0 or concurrently with Mathematics 425.0.

Theory of functions of a complex variable Fourier series and integrals and solutions of partial differential equations, beta, gamma functions, improper integrals, asymptotic series and solutions.

Lectures: three hours a week, one semester.

*525.0 PARTIAL DIFFERENTIAL EQUATIONS

Prerequisite: Mathematics 425.0.

Derivation of standard second order equations, methods of characteristics, Green's functions, separation of variables, Poisson's integral, integral transforms with emphasis on Laplace methods, special functions.

Lectures: three hours a week, two semesters.

DEPARTMENT OF MODERN LANGUAGES

French — German — Spanish

Chairman, Associate Professor L. Batiot

French

Associate Professors F. Pepin, G. LePierres,
J. Mackriss

Assistant Professors G. Patterson, A. Murphy
Part-time Instructor D. Nevo

German

Associate Professor R. Nahrebecky
Part-time Instructor C. Springer

Spanish

Assistant Professor A. J. Farrell

DEPARTMENTAL POLICY

A — GENERAL

1. French 100.0 is open *only* to students who have never taken French before or whose level is below Grade XI French. The maximum number to be admitted is 20.
1. French 102.0 is taught in French; this course is offered to students entering Saint Mary's University with junior matriculation.
3. Laboratory attendance is regarded as *obligatory* in French 100.0, 102.0, 200.0, 301.0, and 310.1.
Conversational classes are regarded as *obligatory* in French 220.0.

B — MAJOR CONCENTRATION

1. To obtain a major concentration in French, a student is required to have five university credits in French beyond the 102 level.
2. Two different options are open to students in choosing their major concentration in French: Option A (Language and Civilization) and Option B (Language and Literature).

The following courses are available to the students in each of the options:

Option A: French 220.0 (compulsory), French 301.0 (compulsory), French 303.0, French 310.1 and 311.2, French 413.0, French 418.0, French 421.0 and French 422.0.

Option B: French 220.0 (compulsory), French 300.0 (compulsory), French 301.0, French 414.0, French 415.0, French 416.0, French 417.0, French 419.0, French 420.0, French 421.0, and French 422.0.

A student choosing Option A may, however, with the approval of the Department, take some courses included in Option B, and vice-versa. Exceptions to compulsory courses can be made to suit the needs of individual students. Students who wish to register in French 220.0 *must* contact a member of the Department.

3. The courses on the fourth year level will be offered by rotation, except 421.0 and 422.0.
4. The following courses are regarded as desirable electives:
Classics 301.0 (for all students)
Philosophy 203.0 or 208.0 or 209.0 (for all students)
History 122.0 in conjunction with French 419.0
English 401.0 in conjunction with French 414.0
Religious Studies 305.0 in conjunction with French 415.0

C — HONORS

The Honors program in French, German and Spanish follows the regulations stated in this calendar regarding Honors Degrees. Two of the courses to be taken in French are compulsory, French 300.0 and 500.0.

MODERN LANGUAGES

COURSE DESCRIPTIONS (GENERAL)

1. All French, German, and Spanish courses are full credit and are year-length courses.
N.B. French 310.1 and 311.2 are complementary courses, one of which cannot be taken without the other.
2. French courses on the 100.0, 200.0 and 300.0 levels normally meet for three hours a week.
The laboratory attendance (three half-hour periods a week) or the conversational classes are obligatory.
3. The courses on the 400.0 level meet for three hours a week. French 421.0 and 422.0 are offered for students taking option A or option B. They meet two hours a week plus one seminar.
4. The courses on the 500.0 level are seminar courses and research; they include formal tutoring for the presentation of a thesis.
The following courses will be offered by the Department of Modern Languages during the 1974-75 academic year:

French			
100.0	300.0	413.0	500.0
102.0	301.0	414.0	501.0
200.0	310.0	415.0	
220.0	311.2	419.0	
230.0		421.0	
		422.0	
German			
100.0	200.0		
Spanish			
101.0	201.0	305.0	

Courses starred with an asterisk will not be offered in 1974-75.

FRENCH

100.0 INTRODUCTION TO THE FRENCH LANGUAGE

Prerequisite: none.

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.

Text: In collaboration. *Les Français comme ils sont* (Marvin Melnyk Associates).

Lectures: three hours a week, two semesters.

Laboratory: three half hours a week, two semesters.

Instructor: J. Mackriss.

N.B. This course is open only to students who have never taken French before or whose level is below Nova Scotia Grade XI French. Such students enrolled in the course who are not eligible for it will not be granted credit. The maximum number of students to be admitted to the class is 20.

102.0 ORAL AND WRITTEN FRENCH

Prerequisite: Junior Matriculation French.

An audio-lingual course based on modern principles of linguistics, whose main objective is the development of the ability to speak French. It is supplemented by a workbook for written composition and by oral practice in the laboratory.

Lectures: three hours a week, two semesters.

Laboratory: three half hours a week, two semesters.

Instructors: A. Murphy, G. Patterson.

200.0 INTERMEDIATE ORAL AND WRITTEN FRENCH

Prerequisite: Senior Matriculation French or French 102.0.

A continuation of the method adopted in French 102.0 to develop proficiency in the spoken language. The course also includes the writing of free compositions in French on topics of current interest.

Texts: G. Mauger, *Cours de langue et de civilisation françaises* Vol. 1 (Hachette) Fantine, *Textes en français facile* (CEC) Michel Strogoff, *Textes en français facile* (CEC).

Lectures: three hours a week, two semesters.

Laboratory: three half-hours a week, two semesters.

Instructors: G. LePirrès, G. Patterson.

FRENCH

220.0 ADVANCED INTERMEDIATE FRENCH

Prerequisite: Grade XII French or French 102.0.

An oral and written approach to French, including composition, conversation and a review of grammar based on contemporary texts including magazines as well as literary passages.

N.B. Obligatory for all majors and open to those students who have a good knowledge of French, although oral proficiency is not a prerequisite.

Texts: G. Mauger, *Cours de langue et de civilisation françaises* Vol. 2, first part (Hachette); Adrien Thério and James F. Burks, *Témoins du monde français* (Appleton-Century-Crofts).

Lectures: three hours a week, two semesters.

Conversational classes: two one-hour periods a week.

Instructor: L. Batiot.

230.0 INTERMEDIATE FRENCH FOR ADVANCED SPEAKERS

This course is designed for non-majors who are fluent in French. Emphasis will be placed on improving written expression and reading fluency. Special attention will be given to the cultural needs and aspirations of Acadians.

N.B. Students wishing to enrol in this course must register with a member of the Modern Languages Department.

Lectures: three hours a week, two semesters.

Instructor: A. Murphy.

300.0 THE PRINCIPAL THEMES OF FRENCH LITERATURE

Prerequisite: French 220.0 or permission of the 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 the prerequisite for all students who intend to take courses in French literature at either the 300 or the 400 level; compulsory for honors students and open to all others with permission of the Department.

Texts: Nelson and Oxen-Handler, *Aspects of French Literature* (Appleton-Century-Crofts). *Harrap's French-English Dictionary* is recommended.

Lectures: three hours a week, two semesters.

Instructor: F. Pepin.

301.0 ADVANCED CONVERSATION AND CULTURAL STUDIES

Prerequisite: French 200 level or equivalent.

A thoroughly practical course intended to continue development of the student's ability to speak French. Various aspects of French cultural life will be discussed in class. Texts by French contemporary writers will help the student acquire a general idea of French civilization. Oral practice in the language laboratory.

N.B. French 301.0 is obligatory for students following Option A.

Texts: G. Mauger, *Cours de langue et de civilisation françaises* Vol. 2, part 2; Adrien Thério and James F. Burks, *Témoins du monde français* (Appleton-Century-Crofts) *L'art de conjuguer* (Editions HLM).

Lectures: three hours a week, two semesters.

Laboratory: two hours a week, two semesters.

Instructors: L. Batiot, G. LePierrès.

*303.0 ACADIAN CIVILIZATION

Prerequisite: none.

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.

Lectures: three hours a week, two semesters.

310.0 FRENCH PHONETICS

Prerequisite: none.

An introduction to articulatory phonetics with application to French. Standard (International) French will be used as a reference point. Certain regional and dialectal differences will be considered. The objective of the course is to increase pronunciation skills.

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

Texts: T.B.A.

Lectures: three hours a week, one semester.

Laboratory: two half-hour periods a week.

Instructor: G. Patterson.

FRENCH

311.2 HISTORY OF THE FRENCH LANGUAGE

Prerequisite: French 310.0 or English 305.0 or 350.0 or permission of the Department.

An introduction to the history of the French language. The major trends in the evolution of French from Latin to modern times will be examined. Special attention will be given to dialect change and French in North America. Aspects of phonetics, morphology and syntax will be included, together with abbreviated discussion of the social context for language change as manifested in the history of French.

Texts: T.B.A.

Lectures: three hours a week, one semester.

Instructor: G. Patterson.

413.0 FRENCH CIVILIZATION

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.

Text: Marc Blancpain and Jean-Paul Couchoud, *La civilisation française* (Hachette).

Lectures: three hours a week, two semesters.

Instructor: G. LePirrès.

414.0 EVOLUTION OF THE FRENCH NOVEL

An examination of the principal stages in the development of the French novel.

Texts: La Fayette, *La Princesse de Clèves*; Abbé Prévost, *Manon Lescaut*; Balzac, *Eugénie Grandet*; Stendhal, *Le Rouge et le noir*; Flaubert, *Madame Bovary*; Proust, *Du côté de chez Swann*.

Summer reading is strongly advised.

Lectures: three hours a week, two semesters.

Instructor: A. Murphy.

415.0 THE FRENCH THEATRE

A study of some of the major works of French dramatic literature.

Texts: Corneille, *Le Cid*; Molière, *Don Juan*; Racine, *Phèdre*; Marivaux, *Le Jeu de l'amour et du hasard*; Beaumarchais, *Le Mariage de Figaro*; Musset, *On ne badine pas avec l'amour*; Sartre, *Huis clos*; Beckett, *En attendant Godot*.

Lectures: three hours a week, two semesters.

Instructor: J. Mackriss.

*416.0 POETRY IN FRANCE

Prerequisite: 300 level or permission of the 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 of 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.

Text: Pierre Seghers, *Le Livre d'or de la poésie française*. (Marabout - Paris - Montréal).

Lectures: three hours a week, two semesters.

Instructor: J. Mackriss.

*417.0 FRENCH CANADIAN POETRY

Prerequisite: 300 level or permission of the 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.

N.B. This course will be complemented by a workshop of literary creativity and seminars.

Texts: (Reference): Pierre de Grandpré, *Histoire de la littérature française du Québec* (Beauchemin). (Analysis) M. Colin and J. V. Théberge, *Terre de Québec* (Renouveau Pédagogique).

Lectures: three hours a week, two semesters.

Instructor: F. Pepin.

FRENCH

*418.0 THE CIVILIZATION OF FRENCH CANADA

Prerequisite: 300 level or permission of the 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.

Text: L. Lamontagne, *Visages de la civilisation au Canada français* (Les Presses de l'Université Laval).

Lectures: three hours a week, two semesters.

Instructor: F. Pepin.

419.0 FRENCH CANADIAN NOVEL

Prerequisite: 300 level or permission of the 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.

Texts: (Reference) Pierre de Grandpré, *Histoire de la littérature française du Québec* (Beauchemin).

Texts: (Analysis) Guèvremont, *Le Survenant* (Fides) Gabrielle Roy, *La Montagne secrète* (Beauchemin) M. C. Blais, *Les Voyageurs sacrés* (HMH) C. Martin, *Doux-Amer* (Cercle du Livre de France, Poche).

Lectures: three hours a week, two semesters.

Instructor: F. Pepin.

*420.0 20TH CENTURY NOVEL

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.

Texts: Proust, *A la recherche du temps perdu*; Gide, *Les Faux-Monnayeurs*; Mauriac, *Noeud de vipères*; Céline, *Voyage au bout de la nuit*; Malraux, *La Condition humaine*; Camus, *L'Etranger*; Butor, *La Modification*.

Lectures: three hours a week, two semesters.

Instructor: A. Murphy.

421.0 COMPARISON OF ENGLISH AND FRENCH STYLISTICS

Prerequisite: French 301.0 or permission of the Department.

A course designed to increase the student's knowledge of French beyond vocabulary and grammar and to enable him to grasp the divergence as well as the points of contact between the two languages by means of exercises and class discussion. These include vocabulary expansion by word formation, derivation, synonymy and idiomatic structures.

Test: Darbelnet, Jean, *Pensée et structure*.

Lectures: two hours a week, two semesters.

Instructor: J. Mackriss.

422.0 TECHNIQUES OF ESSAY WRITING AND DOCUMENTATION

Prerequisite: 300.0 or permission of the Department.

The purpose of the course is to aid the student in his ability to write in French on topics of various nature. 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 littéraire*; Dassonville, Michel, *L'analyse de texte*; Beaugrand, J. *Manuel pratique de composition française*.

Lectures: two hours and one seminar a week, two semesters.

Instructor: F. Pepin.

500.0 LITERATURE AND CRITICISM

Prerequisite: Admission to the Honors program.

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

501.0 HONORS THESIS

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

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

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.) Second Edition.

Lectures: three hours a week, two semesters.

Conversation Classes: one hour a week, two semesters.

Instructors: R. Nahrebecky, C. Springer.

200.0 INTERMEDIATE GERMAN

Prerequisite: German 100.0.

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

Texts: Emory E. Cochran, *A Practical German Review* (Prentice-Hall); Two short biographies by C. R. Goedsche and W. E. Glaetli, *Thomas Mann and Mozart* (American Book Co.).

Lectures: three hours a week, two semesters.

Conversation Classes: one hour a week, two semesters.

Instructors: R. Nahrebecky, C. Springer.

*250.0 GERMAN LITERARY PROSE

The aim of this course is to familiarize the student with the artistic qualities of German literary prose. Summaries, compositions and short essays will be written.

Lectures: two hours a week, two semesters.

Instructor: R. Nahrebecky.

*300.0 MODERN GERMAN LITERATURE

Prerequisite: German 250.0 or equivalent.

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

Lectures: two hours a week, two semesters.

Instructor: R. Nahrebecky.

*301.0 THE ROMANTIC AGE

Prerequisite: German 250.0 or equivalent.

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

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

Lectures: two hours a week, two semesters.

Instructor: R. Nahrebecky.

*400.0 GERMAN CONTEMPORARY LITERATURE

Prerequisite: German 250 or equivalent.

A study of significant prose and dramatic works in German literature from 1945 to the present. A selection of works by Max Frisch, Heinrich Böll, Friedrich Dürrenmatt and Günter Grass will be studied and discussed.

Lectures: two hours a week, two semesters.

Instructor: R. Nahrebecky.

SPANISH

101.0 INTRODUCTION TO THE SPANISH LANGUAGE

Designed to offer a firm initial competency in speaking, reading, and writing Spanish. This course requires regular attendance and a willingness to participate.

Text: Zenia Sacks DaSilva, *Beginning Spanish: A Concept Approach*, 3rd edition, 1973 (Harper and Row); Zenia Sacks DaSilva, *Tape Manual and Workbook for Beginning Spanish*, 3rd edition, 1973 (Harper and Row).

Lectures: three hours a week, two semesters.

Laboratory: three half-hour periods a week.

Instructor: A. Farrell.

201.0 ELEMENTARY SPANISH

Prerequisite: Spanish 101.0 or Spanish matriculation.

A continuation of elementary Spanish, with emphasis on conversation and reading. The second term offers an introduction to modern Spanish literature. Conversation classes are designed to give an opportunity for self-expression and reinforcement of speaking skills.

Texts: Zenia Sacks DaSilva, *On with Spanish: A Concept Approach*, latest edition (Harper and Row); Gustave W. Andrian, *Modern Spanish Prose: An Introductory Reader*, 2nd edition (Macmillan).

Lectures: three hours a week, two semesters.

Conversation Classes: two one-hour periods a week.

Instructor: A. Farrell.

*300.0 SPANISH CULTURE AND CIVILIZATION

Prerequisite: Spanish 201 or equivalent.

A survey of historical and social developments. Geography and history with regard to literature, fine arts, architecture, painting and music.

N.B. This course is compulsory for majors and honors students.

Lectures: three hours a week, two semesters.

*302.0 PROSE AND STYLISTICS

Prerequisite: Sound knowledge of Spanish grammar.

Aim: Students learn to 'feel' the most appropriate expression in particular circumstances. Class time involves mainly the correction of exercises prepared at home, concentrating on choice of words, imagery, shades of meaning, etc. . .

Texts: Candido Ayllon and Paul Smith, *Spanish Composition through Literature* (Prentice Hall); a good Spanish dictionary (No pocket editions).

Lectures: two hours a week, two semesters.

305.0 CERVANTES AND PRE-CERVANTINE SPANISH.

Prerequisite: Spanish 201.0 or consent of the Professor.

A two-semester course devoted to Cervantès 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*, (Clásicos Castellanos), *El Abencerraje y la hermosa Jarifa*, (Anaya); Mateo Alemán, *Guzmán de Alfarache*, (Ebro); C. Colin Smith, *Spanish Ballads*, (Pergamon Press) Miguel de Cervantès, *Don Quijote de la Mancha* (Juventud).

Lectures: three hours a week, two semesters.

Instructor: A. Farrell.

SPANISH

*306.0 GOLDEN AGE DRAMA

Prerequisite: Spanish 201 or equivalent.

The peak of Spanish Theatre was reached in the century which was called the 'Siglo de Oro' in Spain. Special emphasis on the following writers: Tirso de Molina, Lope de Vega and Calderon de la Barca.

N.B. This course will be offered to majors and honors.

Texts: Tirso de Molina, *El Burlador de Sevilla, El Condenado por desconfiado* (Madrid, E. Nacional. Col. "Obras de Teatro español"). Lope de Vega *El Alcalde de Zalamea, Fuenteovejuna* (Madrid, Ed. Taurus, Col. "Temas de España"). Calderon de la Barca *El Alcalde de Zalamea. La vida es sueño* (Madrid Espasa-Calpe Col. "Austral").

Lectures: three hours a week, two semesters.

*310.0 THE PICARESQUE NOVEL

Prerequisite: Spanish 201 or equivalent.

An in-depth study of a literary genre that is peculiar to Spain. A look into the development of this genre and the effects of the Spanish Inquisition on it.

Texts: *Lazarillo de Tormes* (Madrid-Espasa-Calpe). Col. "Austral"). Aleman, *Guzmán de Alfarache* (Madrid-Espasa-Calpe. Vol. 5). Cervantès, *Rinconete y Cortadillo* (Madrid-Espasa-Calpe. Vol. 1, Col. "Clásicos castellanos").

Lectures: two hours a week, two semesters.

*400.0 THE GENERATION OF 1898

Prerequisite: Spanish 300 or permission of the professor.

Lo Precursores: Clarin, Ganivet; El amor y el romanticismo. Emphasis on José Mariano de Larra, Angel Ganivet, Ortega y Gasset, Miguel de Unamuno.

Texts: Larra, *Artículos selectos* (Barcelona - Ed. Iberia, Co. "Obras Maestras"). Ganivet, *Idearium español* (Madrid-Espasa-Calpe. Col. "Austral"). Ortega y Gasset, *España invertebrada* (Madrid-Espasa-Calpe Col. "Austral"). Unamuno, *En torno al Casticismo* (Madrid-Espasa-Calpe. Col. "Austral").

Lectures: three hours a week, two semesters.

*402.0 CONTEMPORARY LATIN-AMERICAN LITERATURE

Prerequisite: 300 level or equivalent.

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.

N.B. This course will be offered to majors and honors.

Texts: Selections from Echeverría, Heredia, Acuña, Palma, Hernández, Güiraldes; Mariano Azuela, *Los de abajo* (F.C.E.), Horacio Quiroga, *A la deriva* (C.E.A.L.), Eduardo Barrios, *El hermano asno* (Las Américas), Rubén Darío, *Cantos de vida y esperanza* (Anaya), selections from Julián del Casal and José Asunción Silva.

Lectures: three hours a week, two semesters.

*405.0 20TH CENTURY SPANISH LITERATURE

Prerequisite: 300 level or equivalent.

Drama and novel, a special emphasis will be given to the following writers. Federico Garcia Lorca, Carmen Laforet, and Camilo José Cela.

N.B. This course is intended for majors and honors.

Texts: Lorca, *Bodas de sangre* (Madrid, Credito editorial Hernando. Col. "Novelas y Cuentos"). Lorca, *La Casa de Bernarda Alba* (Barcelona - Ed. Ayma. Col. "Voz, Imagen). Laforet, *Nada* (Barcelona - Ed. Destino, Col. "ancora y delfin") Cela *La familia de Pascual Duarte* (Madrid-Espasa-Calpe. Col. "Austral").

Lectures: two hours a week, two semesters.

PHILOSOPHY

Chairman, Associate Professor R. C. Marshall
Professors R. H. Beis, A. P. Monahan
W. A. Stewart, S.J.
Assistant Professors R. N. Ansell, J. Lowry
Lecturer S. Kindred

DEPARTMENTAL POLICY

1. The courses from 201.0 to 210.1 inclusive are introductory and alternative. Normally, a student selects one of them according to preference. A course above 210.1 may be counted as satisfying the requirement in Philosophy.
2. With permission of the Department courses numbered as honors courses may also be taken in the general degree program.
3. A student may register for a major concentration in Philosophy concurrently with major concentration in another subject approved by the Department. Examples of such subjects are classics, economics, English, history, political science and religious studies.
4. Philosophy courses on the 600.0 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).

Courses marked with an asterisk will not be offered during the 1974-75 academic term. Students are urged to check with the Department prior to registration to confirm the Department's offerings.

201.0 INTRODUCTION TO PHILOSOPHY

This course deals with five major philosophical problems: the problems of philosophy itself, of knowledge, of material things, of living things, of man. The student is encouraged to seek intellectually satisfying answers for himself, and at the same time to examine critically some of the major historical and contemporary viewpoints. The primary aim of the course is the development of method in philosophy and of the student's own critical intelligence and reflection.

Text: Classroom notes.

Lectures: two hours a week, two semesters.

Seminar: one hour every second week.

Instructor: W. A. Stewart, S.J.

*202.0 INTRODUCTION TO PHILOSOPHY

Is a human being an animal, a machine? Does a human being know — like an animal, like a machine? Does a human being act freely? Are there values, norms, for human behavior?

This course aims to develop abilities to deal rationally with such questions as they engage the attention of the contemporary mind.

Text: Selected readings from ancient, modern and contemporary philosophers.

Lectures: two hours a week, two semesters.

Seminars: one hour a week, two semesters.

Instructor: A. P. Monahan.

203.0 INTRODUCTION TO PHILOSOPHY: LOGIC: MAN AND SCIENCE

First term: An introductory study of logic, including uses of language, informal fallacies, definition, forms of deductive and inductive argument.

Second term: An examination of philosophical problems which emerge from a consideration of human capacities and behavior and physical phenomena. Perception and the reality of material things, reasons and causes, free choice and necessity, minds and machines.

Texts: I. M. Copi, *Introduction to Logic*. Text for second term to be announced.

Lectures: three hours a week, two semesters.

Seminars: five each semester, one hour each.

Instructor: R. C. Marshall.

*204.0 INTRODUCTION TO PHILOSOPHY

An introductory examination of philosophy as an intellectual discipline and type of knowledge and of its method of treating such problems as the nature of reality, human knowledge and human values.

Lectures: two hours a week, two semesters.

Seminars: one hour every second week.

PHILOSOPHY

205.0 MODES OF THOUGHT

This course is open to freshmen.

Practice in the most basic and generally useful methods of logic and semantics, and in their applications in various fields, including philosophy.

Lectures: two hours a week, two semesters.

Seminars: one hour a week, two semesters.

Instructor: R. Ansell.

206.0 INTRODUCTION TO PHILOSOPHY: REMEMBERING THE FUTURE

The most basic problem of any time and for any person is whether the structure of thinking and the structure of physical and spiritual entities are the same or different. If they are different, nothing is knowable. If they are the same, everything is knowable. This course will demonstrate in a definite and methodical way that the structure of thinking and of material and immaterial being is the same, and that reality and intelligibility are identical.

In relation to human life as differentiated from that of inanimate beings, plants, animals, and gods, this demonstration of the identity of matter and spirit with thought will take the form of showing that society, science, art, and religion are all necessary and complementary forms of human activity. Within this total intellectual framework present-day principles of social action and structure, scientific truth, artistic creation, and religious belief will be studied in order to decide whether or not they are rationally adequate and defensible.

Texts: Classroom notes and selected Greek philosophical texts.

Lectures/Seminars: three hours a week, two semesters.

Instructor: J. Lowry.

*207.0 CRITICAL THINKING

The nature of deduction and the technique of deductive inference, the distinction between questions of fact and questions of concept, the technique of conceptual analysis, the relationship between hypothesis and fact in non-deductive inference, the nature of scientific method. Application of the above to moral, political and ideological issues.

Lectures: two hours a week, two semesters.

Seminars: one hour a week, two semesters.

208.0 INTRODUCTION TO PHILOSOPHY

Philosophy requires clarity of thought and expression. Accordingly, the first months will be spent in developing techniques of analysis. Ability to reason inductively and deductively, to spot fallacies and ambiguities and to construct adequate definitions will be sought through regular exercises.

The skills thus gained will then be used to study problems of freedom and determinism and moral issues concerning the individual and society. Is man a machine? Am I free to choose how to act? If I am not, may I be held morally or legally responsible for what I do? If I am free to choose, are there moral reasons why I ought or ought not to do anything? How can I judge whether an act is right or wrong? Have I a right to judge others? Can we judge what individual acts will promote or prevent social justice? What constitutes a just society?

The discussion of these and similar questions will be aimed at establishing ways of appraising ethical points of view. The course does not pretend to provide final answers but to instill techniques that students may use in the resolution of everyday problems.

Lectures/Seminars: three hours a week, two semesters.

Instructor: S. Kindred.

209.0 INTRODUCTION TO PHILOSOPHY

Students will be introduced to Philosophy in this course through a consideration of certain philosophical problems. The following are representative:

First term: Is man able to know anything beyond what he experiences? If so, how? If a person claims to know anything beyond what he experiences, is his claim unscientific?

Second term: What is morality? Is morality relevant to modern society, or not? If it is, how can one determine concretely what is morally right and wrong?

Lectures: three hours a week, two semesters.

Instructor: R. Beis.

PHILOSOPHY

210.1 INTRODUCTION TO PHILOSOPHY (PHILOSOPHY FOR ENGINEERS)

Students will be introduced to philosophy in this course through a consideration of certain philosophical problems. The following are representative: Is man able to know anything beyond what he experiences? If so, how? If a person claims to know anything beyond what he experiences, is his claim unscientific?

Lectures: three hours a week.

Instructor: R. Beis.

*215.0 INTRODUCTION TO SYMBOLIC LOGIC

Prerequisite: normally, Philosophy 203.0, 205.0, 207.0 or 208.0, or courses in pure mathematics or computer science (any of the above concurrently with this course, if desired).

A thorough grounding in the propositional and predicate calculi with emphasis on the development of facility in natural deductive and axiomatic methods, and with some attention to metalogic, applications and set theory.

Texts: E. J. Lemmon, *Beginning Logic*; R. Carnap, *Introduction to Symbolic Logic and its Applications*.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Ansell.

*220.0 MEDIEVAL PHILOSOPHY AND POLITICS

Prerequisite: none.

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.

Lectures/Seminars: three hours a week, two semesters.

Instructor: A. Monahan.

222.0 INTRODUCTION OF ETHICS

Prerequisite: none.

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?

Instructor: R. Beis.

*224.0 MARXIST PHILOSOPHY

Prerequisite: none. (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, if the class so desires. 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.

Lectures/Seminars: three hours a week, two semesters.

*226.0 PHILOSOPHY OF MIND

Prerequisite: none. (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 K. Dabrowski.

Lectures/Seminars: three hours a week, two semesters.

*230.0 PHILOSOPHICAL FOUNDATIONS AND METHODOLOGY

Prerequisite: one course in philosophy.

Instruction in the use of methods for 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.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Ansell.

PHILOSOPHY

244.1 HUMAN FREEDOM

Prerequisite: none.

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.

Lectures/Seminars: three hours a week.

Instructor: R. Ansell.

245.2 PHILOSOPHIES OF LIFE

Prerequisite: none.

A comparative examination of philistinism, individualism, collectivism, hedonism, utilitarianism and other related outlooks.

Lectures/Seminars: three hours a week.

Instructor: R. Ansell.

*247.1 THE ARTIST: CREATOR AND COMMUNICATOR IN CONTEMPORARY SOCIETY

Prerequisite: none.

An introductory course concerning the artist as creator and communicator and the various art forms he may work with.

Lectures/Seminars: three hours a week.

Instructor: S. Kindred.

*248.2 THE WORK OF ART: ARTIFACT, INSPIRED OBJECT OR ARTIFICIAL CONTRIVANCE

Prerequisite: none.

This course considers problems concerning what a work of art is and how we interpret and criticize works of art.

Lectures/Seminars: three hours a week.

Instructor: S. Kindred.

*249.1 THE AESTHETIC EXPERIENCE: A RESPONSE TO SYMBOLS, SIGHTS AND SOUNDS

Prerequisite: none.

This course analyzes the concept of aesthetic experience and its relation to the appreciation and interpretation of art.

Particular emphasis will be placed on the media, techniques and innovative characteristics of contemporary art forms.

Lectures/Seminars: three hours a week.

Instructor: S. Kindred.

*250.0 GREEK PHILOSOPHY

Prerequisite: none.

This course is designed to introduce students to Greek philosophy through a consideration of the major figures and schools within the context of their overall historical movement by studying and discussing in detail a few basic Greek philosophical works, and by allowing students to follow their own individual interests through independent work.

Text: Works by Plato, Aristotle, and other Greek authors.

Lectures/Seminars: three hours a week, two semesters.

Instructor: J. Lowry.

260.0 PHILOSOPHY IN LITERATURE

Prerequisite: none.

This course studies some philosophical positions as seen through contemporary literature. The authors read will be concerned with questions such as: Does life have meaning? If so, what is it? Do we discover or invent meanings for life? Is the meaning the same for everyone? What should we see as the basic principles for guiding our lives? Are there moral truths? This course involves making a critical assessment of philosophical views found in selected 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., Dostoevski, Melville, Hemingway, Lewis Carroll, Simone de Beauvoir, Margaret Atwood, Iris Murdoch.

Lectures/Seminars: three hours a week, two semesters.

Instructor: S. Kindred.

PHILOSOPHY

*300.0 (600.0) HEGEL'S POLITICAL PHILOSOPHY

Prerequisite: none. (Courses in any of the social sciences and/or philosophy would be helpful).

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*.

Reference: Hegel's other political writings.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Marshall.

*302.1 PLATO'S THOUGHT

Prerequisite: none.

A study of Plato's philosophical search for knowledge, truth, and a rational religious and social order. Modern views on the same subjects will be considered in relation to Plato's.

Text: Plato, *Collected Dialogues*.

Lectures/Seminars: three hours a week.

Instructor: J. Lowry.

*303.2 ARISTOTLE'S THOUGHT

Prerequisite: none.

A study of Aristotle's thinking on knowledge, truth, and the natural order of things. Modern thoughts on the same subjects will be considered in relation to Aristotle's.

Lectures/Seminars: three hours a week.

Instructor: J. Lowry.

*306.0 EPISTEMOLOGY

Freshmen may not enrol in this course.

An investigation of the problem of knowledge through a study of the epistemological thought of Bernard Lonergan.

Text: B. Lonergan, *Insight*.

Lectures: two hours a week, two semesters.

Seminar: one hour every second week.

Instructor: W. A. Stewart, S.J.

*320.0 ADVANCED AESTHETICS: THE PHILOSOPHY OF ART

Prerequisite: one course in philosophy or permission of the professor.

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 the philosophy of art or aesthetics. What is the nature and significance of art? What is a work of art? What is aesthetic experience? What is involved in the creation of a work of art? What are the criteria for criticism in the arts, especially literature, music, painting, drama and film? Aesthetics involves finding answers to these questions and, through such inquiry, expanding critical awareness about art forms and artistic expression.

Lectures/Seminars: three hours a week, two semesters.

Instructor: S. Kindred.

*352.0 (652.0) BRITISH EMPIRICISM

Prerequisite: normally, one course in philosophy.

A critical examination of works by Locke, Berkeley, Hume, Russell and Ayer, with attention focused mainly on their theories of knowledge, meaning and perception.

Texts: Readings in Locke, Berkeley, Hume, Russell and Ayer.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Ansell.

*353.0 (653.0) CONTINENTAL IDEALISM, DESCARTES TO HEGEL

Prerequisite: one course in philosophy or permission of the professor.

A lecture and seminar course examining the development of rationalist and idealist thought from Descartes to Hegel.

Texts: Readings in Descartes, Malebranche, Spinoza, Leibniz, Kant, Fichte, Schelling and Hegel.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Marshall.

PHILOSOPHY

354.0 (654.0) METAPHYSICS: BEYOND TIME AND HISTORY

Prerequisite: none.

The greatest claim that metaphysicians have made is that human reason is capable of totally knowing God and the universe. This course will consider such a claim to total knowledge by asking whether there can be a philosophy which, as total system uniting logic and reality, is the ultimate of science wherein is comprehended both the form and the content of the particular sciences and arts. Emphasis is placed on discussion and independent work as well as on lectures.

Texts: Aristotle, *Metaphysics*, Hegel, *Logic*. Other texts may be used in relation to papers and classwork.

Lectures/Seminars: three hours a week, two semesters.

Instructor: J. Lowry.

*355.0 (655.0) THE EXISTENTIALIST VIEW OF MAN

Prerequisite: one course in philosophy or permission of the professor.

A lecture and seminar course examining the origins, expressions and significance of the existentialist movement in contemporary philosophy.

Texts: Readings in Kierkegaard, Nietzsche, Jaspers, Marcel, Sartre and Camus.

Lectures/Seminars: three hours a week, two semesters.

Instructor: A. Monahan.

390.0 - 395.0 READING COURSES IN PHILOSOPHY

Prerequisite: consent of the professor.

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 STUDIES

Prerequisite: one course in philosophy or permission of the professor.

A philosophical examination of the purpose and character of the social studies and of the major conceptual, logical and methodological problems which arise in them.

Lectures/Seminars: three hours a week, two semesters.

407.0 (607.0) PHILOSOPHY OF BEING

Prerequisite: none.

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*.

Lectures: two hours a week, two semesters.

Seminar: one hour every second week.

Instructor: W. A. Stewart, S.J.

*450.0 (650.0) PHENOMENOLOGY

Prerequisite: one course in philosophy or permission of the professor.

The origins, developments, concepts, method and influence of the phenomenological movement in contemporary philosophy.

Texts: Selections from Husserl, Heidegger, Sartre, Merleau-Ponty.

Reference: H. Spiegelberg, *The Phenomenological Movement*.

Instructor: R. Marshall.

453.0 PHILOSOPHY OF HISTORY

Prerequisite: one course in philosophy or permission of the professor.

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.

Lectures/Seminars: three hours a week, two semesters.

Instructor: R. Marshall.

PHILOSOPHY

*465.0 (655.0) ANALYTIC PHILOSOPHY

Prerequisite: one course in philosophy or permission of the professor.

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.

Seminars: three hours a week, two semesters.

Instructor: R. Beis.

*466.0 (666.0) ADVANCED ETHICAL THEORY

Prerequisite: one course in philosophy or permission of the professor.

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 above mentioned authors.

Seminars: three hours a week, two semesters.

Instructor: R. Beis.

*467.0 (667.0) AUGUSTINE AND AQUINAS ON PHILOSOPHY

Prerequisite: one course in philosophy or permission of the professor.

A lecture and seminar course which explores the meaning of philosophy and its relation to theology in the writings of Augustine and Aquinas.

Texts: Selected readings in Augustine and Aquinas.

Lectures/Seminars: three hours a week, two semesters.

Instructor: A. Monahan.

490.0 - 495.0 READING COURSES IN PHILOSOPHY

Prerequisite: consent of the professor.

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 the professor.

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.

PHYSICS

Chairman, Associate Professor U. S. Merdsoy
Professor D. S. Murty
Associate Professors W. Lonc, S.J., F. V. Tomscha
Assistant Professor K. Fillmore

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 high-voltage x-ray equipment and cobalt therapy. 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 programs outlined below.

A: Physics Concentration

Freshman Year

English
Mathematics
History
Physics 111.0
Elective

Sophomore Year

Humanities elective (preferably English)
Mathematics 210.1 & 210.2
Physics 221.0
Science elective (not Physics)
Philosophy

Junior Year

Physics 321.1, Physics 322.2
Physics 331.1, Physics 332.2
Mathematics 311.0
Humanities or Social Science elective

Senior Year

Physics 431.1, Physics 432.2
Physics 438.1, Physics 439.2
Physics or Mathematics elective
Two courses elective in Humanities or Social Sciences

B: Major in Physics

Freshman Year

English
Mathematics
History
Physics 111.0
Elective

Sophomore Year

English
Mathematics 210.1 and 210.2
Physics 221.0
Mathematics or Science elective
Humanities or Science elective

Junior Year

Physics 321.1, Physics 322.2
Physics 331.1, Physics 332.2
Mathematics 311.0
Beyond Sophomore level a related science elective (not Physics)
Philosophy

Senior Year

Physics 431.1, Physics 432.2
Physics 438.1, Physics 439.2
Physics 453.1, Physics 471.2
Science or Mathematics elective (two courses)

Any departure from A or B schemes must receive Departmental approval.

Non-Physics majors/non-concentration may substitute alternative prerequisites for courses at the 300-level or higher at the discretion of the Physics Department.

PHYSICS

111.0 GENERAL PHYSICS

Prerequisite: Algebra and Trigonometry (concurrently).

Introduction to mechanics, sound, heat, electricity and light.

Text: Miller, *College Physics*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructors: K. Fillmore, U. S. Merdsoy.

Recommended 111.0A for Physics, Chemistry, Engineering and others.
111.0B for Biology, Psychology, Geology and others.

201.0 PHYSICS FOR THE LIFE SCIENCES

Prerequisite: Biology 111.0 and Physics 111.0 or permission of the Department.

Basic concepts for force, energy and work; interaction of light with biological systems; effect of heat on biological systems, interaction of ionizing radiation with these systems, electric currents living systems; sound waves in systems as well as in the environment; the optics of the eye; the physics of measuring various biological phenomena, including an introduction to the electronics necessary for these measurements.

Text: Cromer, *Physics for the Life Sciences*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: W. Lonc, S.J.

221.0 UNIVERSITY PHYSICS

Prerequisite: Physics 111.0 or a knowledge of Grade XII Physics. It is essential that students take an introductory calculus course concurrently.

Topics will include mechanics, heat, sound, light and electricity.

Text: Sears and Zemansky, *University Physics*.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Tutorial: Optional, one hour a week, two semesters.

Instructors: U. S. Merdsoy, D. S. Murty,
F. V. Tomscha.

260.0 ELECTRONICS FOR SCIENCE

Prerequisite: Physics 111.0 or equivalent, Mathematics 110.1, or permission of the instructor.

Characteristics of electronic circuits and devices, especially IC's, sensors for light, temperature, sound, telemetry, microwaves, communications, solid state analog and digital circuits.

Text: Brophy, *Basic Electronics for Scientists*.

Lectures: four hours a week, two semesters (includes some laboratory work).

Instructor: W. Lonc, S.J.

Note: (1) This course cannot be a substitute for Physics 111.0 or 221.0.

(2) This course cannot be a credit course for a concentration or majoring student in Physics.

320.1 MODERN PHYSICS

Prerequisite: Physics 221.0, Mathematics 311.0 concurrently.

Electrons and ions, charge/mass ratios, photo electric effect, relativity, nuclear atom as revealed by Alpha-ray scattering, spectrum of hydrogen atom and Bohr's theory, x-rays, wave mechanics, nuclear properties.

Text: Olderberg, Rasmussen, *Modern Physics for Engineers*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. S. Murty.

321.1 OPTICS

Prerequisite: Physics 221.0, Mathematics 311.0 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.

Text: Sears, *Optics*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: K. Fillmore.

PHYSICS

322.2 ELECTRICITY AND MAGNETISM

Prerequisite: Physics 221.0, Mathematics 311.0 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*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: K. Fillmore.

331.1 CLASSICAL MECHANICS I

Prerequisite: Physics 221.0, Mathematics 311.0 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*.

Lectures: three hours a week, one semester.

Instructor: F. V. Tomscha.

332.2 CLASSICAL MECHANICS II

Prerequisite: Physics 331.1.

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 of Theoretical Mechanics*.

Lectures: three hours a week, one semester.

Instructor: F. V. Tomscha.

431.1 ELECTROMAGNETIC THEORY I

Prerequisite: Physics 321.1, 322.2, Mathematics 311.0, Mathematics 411.0 concurrently.

Development of the theory of electric and magnetic fields and Maxwell's equations in non-polarized media, leading to applications such as waveguides.

Text: Lorraine and Corson, *Electromagnetic Fields and Waves*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. Lonc, S.J.

432.2 ELECTROMAGNETIC THEORY II

Prerequisite: Physics 431.1.

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.

Text: Lorraine and Corson, *Electromagnetic Fields and Waves*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. Lonc, S.J.

434.1 ELECTRIC CIRCUITS I

Prerequisite: Mathematics 311.0, Physics 221.0.

Circuit elements; equilibrium equations (mesh and node analysis); network theorems, complex impedance and the use of phasors, steady state analysis, basic measurements.

Text: to be announced.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. Lonc, S.J.

435.2 ELECTRIC CIRCUITS II

Prerequisite: Physics 434.1 or equivalent.

Laplace Transform and Fourier Analysis methods as applied to circuit theory, analysis of circuits containing non-linear elements, analysis of circuits containing active elements.

Text: to be announced.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: W. Lonc, S.J.

PHYSICS

438.1 NUCLEAR PHYSICS I

Prerequisite: Physics 321.1, 322.2 and Mathematics 311.0.

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.

Text: Irving Kaplan, *Nuclear Physics*.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. S. Murty.

439.2 NUCLEAR PHYSICS II

Prerequisite: Physics 438.1.

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.

Text: to be announced.

Lectures: three hours a week, one semester.

Laboratory: three hours a week, one semester.

Instructor: D. S. Murty.

453.1 THERMOPHYSICS

Prerequisite: Physics 221.0, Mathematics 311.0.

Temperature, internal energy, 1st and 2nd laws of thermodynamics and their implications, entropy, systematic study of state functions and the resulting Maxwell distribution, transport phenomena.

Text: King, *Thermophysics*.

Lectures: three hours a week, one semester.

Instructor: U. S. Merdsoy.

471.2 INTRODUCTION TO QUANTUM MECHANICS

Prerequisite: Physics 438.1, Mathematics 410.0 concurrently.

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

Text: to be announced.

Lectures: three hours a week, one semester.

Instructor: K. Fillmore.

NOTE: All 500 courses will be offered by consultation with the department.

550.0 TOPICS IN THEORETICAL PHYSICS

Prerequisite: Physics 332.2, Mathematics 410.0.

Fluid dynamics, elasticity, tensor calculus, the theory of relativity. The areas of greatest concentration will be decided upon in consultation with the students.

Texts: G. H. A. Cole, *Fluid Dynamics*, (Methuen); B. Spain, *Tensor Calculus*, (Oliver and Boyd).

Lectures: three hours a week, two semesters.

551.0 THERMODYNAMICS AND STATISTICAL MECHANICS

Prerequisite: Physics 453.1, Mathematics 410.0.

First and second law of thermodynamics and their application to simple thermodynamic systems and to chemical reaction, kinetic theory and transport phenomena. In statistical mechanics, the macro canonical and grand canonical ensembles, Bose-Einstein and Fermi-Dirac statistics are discussed and applied to gases, electrons in metals, and low temperature physics.

Text: Zemansky, *Thermodynamics and Statistical Mechanics*.

Lectures: three hours a week, two semesters.

PHYSICS

552.0 QUANTUM MECHANICS

Prerequisite: Physics 471.2, Mathematics 410.0.

Wave mechanical concepts, wave equation of Schroedinger, energy eigen functions, examples of energy eigen functions, general principles of quantum mechanics, interpretative postulates of quantum mechanics, operators with continuous spectra, uncertainty principle, matrix mechanics, the equation of motion of operators, the Dirac notation for wave functions and operators, spin, Pauli's principle, time independent perturbation theory, collision processes, elastic scattering by fixed center of force, Born approximation, inelastic scattering processes, Dirac equation for a free particle.

Text: Mandl, *Quantum Mechanics* (Butterworth).

Lectures: three hours a week, two semesters.

553.1 or 553.2 UPPER ATMOSPHERE

Prerequisite: Physics 432.2, Mathematics 410.0.

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.

Text: Craig, *The Upper Atmosphere*, (Academic Press).

Reference: Ratcliffe, *Physics of the Upper Atmosphere*, (Academic Press).

Lectures: three hours a week, one semester.

554.1 INTRODUCTION TO SOLID STATE PHYSICS

Prerequisite: Physics 471.2.

Crystal structure, lattice vibrations, free electron Fermi gas, band structure, properties of simple metals, semiconductors and insulators, superconductivity.

Text: C. Kittel, *Introduction to Solid State Physics*, (Wiley and Sons).

Lectures: three hours a week, one semester.

552.2 TOPICS IN ADVANCED NUCLEAR PHYSICS

Prerequisite: Physics 439.2, Mathematics 410.0.

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).

Lectures: three hours a week, one semester.

601.0 FUNDAMENTAL ASTROPHYSICS (See Astronomy)

POLITICAL SCIENCE

Chairman, Assistant Professor J. G. Jabbra
Professors T. B. Ciuciura, W. J. Dalton
Associate Professors R. G. Boyd, E. J. McBride
Assistant Professors G. Chauvin, D. J. Higgins
R. G. Landes, R. C. Levesque

DEPARTMENTAL POLICY

Students who intend to complete a major concentration in Political Science must take a minimum of five courses in Political Science. There are two required courses: Political Science 200.0 and 304.0. (With the permission of the department, students might be excused from taking one of these courses). The Department also strongly recommends that a student take Political Science 301.0 and one seminar at the 500.0 level in one of the following sub-fields: Canadian Government, Comparative Government, International Relations, Political Thought.

Applications for admission to the Political Science Honors Program must be submitted to the Honors Program Committee which was set up in the Department with the following objectives: (a) to receive and evaluate applications for admission to the Honors Program in Political Science; (b) to seek out potential candidates and encourage them to apply for admission to the Honors Program in Political Science; (c) to assist Political Science Honors students in selecting their supervisors from the Department.

Applications for admission to the Political Science Honors Program must not take place before the end of the second academic year — sophomore — at the University.

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.

An Honors student must take a number of courses, approved in consultation with his 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 (301)
- b. Canadian Government and Politics (304)
- c. One course in Political Philosophy

An Honors student must pass a general oral examination before a departmental board composed of his 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*, a pamphlet 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.

Lectures and group discussions: three hours a week, two semesters.

301.0 SCOPE AND METHODS OF POLITICAL SCIENCE

Prerequisite: Political Science 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.

Lectures and group discussions: three hours a week, two semesters.

Instructor: J. Jabbra.

302.0 DEMOCRATIC GOVERNMENT

An examination of the basic features of western democratic government. Great Britain, the United States and Canada are used as the main examples of this type of government. Considerable attention is paid to the ideological foundations of the modern liberal democratic state.

Lectures and group discussions: three hours a week, two semesters.

Instructor: G. Chauvin.

POLITICAL SCIENCE

303.0 GOVERNMENT AND POLITICS IN THE USSR AND EASTERN EUROPE

A survey of the history, culture 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); contemporary political institutions and processes in Communist party-states of (or East Central) Europe; the German Democratic Republic, Poland, Czechoslovakia, Yugoslavia, and others.

Lectures and group discussions: three hours a week, two semesters.

Instructor: T. Ciuciura

304.0 CANADIAN GOVERNMENT AND POLITICS

Prerequisite: Political Science 200.0 or equivalent.

A study of Canadian constitutional democracy, encompassing an analysis of both political institutions and political behavior.

Lectures and group discussions: three hours a week, two semesters.

305.0 INTERNATIONAL RELATIONS

Prerequisite: Political Science 200.0 or equivalent.

A survey of international global politics since 1945, systematic analysis of contemporary international relations focussing on the processes of discord and collaboration with particular reference to war and conflict resolution, arms control, economic and political integration of groups of states, international aspects of civil strife, problems of international trade, investment and development, and policy drawing on the external policies of selected states. A brief consideration of international law and organization. Simulation games are an integral part of the course.

Lectures and group discussions: three hours a week, two semesters.

306.0 GOVERNMENT AND POLITICS IN WESTERN EUROPE

Prerequisite: Political Science 200.0 or equivalent.

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.

Lectures and group discussions: three hours a week, two semesters.

Instructor: T. Ciuciura.

312.0 GOVERNMENT AND POLITICS IN THE UNITED STATES

Prerequisite: Political Science 200.0 or equivalent.

An analysis of the American political system in terms of the interrelationship of characteristics salient in the political culture, the social base, the consitutional order, the governmental structure and the policy process, with special emphasis on the political party system, voting behavior, and the Presidency.

Lectures and group discussions: three hours a week, two semesters.

Instructor: E. McBride.

407.0 GOVERNMENT AND POLITICS IN THE MIDDLE EAST

Prerequisite: Political Science 200.0.

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.

Lectures and group discussions: two hours a week, two semesters.

Instructor: J. Jabbra.

418.0 INTERNATIONAL LAW AND ORGANIZATION

Prerequisite: Political Science 200.0 or equivalent.

The principal features of public international law as they have developed and have been invoked in diplomatic practice, international adjudication, and national courts; a study of the structures and the processes of co-operation and conflict within the United Nations, the Commonwealth and other international organizations.

Lectures and group discussions: three hours a week, two semesters.

Instructor: J. Jabbra or T. Ciuciura.

POLITICAL SCIENCE

419.0 COMPARATIVE CONSTITUTIONAL LAW

Prerequisite: Political Science 200.0 or equivalent.

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.

Lectures and group discussions: two hours a week, two semesters.

Instructor: E. McBride.

420.0 URBAN GOVERNMENT AND POLITICS

An analysis of the political ramifications of urban phenomena. The theoretical literature examined relates to the concepts of community, integration and influence. Consideration will be given to structures and issue-areas with a Canadian focus.

Lectures and group discussions: two hours a week, two semesters.

Instructor: D. Higgins.

430.0 INTRODUCTION TO PUBLIC ADMINISTRATION

Prerequisite: Political Science 200.0 or equivalent.

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.

Lectures and group discussions: three hours a week, two semesters.

Instructor: J. Jabbra.

435.0 POLITICAL THOUGHT TO THE FRENCH REVOLUTION

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.

Lectures and group discussions: three hours a week, two semesters.

Instructor: G. Chauvin.

436.0 MODERN POLITICAL THOUGHT

An examination of political ideas from the era of the French Revolution to the present.

Lectures and group discussions: three hours a week, two semesters.

Instructor: R. Levesque.

440.0 THE POLITICS OF THE DEVELOPING AREAS

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.

Lectures and group discussions: three hours a week, two semesters.

Instructor: R. G. Boyd.

441.0 GOVERNMENT AND POLITICS IN EAST ASIA

A study of government structures and political dynamics in mainland China, Southeast Asia and Japan, with emphasis on current trends in the Chinese system.

Lectures and group discussions: three hours a week, two semesters.

Instructor: R. G. Boyd.

445.0 PROBLEMS IN CANADIAN GOVERNMENT

This course offers a systematic investigation of a number of problems that face all levels of government in Canada.

Lectures and group discussions: two hours a week, two semesters.

Instructor: R. Levesque.

446.0 POLITICAL PARTIES AND VOTING BEHAVIOR

An analysis of the structures and functions of individual parties and party systems, with emphasis on Canada, the United States and Western Europe.

Lectures and group discussions: three hours a week, two semesters.

Instructor: R. Landes.

POLITICAL SCIENCE

550.0 SEMINAR IN THE HISTORY OF POLITICAL THOUGHT

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.

Sessions: two hours a week, two semesters.

Instructor: G. Chauvin.

551.0 CANADIAN GOVERNMENT SEMINAR

A study of selected aspects of Canadian government and politics, especially some of the dynamic forces which operate outside the formal constitutional framework.

Sessions: two hours a week, two semesters.

Instructors: D. Higgins, W. Dalton.

552.0 SEMINAR IN COMPARATIVE GOVERNMENT

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.

Sessions: two hours a week, two semesters.

Instructor: T. Ciuciura.

553.0 INTERNATIONAL STUDIES SEMINAR

A seminar on the contemporary interaction of the major powers, with special consideration of selected world problems, tensions, trends and developments.

Sessions: two hours a week, two semesters.

Instructor: R. G. Boyd.

555.0 SEMINAR ON CANADIAN FOREIGN POLICY

Prerequisite: Political Science 304.0 and 305.0 or their equivalents, or permission of the instructor.

Application of recent foreign policy models to Canadian data, survey of Canadian external relations, 1867-1970, detailed examination of contemporary problems in Canadian foreign policy, both geographic and functional. The latter includes defense, external trade, foreign aid and international organizations of special concern to Canada. Student presentations on selected topics are an important part of the course.

Sessions: two hours a week, two semesters.

PSYCHOLOGY

Chairman, Assistant Professor
Professor
Associate Professors
Assistant Professors
Lecturer
Part-time Instructor

J. Darley
J. Chadwick-Jones
K. Konrad, I. Lenzer
V. Catano, R. Konopasky
P. Street
D. Hughes

Psychology is normally begun at Saint Mary's University at the Sophomore level. The introductory course is a broad survey of the discipline and is a prerequisite for all other psychology courses. The *compulsory* core program for those concentrating in psychology consists of the Introductory Course (201.0), Learning (301.0), and Experimental Design and Psychological Statistics (305.0). These courses *usually* must be taken before a student moves on to the 400 range of more specialized courses. An average grade of C in Psychology courses is required for Psychology Majors.

The department offers an honors program which follows the general regulations, as stated in this Calendar. An additional departmental regulation is that fourth year honors students take 449.0, and fifth year honors students take 549.0 (which is restricted to honors students).

201.0 INTRODUCTION TO PSYCHOLOGY

Prerequisite: Sophomore standing, or permission of the Department.

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 must act as a subject for psychological experiments for a certain number of hours as a prerequisite for credit. The number of hours will be announced at the beginning of the course.

Lectures: three hours a week, two semesters.

Instructors: K. Konrad, I. Lenzer, J. Darley,
J. Chadwick-Jones.

301.0 PSYCHOLOGY OF LEARNING

Prerequisite: Grade of C in Psychology 201.0, or the permission of the Department. Psychology 301.0 is compulsory for all students majoring in Psychology. The student is recommended to take Psychology 305.0 concurrently. A final grade of C is mandatory for majors.

Classical conditioning and instrumental learning will be studied as examples of the learning process. Additionally, factors such as reinforcement, punishment, generalization, discrimination, transfer of training, extinction, short-term and long-term retention, interference, all-or-none versus incremental learning, and the physiological correlates of learning.

Lectures: three hours a week, two semesters.

Laboratory: two hours a week, two semesters.

Instructor: V. Catano.

305.0 PSYCHOLOGICAL STATISTICS AND EXPERIMENTAL DESIGN

Prerequisites: A grade C in Psychology 201.0, or the permission of the Department. Mathematics 113.0 for Arts students and Mathematics 110.0 and 111.2 for Science students. Psychology 305.0 is compulsory for all Psychology majors. Students are strongly advised to take Psychology 305.0 in the same year as Psychology 301.0. A final grade of C is mandatory for majors.

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.

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.

Lectures: three hours a week, two semesters.

Laboratory: three hours a week, two semesters.

Instructor: R. Konopasky.

PSYCHOLOGY

*348.1 PSYCHOLOGY OF SEX ROLES

Prerequisite: Psychology 201.0 or permission of the Department. Enrolment limited to 40 students.

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.

Lectures: three hours a week, one semester (first semester).

Instructor: I. Lenzer.

*349.2 DRUGS AND BEHAVIOR

Prerequisite: Psychology 201.0 or permission of the Department. Enrolment limited to 40 students.

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 man.

Lectures: three hours a week, one semester (second semester).

Instructor: I. Lenzer.

404.0 INTRODUCTION TO PHYSIOLOGICAL PSYCHOLOGY

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

Introduction to neuroanatomy of the brain. Neural mechanisms of sleep, arousal and attention; physiological basis of learning, language and motivation. Introduction to clinical neuropsychology. Physical control of the mind through electrical stimulation of the brain and through drugs.

Lectures: three hours a week, two semesters.

Laboratory: two hours a week, two semesters.

Instructor: I. Lenzer.

402.0 PSYCHOLOGY OF SENSATION AND PERCEPTION

Prerequisite: Psychology 305.0 or the permission of the Department.

A panoramic view of all the senses and their interaction. Emphasis will be placed on the perceptual rather than on the sensory aspect.

Lectures: two hours a week, two semesters.

Laboratory: two hours a week, two semesters.

Instructor: J. Catano

403.0 PSYCHOLOGY OF MOTIVATION

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

A study of the impelling factors in behavior: instincts, needs, drives, and incentives; behavioral and physiological components of hunger, thirst, sex, aggression and curiosity; an ethological examination of the biology of human and animal behavior.

Lectures: three hours a week, two semesters.

Laboratory: two hours a week, two semesters.

Instructor: J. Darley

410.0 SOCIAL PSYCHOLOGY

Prerequisite: Psychology 301.0, and 305.0, or permission of the Department.

Motives, attitudes, conformity, communication, group structure and leadership; aggression, person perception, methodology, social psychology in international affairs. In addition to the above any topic of interest to the students or to the teacher may be discussed in the class as part of this course. A project will be undertaken by students working individually or together.

Lectures: three hours a week, two semesters.

Instructor: J. Chadwick-Jones

PSYCHOLOGY

411.0 INDUSTRIAL AND APPLIED PSYCHOLOGY

Prerequisite: Psychology 305.0 or permission of the Department.

The application of psychological concepts to behavioral problems encountered in the work environment. Topics will include organizational structure, personnel selection, placement and training, leadership, human performance and capacity, motivation and morale, consumer psychology and how modern technology and organizations affect human behavior.

Lectures: three hours a week, two semesters.

Instructor: V. Catano.

*412.0 HUMAN INFORMATION PROCESSING

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

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.

Lectures: three hours a week, two semesters.

Instructor: V. Catano.

*413.0 ARCHITECTURAL AND ENVIRONMENTAL PSYCHOLOGY

Prerequisite: Psychology 301.0 or 305.0 or permission of the Department.

The functions of buildings and the role of the architect in society. The criteria for building design, human performance, comfort, stimulation; curiosity and arousal in building environments. Perception of space, personal and movement space, territoriality. Lighting: apparent brightness, gloom, glare; acoustics: noise and stress, speech and interference, distraction; thermal environment: temperature and arousal, behavior under heat stress; perception of the city; cognitive maps, the sonic environment, visual complexity; the street and its social functions; stress in the urban environment: Calhoun's rats and the rat race.

Lectures: three hours a week, two semesters.

Instructor: J. Darley.

*421.0 HISTORICAL AND CONTEMPORARY SYSTEMS OF PSYCHOLOGY

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

Greek Psychology, Arabian and west European developments, medieval and renaissance approaches, early scientific influences: ideas from physics, mathematics, and physiology. 19th and 20th century theories and experiments; psychology as a natural, biological and social science.

The basic issues: classical and scientific psychology, voluntary and involuntary behavior, respondent and operant behavior, choice and preference, drives and values, uncertainty and information, intelligence, symbolic processes and language, problems of measurement and evaluation, organization and evaluation.

Lectures: three hours a week, two semesters.

431.0 CHILD PSYCHOLOGY AND ADOLESCENT DEVELOPMENT

Prerequisite: Psychology 301.0 and 305.0 or the permission of the Department.

Research methodology in child development, theories of behavior and development, prenatal development, the neonate, maturation and learning, nature versus nurture, the development of intelligence and personality, psychological assessment of children, problems of early life, pathological versus normal development, puberty, changes and problems of adolescence.

Lectures: three hours a week, two semesters.

Instructor: K. Konrad.

432.0 CLINICAL PSYCHOLOGY

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

Mental illness and mental health, normal and abnormal behavior, origin, development; symptoms and cures of certain behavior disorders, neurosis, and psychosis, psychological and physiological factors as joint causes of psychological problems, counselling, psychotherapy, behavior therapy, group therapy, mental retardation. Functions of mental hospitals, child guidance clinics, psychotherapists and psychiatrists.

Lectures: three hours a week, two semesters.

Instructor: P. Street.

PSYCHOLOGY

433.0 PSYCHOLOGY OF PERSONALITY

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

Genetic-constitutional, familial, social class and cultural factors of personality. Major personality theories such as those by Freud and Rodgers, and the trait, factor-analytic, and learning theory approaches. Empirical research on such topics as the achievement motive.

Lectures: three hours a week, two semesters.

Instructor: P. Street.

440.0 EDUCATIONAL AND PSYCHOLOGICAL TESTS AND MEASUREMENTS

Prerequisite: Psychology 301.0 and 305.0 or permission of the Department.

Basic principles: statistical sampling and testing, psychological measurement and the construction of scales; test construction: standardization, validity, reliability; types of tests in common use: intelligence, aptitude, ability, personality, educational, vocational; special tests: language, clerical, perceptual, speed, and vocational selection; clinical tests: personality, psychopathology, impairment, traditional psychiatric classification. Ethics.

Lectures: three hours per week, two semesters.

Instructor: R. Konopasky.

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 Chairman of the Department of Psychology.

An individual reading and/or research course in an area of psychology selected jointly by the student and his staff advisors. This is a required course for fourth year honors students.

Laboratory and Seminar: three hours a week, two semesters.

498.1 COMMUNITY PSYCHOLOGY

Prerequisite: Psychology 301.0, 305.0, 432.0, and 440.0 (the last two may be taken concurrently) or permission of the Department.

Models of mental illness. Delivery systems of psychological services: social services, agencies, institutions and private practicing professionals. Epidemiological surveys. Preventative psychiatry.

Lectures: three hours a week, one semester.

Instructor: R. Konopasky.

499.2 BEHAVIOR MODIFICATION

Prerequisite: Psychology 301.0, 305.0, and 432.0 (the last may be taken concurrently) or permission of the Department.

A survey of behavior modification techniques: relaxation training, counter conditioning, assertive training, token economies, modeling, shaping, aversive techniques, etc., and their relationship to psychological learning theory. A limited exposure to practical considerations will be provided in a short weekly lab.

Lectures: three hours a week, one semester.

Laboratory: one hour a week, one semester.

Instructor: K. Konrad.

549.0 HONORS SEMINAR

Prerequisite: fifth year honors standing.

An individual research course in an area of psychology selected jointly by the student and his staff advisor. It is expected that the student will produce an honors thesis based on his work in this course. The course is required for fifth year honors students.

Laboratory and Seminars: six hours a week, two semesters.

RELIGIOUS STUDIES

Associate Professor, Chairman E. Stiegman
Associate Professors P. Kerans, L. F. Murphy, S.J.
Assistant Professors S. A. Armstrong, D. Clarke

The purpose of university studies in religion is to discover and explore the many dimensions of religion both as a universal human concern and as a tradition of reflection and worship. In this pursuit Religious Studies combines the methods and perspectives of theology, history of religions, social ethics, liturgy, and spirituality with those of other disciplines — history, literature, philosophy, anthropology, psychology, sociology, and art.

The Religious Studies Department offers courses in three general areas:

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

Because so many students who are not majors in Religious Studies enrol in the Department for elective courses, special provisions are made in their regard. Many courses are offered as 300-level electives without prerequisites. The lectures of these courses can form the basis of advanced-majors courses, in which case a student enrolls at the 400-level, is admitted only with stated prerequisites, and is asked to accept more ambitious assignments.

Science students seeking electives will find 202.0, 230.0, and 347.0-348.2 of special interest. Students in their first year are advised to consider 100.0, 201.0, 215.0 and 230.0 particularly useful for the refining of general literacy.

MAJORS IN RELIGIOUS STUDIES

Students majoring in Religious Studies must fulfill the following requirements:

- (1) Five courses beyond the 100-level, two of these at the 400-level.
- (2) A grade of at least C in each course counted toward the major.

HONORS STUDENTS

The Department prefers an honors program with a combined major (religious studies and a related field) over one with a simple major. Related fields of special interest are philosophy, history, anthropology, classics, English, and sociology.

Courses marked with an asterisk will not be offered in 1974-75.

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.

Instructor: S. Armstrong.

201.0 BELIEF AND UNBELIEF

Does God exist? The apparent contradiction of faith and reason, the problem of intellectual responsibility in any leap to faith. Is a faith necessary to man? Can there be a natural theology? Can we demythologize the Bible? Consideration of the principal authors who discuss the problem of belief.

Instructor: D. Clarke.

202.0 INTRODUCTION TO THE BIBLE

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.

Instructor: D. Clarke.

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)?

Instructor: P. Kerans.

RELIGIOUS STUDIES

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.

Instructor: S. Armstrong.

235.0 INTRODUCTION TO ASIAN RELIGIONS

An introductory, non-technical study of Eastern religions through an examination of the historical and cultural roles of religions in Asian societies, such as Islam in the Middle East, Hinduism in India, Confucianism and Taoism in China, and Shinto and Buddhism in Japan.

238.0 PROBLEMS IN CONTEMPORARY ROMAN CATHOLICISM

The Catholic Church is undergoing perhaps the greatest crisis in its history. Can the Church survive? Has it lost its soul? Why has it changed? What does it teach today? What contribution can it make to modern man? A general introduction to the Catholic crisis after Vatican II. Problems to be treated include: atheism and belief, social justice and revolution, the new morality, change in dogma, ecumenism, birth control, priest and layman, freedom of conscience and authority, the pentecostals, war and peace.

Instructor: L. F. Murphy, S.J.

RELIGION IN WESTERN CIVILIZATION

305.0 DRAMA AND RELIGION (Cross-listed as English 306.0)

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.

Note: This course may be taken at the 405-level with the following prerequisite: English 200 and one Religious Studies course.

Instructor: E. Stiegman.

306.0 MYTH AND HISTORY: THE PROBLEM OF INTERPRETING HUMAN EXISTENCE

Prerequisite: one university history course or permission of the instructor.

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?"

Note: This course may be taken at the 406-level with the following prerequisite: one university history course; corequisite, one history of religions course or permission of the instructors.

Students in this course coregister in History 334 and receive two 2 credits.

Instructors: S. Armstrong, R. Bollini.

309.0 HISTORY OF ISRAEL (cross-listed from Classics 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.

Instructor: V. Tobin.

310.0 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 on Christianity; science, liberalism, marxism and the modern critique of Christianity. The de-christianization of contemporary culture.

Note: This course may be taken at the 410-level with the following prerequisite: Religious Studies 202.0.

Instructor: L. F. Murphy, S.J.

RELIGIOUS STUDIES

313.0 JESUS OF NAZARETH

Jesus of Nazareth: God, man and/or superstar? Did Jesus really exist? What did he teach? Was he a radical revolutionary? An impractical dreamer? Why was he killed? What does the resurrection mean? Does his ethical teaching have any challenge or meaning for us today? Many answers have been given to Jesus' question, "Who do men say that I am?" An examination of the views of some representative modern scholars with an analysis of the texts on which their views rest.

Note: This course may be taken at the 413-level with the following prerequisite: Religious Studies 202.0.

Instructor: L. F. Murphy, S.J.

HISTORY OF RELIGIONS (COMPARATIVE RELIGION)

320.0 MYTH AND SYMBOL (Cross-listed as Anthropology 349.0)

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 Religious Studies 306.0.

*321.0 PRIMITIVE RELIGIONS IN ASIA

A study of the primitive religions among (1) hunters and food-gatherers in Australia and (2) agriculturalists in Indonesia and Melanesia. Various modern theories of myth and mythic thought will be correlated with readings and interpretations of specific myths and symbols in Asian communities. In the second semester the course will concentrate on a study of various types of cosmogonic myth, their meanings and functions in Asian societies.

Note: This course may be taken at the 421-level.

*323.0 THE RELIGIONS OF INDIA

The Indus civilization: religion and philosophy of the Vedas, Brahamanas, and the Upanishads, Yoga mysticism and its influence on Buddhism, the Bhagavad-Gita, bhakti motifs, myths, and symbols of Hinduism and Buddhism as they are expressed in written documents, visual arts and other cultural creations. Some methodological problems relating to the study of Indian religions will also be discussed.

Note: This course may be taken at the 423-level.

324.0 THE RELIGIONS OF CHINA

A study of Chinese religious traditions from the Shang period to the present, i.e., Confucianism, Taoism, and Buddhism. Special emphasis will be placed on Taoism, its history and structure as expressed in the Lao Tzu and the Chuang Tzu, and its close connections with other religious complexes such as Chinese mythology, shamanism, folk religions, and alchemical techniques for attaining immortality as exemplified, for example, in the *Pao-P'u Tzu* and the *Secret of the Golden Flower*.

Note: This course may be taken at the 424-level with the following prerequisite: one 200-level Religious Studies course.

RELIGION IN CONTEMPORARY SOCIETY

315.0 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.

Note: This course may be taken at the 415-level with the following prerequisite: one 200-level Religious Studies course; corequisite, a course in Canadian history.

Instructor: P. Kerans.

RELIGIOUS STUDIES

340.0 SOCIAL ETHICS: MAN AND FREEDOM IN A TECHNOLOGICAL SOCIETY

Is technological man a myth or a reality? Is the technological society a threat to freedom or the context for a new participatory society? How can the world be made free for man and man free for the world? What is the place of fantasy and festivity in technocracy? What religious and ethical resources are important for the creation of a humanized society? How ought we to live? Can we survive?

Note: This course may be taken at the 440-level with the following prerequisite: one 200-level Religious Studies course, and one course in either sociology or economics.

Instructor: P. Kerans.

345.0 THEOLOGY OF LOVE AND SEXUALITY

This course will explore man's self-understanding in the areas of love and sexuality from a theological perspective, but one which is broadened and deepened through recourse to the insights offered by philosophy, sociology, psychology, art and history. The scriptures of various religions will be the focus for an exploration of how man has responded to the comedy and sublimity of his embodied being. Topics to be discussed are: the cultural history of love, sexual ethics and the new morality, the myth of sexual roles, psychological insights on sexuality, alternative styles of marriage, and the family.

Note: This course may be taken at the 445-level with the following prerequisite: one 200-level Religious Studies course.

Instructor: D. Clarke.

347.1 THEOLOGY OF WORLDLY REALITIES

The other-worldliness of religion creates a difficulty for the man or woman who feels that life must be lived in this world. The course asks how religion in general and Christianity in particular views man's relation to the world. How should man learn to think about himself and about nature, so as to satisfy more fully the most basic needs of body, mind, and spirit? The student is helped to become aware of the new possibilities implicit in man's scientific knowledge and of the new responsibilities that come with his technological power.

Note: This course can be continued into 348.2. The course may be taken at the 400-level with the following prerequisite: one 200-level Religious Studies course.

Instructor: E. Stiegman.

348.2 GOD IN SECULAR EXPERIENCE

Is Christian life altogether different from human life? Or can one discern the action of God in the sheer process of human maturing? The student is led to inquire whether ordinary human life is ordinary at all, or whether it is the field of a dramatic conflict between forces of self destruction and powers of creativity and new life.

Note: This course may be taken at the 448-level with the following prerequisite: one 200-level Religious Studies course.

Instructor: E. Stiegman.

SPECIAL COURSES

490.0-495.0 READING COURSES IN RELIGIOUS STUDIES

Prerequisite: consent of the 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 consent of the Department.

CROSS-LISTED COURSES.

The Department is prepared to allow some courses other than those listed above to be counted in a student's Religious Studies concentration. Students must seek the Department's permission in such cases.

SOCIOLOGY

Chairman, Professor
Associate Professors
Assistant Professors

F. Lee
I. Okraku, S. Halebsky
R. Cospers, C. Garry
M. Overington, H. Ralston
L. Ruffman
D. Perrier, D. Kasdan

Lecturers

Sociology 200.0 and 201.0 are introductory and *alternatives*. Either course is a prerequisite for most 300 level courses.

In order to graduate with a major in sociology, a student must be admitted to the program, meet all the course requirements, and maintain an average of C or more in sociology courses.

Normally, a student is admitted to standing as a sociology major during the second semester of his or her introductory course. To major in sociology, a student must receive credit for Introductory Sociology; Research Methods and Sociological Theory (normally taken in the junior year); Modern Sociology (taken in the senior year). In addition, a sociology major must take a minimum of one elective in sociology and three other courses from allied fields (anthropology, geography, economics, political science, psychology); with the department's permission, another substituted field may be arranged. At least one course in an allied field must be on the 300 or 400 level.

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.

Courses starred with an asterisk will not be offered in 1974-75. Students are urged to check with the department prior to registration to confirm the department's offerings.

200.0 INTRODUCTORY SOCIOLOGY

Prerequisite: none.

The course is open to freshmen in any faculty and to sophomores in the Arts faculty. This is the required introductory course for a major in sociology.

An introductory study of sociological perspectives, basic sociological concepts, man's interaction and organization in society, particularly in modern Canadian society, and the relationship between sociological theory and research; analysis of major social institutions and of major trends in society, e.g. familial, religious, educational, economic and political.

201.0 INTRODUCTION TO SOCIOLOGY

Prerequisite: none.

The course is open as an elective to sophomores, juniors and seniors in faculties other than Arts and to juniors and seniors in Arts.

A course designed specifically for students who will not be sociology majors. This course uses sociological analysis to examine a variety of social phenomena. It will focus on specific topics which will give the student an understanding of social interaction, social institutions, organizational structures and social change.

300.0 RESEARCH METHODS

Prerequisites: one sociology course.

An examination of the basic methods and techniques employed at various stages 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.

Instructor: R. Cospers, I. Okraku.

SOCIOLOGY

301.0 SOCIOLOGICAL THEORY

Prerequisite: one sociology course or permission of the 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 INVOLVING DISORGANIZATION AND DEVIANCE

Prerequisite: one sociology course.

An analysis of factors generating social disorganization in contemporary society focusing on minority groups, such as blacks, women and Indians, and on the poor. The course also considers the dynamics of varieties of deviant behavior as in organized crime and juvenile delinquency.

Instructor: C. Garry.

***303.0 CRIMINOLOGY**

Prerequisite: one sociology course.

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.

Instructor: D. Perrier.

305.0 SOCIOLOGY OF EDUCATION (EDUCATION 507.0)

Prerequisite: one sociology course or one economics course.

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 (EDUCATION 507.0)

Prerequisite: one sociology course or enrolment in Education.

The structural dynamics of educational systems in different societies, with special emphasis on Canadian society. The main focus will be upon the nature of the relationship between the educational institutions and the wider social systems and the implications of this relationship for future educational alternatives.

Instructor: H. Ralston.

308.0 URBAN SOCIOLOGY

Prerequisite: one sociology course

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. Emphasis is on theory and research and their application to selected problems in the metropolitan area.

Instructor: S. Halebsky.

***311.0 POPULATION**

Prerequisite: one sociology course.

Patterns, determinants and consequences of population size, growth, composition, distribution, fertility, mortality and migration.

313.0 SOCIOLOGY OF KINSHIP AND FAMILY

Prerequisite: one sociology course.

Cross-cultural analysis of family and changing family patterns, relationship between family and other institutions, male and female roles and patterns of interaction at each stage of family life-cycle, presented from a sociological perspective with emphasis on theoretical and methodological issues.

Instructor: L. Ruffman.

SOCIOLOGY

314.0 SOCIOLOGY OF PROFESSIONS

A sociological analysis of various professions such as law, medicine, social work, teaching, nursing.

316.0 ORGANIZATION THEORY AND BUREAUCRACY

Prerequisite: one sociology course or permission of instructor.

An examination of the formal structure and bureaucratic organization of systems of modern society. Organizational theory in relation to occupational, professional, industrial and work situations.

Instructor: C. Garry.

317.0 SOCIOLOGY OF RELIGION (RELIGIOUS STUDIES 317.0)

Prerequisite: one sociology or religious studies course or permission of instructor.

An analysis of the functions of religion and the interactions between religious belief systems and institutions and the major institutional areas of society.

Instructor: I. Okraku.

*318.0 SOCIAL CHANGE

Prerequisite: one sociology course.

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 ETHNIC AND MINORITY GROUPS

Prerequisite: one sociology course.

An analysis of the concepts of race and ethnicity and of selected Canadian and world minority groups; topics include racial and ethnic differentiation, segregation, discrimination, assimilation, inequality and conflict.

321.0 CANADIAN SOCIETY

Prerequisite: one sociology course.

An examination of the institutional framework and value basis of Canadian society. Topics to be discussed include ethnic composition, class structure, economic and political institutions, and industrialization. A broad spectrum of social problems confronting Canada will also be considered.

*322.0 POLITICAL SOCIOLOGY

Prerequisite: one sociology or political science course.

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. The latter portion of the course will be of a seminar character, based partly on student papers.

323.0 THE INDIVIDUAL AND SOCIETY

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?"

Instructor: M. Overington.

*324.0 SOCIAL STRATIFICATION

Prerequisite: one sociology course.

An analysis of the main features of social inequality in modern industrial societies: the distribution of power and wealth, the existence of power elites or governing classes, comparative community power structures, the institutionalization of class conflict, problems of social mobility, the political expression of class and status groups. Also a critical examination of varying sociological perspectives on stratification, both classical (Marx, Weber) and contemporary (functionalist and conflict theorists).

*327.0 SOCIAL POLICY

Prerequisite: one sociology course.

Focuses on the various issues and areas of decision-making for policy makers in which sociological theory and research have made or could make some contribution. Also an examination of the channels and strategies through which policy is effected.

SOCIOLOGY

***332.0 STUDIES IN SELECTED SOCIETIES AND CULTURES**

Prerequisite: one sociology course.

An in-depth study of the societal organization, institutions, customs and life styles 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.

***401.0 SELECTED STUDIES IN SOCIOLOGICAL THEORY**

Prerequisite: Sociology 200.0, 300.0 and 301.0 or permission of the instructor.

A seminar course which examines selected theoretical issues in sociology.

***402.0 PHILOSOPHY OF THE SOCIAL SCIENCES (PHILOSOPHY 402.0)**

Prerequisite: permission of the 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 SELECTED STUDIES IN SOCIOLOGICAL ANALYSIS**

Prerequisite: Sociology 200.0, 300.0 and 301.0, or permission of the instructor.

A senior course which examines selected methods of analysis in sociology.

***405.0 SELECTED TOPICS**

Prerequisite: Sociology 200.0, 300.0 and 301.0, or permission of the instructor.

A seminar course which examines questions within an area of specialization and enables a student to study a particular sociological problem in detail.

430.0 MODERN SOCIOLOGY

Prerequisite: open only to senior majors in sociology.

Issues in contemporary sociology are examined. The course emphasizes student participation and development.

Instructors: L. Ruffman, M. Overington.

451.0 SELECTED STUDIES IN SOCIOLOGICAL THEORY: FORMS OF COOPERATION

Prerequisite: Sociology 200.0, 300.0, and 301.0, or permission of the instructor.

Comparative study of social forms characterized by cooperative relations. Examination of family, agricultural organizations (e.g. kibbutz, communes, cooperatives), and more specialized non-agricultural cooperative organizations (e.g. buying and credit co-ops and types of industrial arrangements). Also consideration of social movements leading to establishment of these organizations.

Students will be expected to study organizations and social movements in Nova Scotia.

A seminar course which examines selected theoretical issues in sociology.

Instructor: D. Kasdan.

453.0 SELECTED STUDIES IN SOCIOLOGICAL ANALYSIS

Prerequisite: Sociology 200.0, 300.0 or 301.0, or permission of the instructor.

A senior course which examines selected methods of analysis in sociology.

455.0 SELECTED TOPIC: LAW AND SOCIETY

Prerequisite: Sociology 200.0, 300.0 and 301.0 or permission of the instructor.

An examination of different types of normative codes, with the tribunals and sanctions which enforce them; the structure and process of judgment in North America and other legal systems, such as the U.S.S.R.; social forces affecting judicial behavior; the determinants and purposes of legislation, as the link between values; interests and rules. Attention will also be directed to law as a profession, and jurisprudence as an evolving discipline; pressing issues in the administration of justice, such as corporate defendants, or problems of police conduct; and methods and perspectives in the sociology of law.

Instructor: D. Perrier.

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.

WEST EUROPEAN STUDIES

An Introduction

West European Studies offers a coherent program in the humanities and certain social sciences with an emphasis on language skills and a specialized general knowledge of West European affairs and their relations to North America. The program seeks to establish a modern context for a concentration in the humanities and to produce graduates suitable to the recruitment needs of public service, trade, industrial, union and commercial organizations concerned with Western Europe or associated institutions such as NATO or the EEC.

Students graduating from the program will have a thorough grounding in at least one major West European language other than English, as well as a specialized acquaintance with the political and economic affairs of the region, and a particular interest in the thought, history, or literature of Western Europe. Since graduate departments in European Studies exist already in Canada and elsewhere, students interested in graduate studies need be at no disadvantage.

REQUIREMENTS

There are five basic requirements:

1. Two courses above the elementary level in one modern language other than English.
2. One course in economics and one in political science to be selected from the prescribed electives.
3. Three of the courses taken within the major concentration should deal with Western Europe or with principles directly relevant to comparative studies concerning Western Europe.
4. Each student will prepare a senior paper in the final year. The subject will be set by the faculty members concerned.
5. A special, obligatory seminar will be convened four times in the initial year of the program to hear and discuss papers presented by students enrolled in the area studies courses.

LIST OF ELECTIVES

Any students wishing to enrol in the program are encouraged to discuss their selection of courses with the coordinating Chairman, Dr. C. J. Terry of the English Department.

CLASSICS

- 120.0 The Classical Civilization of Greece and Rome
- 303.0 History of Greece
- 304.0 History of Rome
- 305.0 Hellenistic History

ENGLISH

- 300.0 Comparative Literature: Europe
- 301.0 The Modern Novella
- 304.0 The Development of Drama in the Theatre
- 413.0 Anglo-Irish Literature

MODERN LANGUAGES

FRENCH

- 100.0 Introduction to the French Language
- 102.0 Oral and Written French
- 200.0 Intermediate Oral and Written French
- 220.0 Advanced Intermediate French
- 300.0 The Principal Themes of French Literature
- 301.0 Advanced Conversation and Cultural Studies

GERMAN

- 100.0 Introduction to the German Language
- 200.0 Intermediate German
- 250.0 German Literary Prose
- 300.0 Modern German Literature

SPANISH

- 101.0 Introduction to the Spanish Language
- 201.0 Elementary Spanish
- 300.0 Spanish Culture and Civilization
- 302.0 Prose and Stylistics

WEST EUROPEAN STUDIES

HISTORY

- 121.0 Civilization in the West
- 124.0 A History of Britain, 1066 to the Present
- 203.0 The Twentieth Century
- 204.0 Europe 1815-1945
- 306.0 Monarchy and Revolution
- 311.0 Medieval England
- 313.0 Europe 1815-1870
- 314.0 Europe 1870-1945
- 341.0 Britain in the Twentieth Century
- 501.0 The Puritan Revolution

PHILOSOPHY

- *352.0 British Empiricism
- *353.0 Continental Idealism Descartes to Hegel

RELIGIOUS STUDIES

- 202.0 Introduction to the Bible
- 210.0 Christianity in Modern Civilization

+SOCIOLOGY

- 301.0 Sociological Theory

+POLITICAL SCIENCE

- 306.0 Comparative Systems of Government
- 553.0 Seminar in International Studies

+ECONOMICS

- 101.0 Economic History of Europe
- 313.1 International Finance
- 314.2 International Trade

+Special arrangements have been made with the Sociology, Political Science and Economics Departments in the matter of prerequisites for these courses.

*Will not be offered in 1974-75.

S E C T I O N 7

Financial
Information

FINANCIAL INFORMATION

TUITION AND FEES

The schedule of fees for the 1974-75 academic year, together with regulations respecting payment of fees and withdrawal and refunds, is set out in the booklet entitled:

Saint Mary's University
Financial Information
1974-75

This booklet is to be read in conjunction with, and considered a part of, the 1974-75 Academic Calendar.

FINANCIAL AID

Scholarships and Bursaries

Financial assistance is available to students at Saint Mary's University from four main sources: scholarships, bursaries, Canada Student Loans, and Provincial Government Bursaries. The scholarships and bursaries are administered either directly by the donor or by the Director of Financial Aid at Saint Mary's University (Room 405 and 406, Student Center). Government Loans and Bursaries are administered by the student's provincial government, in accordance with the Canada Student Loans Plan.

All financial aid is dependent on a student presenting a satisfactory record of academic achievement when entering Saint Mary's University. Renewals or continuance of aid depend on maintaining an adequate academic record while studying at the University.

The awarding of scholarships, and in some instances of bursaries, as well as the renewal of such awards, is dependent on excellence in academic achievement.

FUNDS ADMINISTERED BY SAINT MARY'S UNIVERSITY

I. Scholarships

Awards of up to \$1,500 are offered to students presenting excellent academic records when entering the University. Students who wish to make application for these scholarships must have an average of 80 per cent or over in their high school work.

Students who have completed one or more years in the University are also eligible for scholarships, even though they were not given an award at entry. All students who have an average of at least B in their university work are eligible to apply for these awards.

Each scholarship is awarded for one year only. However, scholarships may be renewed each year provided academic achievement is maintained. Applications for awards or renewal of awards must be made by June 30th each year to the Director of Financial Aid.

Included in the scholarships 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.

Eleanor M. Florian Scholarship (\$300)

Open annually to all students.

Duncan W. Lynch Memorial Scholarship (\$400)

Open annually to a Catholic student from Dartmouth.

John Glenister Memorial Scholarship (\$150)

Open annually to all students.

Nova Scotia Light and Power Company Scholarship (\$300)

Open annually to a Science or Engineering student.

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.

Errol Davison Memorial Award (\$500)

A scholarship to be held by a student in the Commerce Faculty in either the third or fourth year. High academic standing is required, although financial need will be considered. This scholarship is granted by the partners of H. R. Doane and Company in memory of Mr. Davison, a former partner of the firm and an alumnus and friend of Saint Mary's University.

II. BURSARIES

Students performing satisfactory academic work, though not a scholarship standing, are given financial aid through bursaries and assistantships. In these cases the criterion for an award is financial need. In addition, a number of positions as course readers and laboratory demonstrators are open annually to junior and senior students; remuneration is based on hours of employment. All inquiries concerning bursaries and assistantships should be made to the Director of Financial Aid (Student Center, Rooms 405 and 406).

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FINANCIAL INFORMATION

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FINANCIAL INFORMATION

Included in the bursaries administered by Saint Mary's University are the following endowed gifts:

The Raymond W. Ferguson Bursaries

Two bursaries of \$400 each per year to be awarded annually by the scholarship committee after consulting the Dean of the Faculty of Commerce. The applicant must be a Nova Scotian in junior or senior year who is not receiving another bursary scholarship or prize exceeding \$300 in that year. Financial need must be evident and the candidate should show academic ability and possess those qualities of character and initiative which indicate potential leadership in the business world.

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.

Lord Nelson Hotel Ltd. Bursary (\$250)

Preference is given to applicants from the Atlantic Provinces. Open annually to students in either their Freshmen or Sophomore year.

The Institute of Chartered Accountants of Nova Scotia Centennial Bursary

A bursary to be held by a student in any faculty, under the following conditions: the student must be a resident of Nova Scotia wishing to further his post-graduate education by entering the accounting profession with the intention of becoming a Chartered Accountant in Nova Scotia. The student must be in either of the last two years of the course. Ability and financial need are taken into consideration in making the award.

The IBM — Canada Bursary Program

IBM makes available \$1,000 annually to Saint Mary's University to provide undergraduate bursaries. The University has full discretion in the manner in which this \$1,000 is dispensed regarding both academic standing and financial need. This award, or parts thereof, may be held concurrently with other awards, provided the university is satisfied that such a need exists.

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.

FUNDS ADMINISTERED BY THE DONOR

I. Scholarships

Scholarships are offered in varying amounts up to full coverage of tuition fees. They include:

School of Education Scholarships

The Province of Nova Scotia, through an arrangement with the University, offers a number of scholarships to university graduates taking the degree of Bachelor of Education. Applications for these scholarships should be made in writing to the Dean of the School of Education, Saint Mary's University.

The Canadian Mathematical Congress Scholarships

The Canadian Mathematical Congress offers a number of scholarships for students of Grade XII in Nova Scotia schools on the basis of a competitive examination usually held early in May of each year. They are tenable at any university in Canada. The amount of each award is determined by a consideration of financial need based upon applications from the leading candidates. Further information is available from the guidance departments of the various high schools.

FINANCIAL INFORMATION

Imperial Oil Higher Education Awards

Imperial Oil Limited offers annually free tuition and other compulsory fees to the children of employees and annuitants who proceed to higher education courses. Initial awards, or renewal of awards, are restricted to students under twenty-five years of age on the date of registration for any undergraduate year.

To qualify, a student must attain an average mark of 70% or higher in the appropriate secondary school examinations in the subjects required for admittance to the approved institution, or must have attained an average of 70% or more in a college year upon which application is based.

Courses may be taken at any Canadian university or other approved institution of higher learning, and awards are tenable for a maximum of four academic years, or the equivalent, at the undergraduate or bachelor degree level. The four levels of academic years are measured from the first year of entering a post-secondary institution.

Further information and application forms may be obtained from The Secretary, Committee on Higher Education, Imperial Oil Limited, 111 St. Clair Avenue West, Toronto 7, Ontario.

General Foods Scholarships (\$2,000)

General Foods Limited has established two scholarships in the sum of \$2000 (over a four year period). These awards were first presented in 1965 and 1966. For further information contact the Director of Financial Aid at Saint Mary's University.

Joe Gannon Memorial Scholarship

The scholarship, valued at \$500, is awarded to the son, daughter or legal ward of a trade unionist who is a member of a union affiliated with the Nova Scotia Federation of Labour. Applications should be addressed to Selection Committee, c/o Nova Scotia Federation of Labour, 6074 Lady Hammond Road, Halifax, Nova Scotia.

Municipal School Board, Halifax County, Scholarships

Four awards of \$100 are made annually to students who have been accepted by the Education Faculty of a Maritime university. The award is restricted to residents of Halifax County. Further information may be obtained from Municipal School Board, P.O. Box 90, Armdale, Halifax, Nova Scotia.

Hockey Canada Scholarships (\$2,000 annually)

Hockey Canada Scholarships were established in 1969, as

a result of recommendations by a government task force on sports. This scholarship program is intended to encourage young men in two important endeavors — the pursuit of a post-secondary education and the development of proficiency in the game of hockey. These scholarships are open to candidates with outstanding hockey ability, who are Canadian citizens or landed immigrants of at least one year status, and who have graduated or are about to graduate from a secondary school with an average of at least 65 per cent in the year of graduation, or who are presently enrolled or have been enrolled in a post-secondary institution. Tenable for four years. Further information and application forms may be obtained from the Director of Awards, AUCC, 151 Slater Street, Ottawa, 4, Ontario.

Canadian University Students' Scholarships

Annual awards by Canadian University Students enable specially selected students to take one year of their studies at a university in a different part of Canada.

Education Fund for Black Students

This fund was established in April 1965, for the purpose of assisting promising students to continue their education in high schools, vocational schools, technological institutes, nursing schools, and universities. Students who register at a recognized university or college are eligible for assistance under the terms of the Fund. Inquiries should be directed to Mr. Harlan Cox, Chairman, Education Fund for Negroes, Box 578, Halifax, Nova Scotia. Mr. Cox's office will also advise students of other sources offering assistance in meeting university expenses.

Nova Scotia Power Commission Centennial Scholarship — Engineering

The Nova Scotia Power Commission offers four permanent scholarships tenable at the Nova Scotia Technical College in Halifax and open to competing students from the following universities: Acadia, Dalhousie, Mount Allison, Saint Francis Xavier, Saint Mary's. Candidates must be residents of the Province of Nova Scotia. Each scholarship is valued at \$850.00 per year and is applicable to the electrical, mechanical, civil or industrial engineering disciplines. Applications should be made in writing to the Dean of Engineering of applicant's university by February 28 of each year. Further information is available from the Director of Financial Aid.

FINANCIAL INFORMATION

Many parishes and parish organizations offer scholarships to deserving students. Students interested in such scholarships should make inquiries from their parish or the parish organization concerned. These awards include:

Saint Agnes Parish Holy Name Society Scholarship
One award of \$100.

Saint Joseph's Parish Scholarships
Two awards, one of \$200 and one of \$150.

Saint Mary's Basilica Parish
The Monsignor Carroll Memorial Scholarship, valued at \$300.

Saint Peter's Parish Holy Name Society Scholarships
These awards vary in number and value.

Saint Rose of Lima Parish Holy Name Society Scholarship
One award of \$100.

Saint Stephen's Parish Scholarships
Four awards of \$100.

Saint Stephen's Educational Association Scholarships
Three awards of \$100.

The Home and School Associations of various schools offer scholarships to deserving students. Students interested in such assistance should seek further information from their respective Home and School Association. These awards include:

Bedford Home and School Association Scholarship (\$100)

Oxford Home and School Association Scholarship (\$50)

Saint Thomas Aquinas Home and School Association Scholarship (\$100)

In addition, many councils of the Knights of Columbus offer scholarships to deserving students. Students interested in such scholarships are advised to direct their enquiries to the council in their area. These awards include:

Knights of Columbus Council 1097 (Halifax) Scholarships
Seven awards of \$150.

Knights of Columbus Council 2181 (Yarmouth) Scholarship
One award of \$200.

MILITARY SERVICE SCHOLARSHIPS

The high professional ability required of present-day military officers demands the best in education and training. The Department of National Defence therefore sponsors programs of university education and leadership training for selected service personnel who have the potential to become officers in the Canadian Armed Forces. The admission standards are high, but for those who qualify the way is open to a challenging and rewarding career.

The programs sponsored are the Regular Officers Training Plan (ROTP), Medical Officer Training Plan (MOTP), Dental Officer Training Plan (DOTP) and Reserve Officer University Training Plan (ROUTP). Training given under these plans is divided into two parts: normal attendance at university throughout the academic year and military training each summer.

Interested students are requested to contact one of the following:

Commanding Officer
Canadian Forces Recruiting Centre
Sir John Thompson Building
1256 Barrington Street
Halifax, Nova Scotia

OR
University Liaison Officer
Canadian Forces Base Halifax
FMO
Halifax, Nova Scotia

For ROUTP, contact the Commanding Officer of your local reserve unit.

FINANCIAL INFORMATION

II. BURSARIES

Assistance for students in financial need is available from various sources.

The Birks Foundation Bursaries

Each year the Birks Family Foundation pays the tuition and fees of all children of its employees in attendance at Canadian universities. On or before September 30 of each year the Birks employee should file with the Foundation, an application of intent to enrol a son or daughter in a university of his choice in the ensuing year. In the case of a student who wishes to continue studies on a Birks grant, notification should be given to either the Foundation or the Director of Financial Aid at the end of each school year.

Royal Canadian Legion Bursaries, Nova Scotia Command

Four bursaries, valued at \$350 and \$400, are offered annually. These awards were established to assist dependents of veterans in furthering their education. Application forms available from L. M. Rhodenizer, Education Committee, New Glasgow, Nova Scotia.

Children of War Dead Education Assistance Act

This act provides fees and monthly allowances for children of a veteran whose death was attributable to military service. Inquiries should be directed to the nearest District Office of the Department of Veterans Affairs.

I.O.D.E. Second War Memorial Entrance Bursaries

Awarded to children of deceased or permanently or seriously disabled Canadian men and women of the services, who served in World War II. Further information is available from I.O.D.E. Educational Secretary, 2037 Parker Street, Halifax, Nova Scotia.

Provincial Chapter of Nova Scotia I.O.D.E.

A number of bursaries are awarded to university students in need of financial assistance. Preference is given to first-year students. Further information is available from Provincial Educational Secretary, I.O.D.E., 5667 Victoria Road, Halifax, Nova Scotia.

The Post Discharge Rehabilitation Grants

Ex-service personnel seeking educational grants should contact the Director of Financial Assistance at Saint Mary's University. If accepted by the University, they will be given a letter with which to support their application to the Department of Veterans Affairs.

Metropolitan Life Insurance Company

Financial assistance is available to students whose parents are or have been full-time employees of the Metropolitan Life Insurance Company. This company also has a matching gift program available at Saint Mary's University. For full information contact the Director of Financial Aid at Saint Mary's University.

FUND 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 Plan

The Canada Student Loan Plan 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. 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 \$1,400, 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

FINANCIAL INFORMATION

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 Director of Financial Aid at Saint Mary's University:

Nova Scotia	Canada Student Loans Committee, Department of Education, Box 578, Halifax, Nova Scotia.
Alberta	Students Assistance Board, Department of Education, Administration Building, Edmonton, Alberta.
British Columbia	The British Columbia Student Aid Loan Committee, c/o Department of Education, Parliament Buildings, Victoria, British Columbia.
Manitoba	Department of Youth and Education, Student Aid Officer, 1181 Portage Avenue, Winnipeg 10, Manitoba.
New Brunswick	Department of Youth, Centennial Building, Fredericton, New Brunswick.

Newfoundland	Canada Student Loans Authority, Department of Education, Confederation Building, St. John's, Newfoundland.
Northwest Territories	Director of Education for the Northwest Territories, Department of Education, Yellowknife, Northwest Territories.
Ontario	Department of University Affairs, Student Awards Officer, Suite 700, 481 University Avenue, Toronto 2, Ontario.
Prince Edward Island	Canada Student Loans Committee, Department of Education, Charlottetown, Prince Edward Island,
Quebec	Office of Student Aid Services, Department of Education, Parliament Buildings, Quebec 4, Quebec.
Saskatchewan	Department of Education, Avord Tower, Victoria Avenue & Hamilton Street, Regina, Saskatchewan.
Yukon Territory	The Students Financial Assistance Awards Committee, Superintendent of Education, Box 2703, Whitehorse, Yukon Territory.

FINANCIAL INFORMATION

Nova Scotia Government Bursary — Canada Students Loan Program

This program combines loan assistance available through the Canada Students Loan Plan grant and loan 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.

The Canada Students Loan portion of the award is guaranteed by the Federal Government. No interest or payments on principal are required during the period that the student is in full-time attendance at the university and for six months thereafter. The interest during this period is paid by the Federal Government. The maximum amount available under the Canada Students Loan Plan is \$1,400 in any one year, and the total indebtedness permitted is \$9,800. With the addition of free grants from the Province of Nova Scotia, the maximum assistance a student receives in any year may exceed \$1,400 depending on the formula in effect in the year of application.

Assistance under the Nova Scotia Bursary — Canada Students Loan Program is available to all residents to Nova Scotia, including graduates at the Bachelor's level from designated educational institutions. (Graduates proceeding to degrees in education should specifically check with the Financial Aid Officer of the institution which they plan to attend or the Director of Financial Aid at Saint Mary's University). 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.

Post Graduate Scholarship Assistance

Students whose university performance gives promise of successful graduate studies should seek advice on availability of fellowships and scholarships. Interested students should contact the Office of Graduate Scholarships in the Student Center or the Director of Financial Aid at Saint Mary's University.

United States Students

All students 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.

S E C T I O N 8

Activities
and
Facilities

DEPARTMENT OF ATHLETICS

The Department organizes a variety of athletic activities on a number of different levels providing an opportunity for every student at Saint Mary's University to participate in some aspect of the total program.

Intramural and Recreational Program:

The Intramural Program is designed to promote fun, recreation, and sportsmanship by encouraging students to compete on a friendly basis. Emphasis is placed on participation. Activities include: hockey, basketball, soccer, softball, volleyball, bowling, football, and table tennis.

On a less competitive level, the program offers the following recreational activities: Judo Club, Badminton Club, Ski Club, skating, weight lifting, swimming, and ladies' keep-fit classes.

In addition to the activities above, a large variety of equipment is available on a sign-out basis for recreation at the student's leisure.

Representative Program:

Saint Mary's University is a member of the Atlantic Men's and Women's Intercollegiate Athletic Associations, and participates in regularly scheduled and tournament sports, competing with other universities in the Atlantic region.

The sports included in the varsity program are:

MEN	WOMEN
Basketball	Basketball
Football	Field Hockey
Rugby (N.S.R.F.U.)	Ice Hockey (Exhibitional)
Soccer	Badminton
Hockey	Curling
Badminton	Tennis (Exhibitional)
Curling	Skiing (Exhibitional)
Golf	Volleyball
Judo	
Wrestling	
Tennis	
Skiing	
Volleyball	

Facilities on campus include the gymnasium, hockey arena, soccer field, football field, recreation room, combative room, weight room, and swimming pool. The Athletic Department arranges for off-campus facilities for golf, tennis, curling, and skiing.

ATHLETIC DEPARTMENT FOURTH FLOOR STUDENT CENTER

STAFF:

Director of Athletics
Robert Hayes, B.A.
Arena Manager and Hockey Co-ordinator
Robert Boucher
Basketball Co-ordinator
Brian Heaney, B.Sc.
Equipment Control and Training
Gordon MacLeod
Football Co-ordinator
Allan Keith, B.A., B.P.E., B.Ed.
Soccer and Volleyball Co-ordinator
Roy Clements
Women's Athletic Co-ordinator
Kathy Mullane, B.P.E.

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, of who hold office in any student organization, must be in good academic standing at the time of their election or appointment.

STUDENTS' COUNCIL

The Students' Representative Council (SRC) is the official representative body of the Students' Association. Its purpose is to provide extracurricular services for the students and to represent their best interests to both the administration and the faculty. The Council sponsors clubs, societies and social events and maintains a rapport with the rest of the University community. The hope of the Council is to add to the general quality of life at the University so that the students may enjoy a well-rounded experience at Saint Mary's.

THE JOURNAL

The Journal is the official undergraduate newspaper of the Saint Mary's University Students Association, providing coverage of campus news events, as well as events in the community. The Journal is a member of the Canadian University Press.

RADIO SAINT MARY'S

Operating from the 5th floor of the Student Center, Radio Saint Mary's entertains and informs students. This station is staffed entirely by Saint Mary's University students and broadcasts 95 hours a week. Involvement includes news writing, announcing, programming, and engineering.

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.

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.

BLACK STUDENTS' ORGANIZATION

Black Students' Organization was started in September 1971 at Saint Mary's University. One of its main functions is the appreciation and dissemination of knowledge relating to Black history, culture and experience. It is a forum for the expression of Black Student opinion. It is also active in developing community programs that are of relevance to the Black community in Nova Scotia.

CHESS CLUB

The Chess Club provides an opportunity for students who play chess to have games with fellow students. Aside from the enjoyment of the game, the club also presents an excellent way to improve one's skills. There is an annual tournament as well as matches with other universities.

THE 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 co-operation 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. Students keep in touch through an occasional fete or special exhibition, but mainly by trying to be what we are, without getting "bowled behind we back".

CHINESE STUDENTS ASSOCIATION

This Association is open to all students. The aim of the Association is to promote knowledge of Chinese culture and to provide social and recreational activities oriented to the interests of all students.

THE CHEMICAL INSTITUTE OF CANADA

(CIC) Student Chapter is open to chemistry and chemical engineering students. Through affiliation with the national organization, an educational and social program is provided together with opportunities for closer contact with the faculty.

STUDENT ORGANIZATIONS

THE DRAMATIC SOCIETY

The Dramatic Society, one of the most active societies on campus, 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.

The Dramatic Society also cooperates in the entertainment programs offered by other student organizations and is responsible for management of the stage and its equipment whenever used.

THE ECONOMICS STUDENTS ASSOCIATION

The Economics Students Association was revived in 1973-74. Membership is open to anyone taking a course in economics. However, a strong nucleus of economics majors is required for the purpose of electing representatives to the Economics Department and to boards and committees on which students take an active role.

The Association has established a tutorial program for sophomore students, actively participated in Open House and sponsored a successful panel on the Energy Crisis.

Social activities conducted this year included a tour of Oland's Breweries and a party which is expected to become an annual affair.

THE ENGINEERING SOCIETY

The Engineering Society undertakes various activities such as student-faculty smokers and tours of local industrial establishments with the aim of helping students become better acquainted with one another and with matters of interest to engineers. The Society also sponsors the annual Engineering Student Talent Show.

THE 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 inter-university Newman meetings, University Masses, orientation week and University projects such as Third World Awareness.

POLITICAL SCIENCE ASSOCIATION

The organization has an elected executive, non-executive posts, and committees at large. Its aim is to promote the social consciousness of our members to enable them to utilize their full potential as students and as citizens.

PSYCHOLOGY CLUB

The aim of this club is to promote general interest and education in the field of psychology and to provide a liaison between the psychology department and psychology students. Informal in structure, the club serves both an academic and social function. Membership is open to any full-time student.

S.M.U. KAMP

In operation since December 1969 this organization works solely for the benefit of the underprivileged children in the Halifax-Dartmouth metro area. The club's intention is to bring these children into contact with many entertaining and educational activities not otherwise open to them. Working from the Edmund Rice Residence, the organization carries on an extensive list of projects, including everything from swimming instruction and creative arts to field trips to many of Nova Scotia's historical and vacation parks. During the months of July and August, the club conducts a series of "camps" for children between the ages of seven and eleven.

PERFORMING ARTS

The Performing Arts program at Saint Mary's University organizes and sponsors the presentation of concerts, recitals and readings by professional artists in the fields of music and drama. The program is directed by a Presidential Committee which consists of members chosen from both the University and the outside community.

Evening performances and noon-hour recitals are held throughout the year. The 1973-74 season included the distinguished English pianist Clive Lythgoe, the Bucharest String Quartet, folk singers Steve and Mary Addis, a series of Les Jeunesses Musicales, the Dartmouth Choral Society, the Rhenish Chamber Orchestra of Cologne, and others.

During 1973-74 Mr. George Zukerman, internationally-known bassoonist, was musician-in-residence.

The Halifax Classical Guitar Society holds its monthly meetings at Saint Mary's University and interested students are encouraged to join.

FACILITIES

ART GALLERY

Designed and constructed to National Gallery of Canada standards, the Art Gallery is located on the ground floor of the Ignatius Loyola Building, immediately west of the Gorsebrook Avenue entrance. It was officially opened on October 25, 1971.

The Gallery places major emphasis on displaying works of art in painting and sculpture. New exhibitions are offered monthly. C. Anthony Law, artist-in-residence at Saint Mary's University since 1967, makes his skills and experience available to students on a regular basis in weekly painting classes and in occasional lectures on Canadian art. The Gallery is also active in presenting cultural activities, e.g., lectures, concerts, recitals, poetry readings and film showings to the University community and the public.

An extension Gallery has been established at the Miners' Museum in Glace Bay, and is coordinated by the University Art Gallery. Extension service is provided also to the Arts and Culture Center in Lunenburg.

COMPUTING CENTER

The University Computing Center, located on the third floor of the Science Building, houses the I.B.M. 1130 computing system which is used by faculty, students and administration. The system is adaptable to scientific business and non-numeric applications.

The Computing Center staff conduct seminars on topics in computing and provide a variety of services to computer users. Program advisors are on duty during normal working hours and will give demonstrations on request. They provide assistance in such areas as statistics, numerical methods and the use of various program packages (I.B.M. scientific, commercial, engineering and statistical packages). Computer program and reference library facilities are maintained, and limited keypunching and related services are available. Research groups may either program their own work or avail themselves of the programming services provided by the Computer Center. A high speed counter-sorter is also available for use in conjunction with the installation or for small data-processing operations.

Authorized personnel may use the computer terminals located in the Faculty of Commerce and in the Department of Mathematics to assess outside computers (Dalhousie University, Maritime Computers Limited, etc.).

INTERNATIONAL EDUCATION CENTER

An International Education Center has been established to promote awareness of international development, relating particularly to countries and cultures of the Third World. It is designed to meet the increasing desire of Canadians in schools, in university and in the community at large for information and understanding of the problems of developing societies.

Slide shows, films, videotapes, and other materials necessary for an intelligent perspective on world issues, are provided. Resource people from many parts of the world, now resident in Eastern Canada, bring their personal background and experience to discussions and forums.

The programs of the International Education Center include:

- a) Courses for teachers-in-training, and the provision of materials and resources for Third World information in schools;
- b) Supplementary support for University programs in Asian Studies, West European Studies and for studies in Canadian, Afro and Indian cultures;
- c) Courses, talks, and resources available to church, business and labor groups, and to other individuals or groups interested in obtaining a better understanding of Canada's multi-cultural heritage and its relationship to other peoples and cultures.

THE OBSERVATORY

The Rev. Michael W. Burke-Gaffney Observatory at Saint Mary's University was opened in 1972.

Resembling a beehive, the revolving, aluminium dome measures twenty feet in diameter and rests upon an elevated pad atop the 23-storey academic-residence building. The Observatory's sixteen-inch 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.

An enclosed corridor connects the Observatory to the control room, an instrument room and workshop.

The Observatory is named for Professor Emeritus, Rev. Michael W. Burke-Gaffney, astronomer, engineer, and educator who has been at Saint Mary's University since 1940.



Saint Mary's University
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