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K6

CALENDAR
1988-89

University of King's College
FOUNDED A.D. 1789

HALIFAX, NOVA SCOTIA
200TH SESSION

KING'S COLLEGE
LIBRARY
HALIFAX, N.S.

THE UNIVERSITY OF KING'S COLLEGE

Bachelor of Arts (Ordinary and Honours)
Bachelor of Science (Ordinary and Honours)
These degrees are granted by Dalhousie University.
Also in association with Dalhousie,
King's offers the requisite pre-professional
work for admission to **Medicine, Dentistry, Architecture, Law, Education, Physiotherapy, Theology.**

Bachelor of Journalism (Honours) (Four years from Grade 12)
Bachelor of Journalism (One year after a first degree)
These degrees are awarded by the University of King's College.

Notice

All readers and prospective students are advised that the matters dealt with in this Calendar are subject to continuing review and revision. This Calendar is printed some months before the year for which it is intended to provide guidance.

Any reference to courses or classes contained herein is a statement of courses or classes that have been taught at the University of King's College and Dalhousie University in the past. The University of King's College and Dalhousie University assume no obligation to continue to teach such courses or classes and prospective students are asked to consult with the respective Faculty to determine any changes to a course or class description contained herein.

Students are advised that the contents of this calendar are subject to change without notice, other than through the regular processes of the Unversity of King's College and Dalhousie University, and every student accepted for registration in the University shall be deemed to have agreed to any such deletion, revision or addition whether made before or after said acceptance. Additionally, students are advised that this calendar is not an all-inclusive set of rules and regulations but represents only a portion of the rules and regulations that will govern the student's relationship with the University. Other rules and regulations are contained in additional publications that are available to the student from the registrar's office, and/or the relevant faculty, department or school.

The University does not accept any responsibility for loss or damage suffered or incurred by any student as a result of suspension or termination of services, courses or classes caused by reason of strikes, lockouts, riots, weather, damage to University property or for any other cause beyond the reasonable control of the University of King's College or Dalhousie University.

The University reserves the right to limit enrolment in any programme. Prospective students should note carefully the application deadlines indicated for the various programmes. They should be aware that enrolment in most programmes is limited and that students who are admitted to programmes at King's/ Dalhousie are normally required to pay deposits on tuition fees to confirm their acceptance of offers of admission. These deposits may be either non-refundable or refundable in part, depending on the programme in question. While the University will make every reasonable effort to offer classes as required within programmes, prospective students should not that admission to a degree or other programme does not guarantee admission to any given glass, except those specified as required, within that programme. Students should select optional classes early in order to ensure that classes may require more than minimal standing in prerequisite classes.

Inquiries regarding academic matters should be directed to :
The Registrar
University of King's College
Halifax, Nova Scotia
Canada
B3H 2A1

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1988

April

S	M	T	W	T	F	S
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3	4	5	6	7	8	9
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May

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July

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31						

August

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September

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October

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November

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December

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1989

January

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29	30	31				

February

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26	27	28				

March

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26	27	28	29	30	31	

April

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23	24	25	26	27	28	29
30						

May

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21	22	23	24	25	26	27
28	29	30	31			

June

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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

ALMANAC 1988-89

Classes offered at Dalhousie/King's have one of the letters "A", "B", "C", or "R" following the number. "A" classes are those given in the fall term or in the first three weeks of a summer session. "B" classes are those given in the winter term or the second three weeks of a summer session, and "R" and "C" classes are given throughout the regular year or a summer session ("R" classes carry one full credit or more, "C" classes less than one full credit).

MAY 1988

Sunday 1
Last day for receipt of applications from foreign students (except USA) to programmes in Arts and Science.

Wednesday 11
Encaenia Day — 11:00 a.m. Baccalaureate Service
— 2:30 p.m. King's Convocation
(Last day for registration for Summer School, first session)

Monday 16
Summer School (first session) begins, Faculty of Arts and Science

Monday 23
Victoria Day. No Classes.

JUNE 1988

Wednesday 1
Last day for receipt of applications from all students entering from Canada or the U.S.A. to programmes in Arts and Science at the University of King's College.

Tuesday 28
Last day to register for second summer session.

Wednesday 29
Summer School ends (first session)

JULY 1988

Friday 1
Canada Day. No Classes.

Monday 4
Summer School (second session) classes begin.

Monday 11
Last day to apply for supplemental examinations in Arts and Science, to be written in August of September.

AUGUST 1988

Monday 1
Halifax Natal Day and Dartmouth Natal Day. No Classes.

Monday 15
Last day to apply to graduate in October (Dalhousie Convocation).

Wednesday 17
Final day of classes, Summer School.

Monday 22
Registration and payment of fees, Bachelor of Journalism (one-year) Programme.

Tuesday 23
Classes begin in Bachelor of Journalism (one-year) Programme.

SEPTEMBER 1988

Monday 5
Labour Day. No Classes.

Tuesday 6
Supplemental examinations begin in Arts and Science.

Thursday 8
Classes begin in the Foundation Year Programme.
University Church Service — Chapel 5:00 p.m.

Friday 9
Last day to register for fall session in Arts and Science and in Bachelor of Journalism (Honours) Programme.

Monday 12
Classes begin in Arts and Science and Bachelor of Journalism (Honours) Programme.

Monday 26
Last day for adding classes (except "B" classes) Arts and Science and Journalism.

OCTOBER 1988

Monday 3
Last day for cancelling registration, Faculty of Arts and Science and Journalism.

Monday 10
Thanksgiving Day. No Classes.

Saturday 15
Fall Convocation (Dalhousie)

Monday 24
Last day for withdrawing from "A", "R", or "C" classes without academic penalty, Arts and Science and Journalism.

Monday 31
Last day for changing from Dalhousie to King's or from King's to Dalhousie for 1988-89.

NOVEMBER 1988

Friday 11
Remembrance Day. No Classes.

Monday 14
Last day for dropping "A" classes, Arts and Science and Journalism.

Tuesday 15
Last day for receipt of applications for winter term, Arts and Science (part time and transfer students only).

DECEMBER 1988

Thursday 1
Last day to apply to graduate in February (Dalhousie Convocation)

Thursday 8
Last day of classes in Arts and Science, Foundation Year Programme and Journalism.

Monday 12
Examinations begin in Arts and Science and Journalism.

Wednesday 21
Student Holidays begin.

Sunday 25
Christmas Day

Monday 26
Boxing Day

JANUARY 1989

January 1
New Year's Day

Tuesday 3
Last day to register for winter term. Classes resume in all faculties

Monday 16
Last day for adding "B" classes, Arts and Science and Journalism. Last day for cancelling registration for those registered only in "B" classes.

Monday 25
Last day for students in Arts and Science to apply for supplemental examinations in "A" classes.

FEBRUARY 1989

Friday 3
George III Day. No Classes.

Monday 13
Supplemental examinations begin, Arts and Science.
Last day to drop "B" classes without academic penalty, Arts and Science and Journalism.

Wednesday 15
Last day to apply to graduate in May (King's Encaenia).

Monday 20
Study break begins.

Monday 27
Classes resume.

MARCH 1989

Friday 10
Last day for withdrawal from "B", "C", and "R" classes, Arts and Science and Journalism.

Wednesday 15
Last day for receipt of applications to the School of Journalism, for both B.J. (Hons.) and one-year B.J. programmes.

Friday 24
Good Friday. No Classes.

APRIL 1989

Friday 7
Last day of classes, Foundation Year Programme and Journalism.

Saturday 8
Last day of classes in Arts and Science.

Monday 10
Examination begin in Arts and Science and Journalism.

Thursday 13
Last day for submitting work in the Foundation Year Programme.

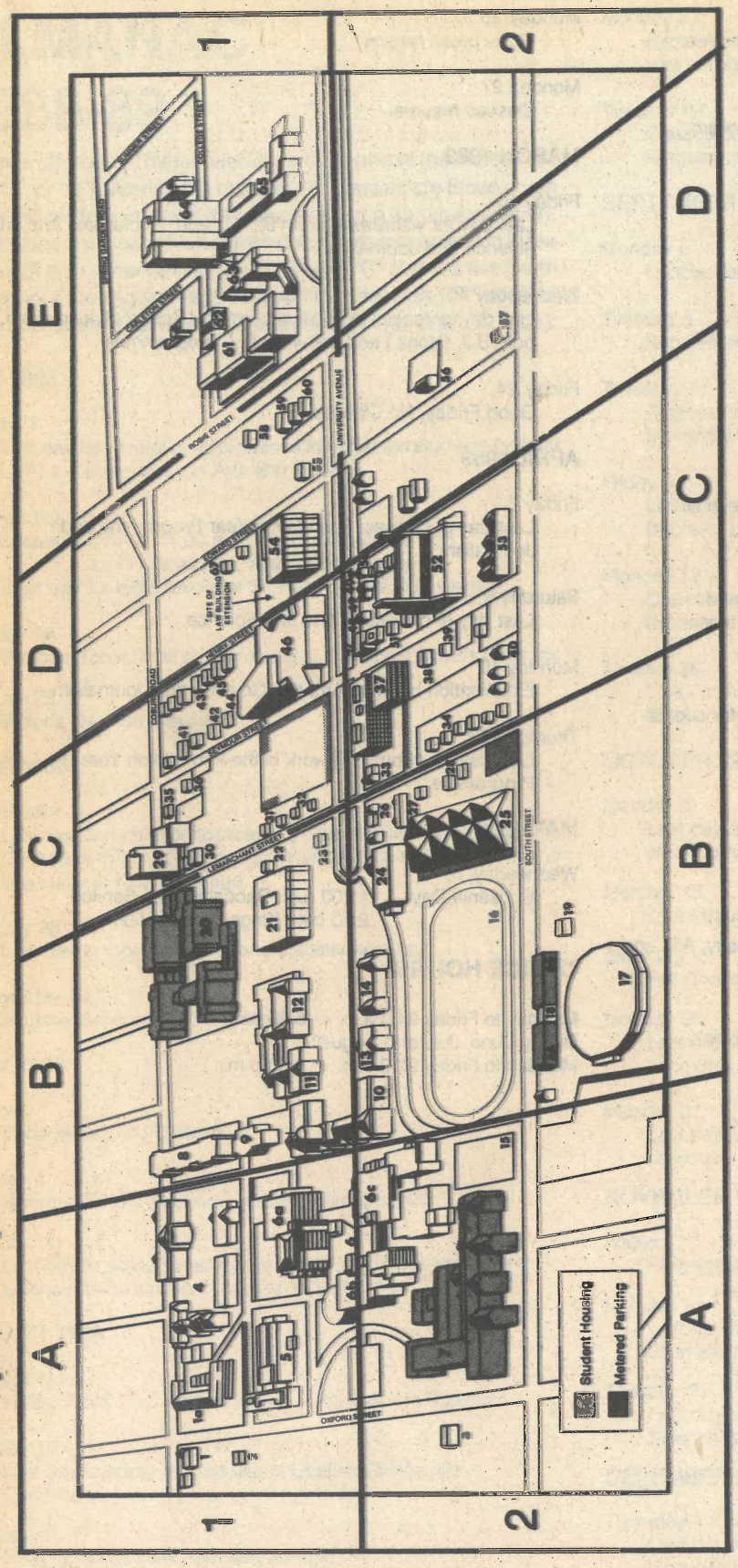
MAY 1989

Wednesday 10
Encaenia Day — 11:00 a.m. Baccalaureate Service
2:30 p.m. Kings Convocation

OFFICE HOURS

Monday to Friday 9:00 a.m. — 5:00 p.m.
During June, July and August:
Monday to Friday 9:00 a.m. — 4:30 p.m.

The Campus Map



Admissions — 10 (B1, B2)
Alumni Office — 18 (B2)
Arts and Administration Building — 10 (B1, B2)
Arts Centre — 46 (C1)
Biology — 6a (A1)
Bookstore — 37 (C2
Burbidge Building — 62 (E1)
Business Administration, School of — 29 (C1)
Central Services Building — 52 (C2)
Chase Building — 9 (B1)
Chemistry — 11, 12 (B1)
Classics — 27 (C2)
Comparative Religion — 8 (B1)
Computer Centre — 21 (B1)
Counselling and Psychological Services —37 (C2)
Dalplex — 17 (A1)
Day Care — 1a (A1)
Dentistry and Dental Hygiene — 61 (E1)
Development Office — 35 (C1)
Dunn Building — 8 (B1)
Economics — 26 (B2)
Education — 14 (B2)
Engineering — 8 (B1)
Eliza Ritchie Hall — 66 (B2)
English — 42, 43 (C1)
Forrest Building — 63 (E1)
French — 32 (C1)
Geology — 6b (A2)
German — 31 (C1)
Graduate House — 33 (C2)
Henson College — 47, 48 (C2)
History — 41(C1)
Housing Office — 37 (C2)
Howe Hall — 20 (B1)
International Student Centre — 67 (D1)
Killam Library — 21 (B1)
King's College — 4 (A1)
Law Building — 54 (D1)
Life Sciences Centre — 6a.b.c (A1, A2)
Resource and Environmental Studies — 60 (D2)
Rink — 25 (B2)
Russian — 22 (B1)
Security and Traffic — 40 (C2)
Shirreff Hall — 7 (A2)
Social Work — 1 (A1)
Sociology and Social Anthropology — 53 (C2)
Spanish — 22 (B1)
Student Union Building — 37 (C2)
Studley Gymnasium — 24 (B2)
Theatre — 46 (C1)
Transition Year Program — 30 (C1)
Tupper Building — 64 (E1)

For specific locations of offices and departments, consult the university switchboard, 424-2211, or the Halifax-Dartmouth telephone directory, or the Dalhousie telephone directory.

February 1986

Officers of the University:

Patron
The Most Reverend the Lord Archbishop of Canterbury and Primate of All England

Visitor
The Right Reverend the Lord Bishop of Nova Scotia.

Chancellor
The Honourable Mr. Justice R.A. Ritchie, B.A. (Vind et Oxon). D.C.L. (Vind), LL.D. (Dal.)

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Marion G. Fry, B.A. (Vind.), M.A. (Dal.), M.Litt. (Oxon.), D.C.L. (Vind.)

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H. Eugene Meese, B.A., Dip. Journ.
Acting Director, School of Journalism (ex officio)

Diocese of Fredericton
The Rev. Canon George Akerley, A.K.C. (F), L.Th., C.D.
The Rev. Canon Leonard J. Galey, B.A., L.Th.
The Ven. F. Harold Hazen, B.A., L.Th.
The Rev. Canon James Irvine, B.A., B.S.T.
The Rev. Canon George L. Lemmon, B.A., L.Th.
The Rev. David Staples, B.A., M.Div.

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Judge J. Elliot Hudson, B.A., LL.B., D.C.L.
The Rev. Canon W. Eric Ingraham, B.A., L.Th., B.D.
The Rev. Canon Ruth Jefferson, S.Th.
The Rev. V. Glen Kent, B.A., M.A., B.S.T.
The Very Reverend J. Austin Munroe, B.A., M.S. Litt., B.D., D.D.

Alumni Association
Mary Barker, B.A.
Peter Bryson, B.A., M.A., LL.B.
Charlotte Cochran, B.A., B.Ed.
J. Mark DeWolf, B.A. (Hons.), M.A., B.Ed.
Linda M. Fraser, B.A.
The Rev. Ronald E. Harris, B.A., L.Th., B.D.
Susan E. Harris, B.A.
Adrienne M. Malloy, B.A., B.J.

Faculty Representatives
The Rev. W.J. Hankey, B.A., M.A., D.Phil.
Detlev Steffen, Ph.D.

Student Union Representatives
Christopher Mogan
Michael Wallace
Briana Wherry

Co-opted Members
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Mr. George T.H. Cooper, Q.C.
Mr. Frank Harrington, B.Arch., F.R.A.I.C.
Mr. D. Peter MacLellan, B.A.
The Hon. Mr. Justice H.S. Nathanson, Q.C.
Major Cecil R. Thompson

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The Archbishop of Fredericton
The President
The Vice-President
The Treasurer
Dr. Eric Balcolm
Mr. Mark DeWolf
Mr. George T.H. Cooper
The Rev. Canon Leonard J. Galey
Dr. Angus M. Johnston
The Very Rev. J. Austin Munroe
Mr. Michael Wallace
Mrs. Linda M. Fraser
Mr. D. Peter MacLellan
Prof. H. Eugene Meese

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Mrs. Linda M. Fraser

Secretary to the Board of Governors
Susan Harris, B.A.
6058 Pepperell St., Apt. 24
Halifax, N.S. B3H 2N7

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Vice-President
Donald D. Betts, M.Sc., Ph.D., FRSC
Dean of Arts and Science
H. Eugene Meese, B.A., Dip Journ.
Acting Director, School of Journalism
Angus M. Johnston, B.A., M.A., Ph.D.
Director, Foundation Year Programme
Donald A. Fry
Bursar
Patricia M. Howison, B.A., M.C.S., M.A., Ph. D.
Registrar
The Rev. Wayne J. Hankey, B.A., M.A., D.Phil.
Librarian
The Rev. G.Richmond Bridge, B.A., M.A., M.Div., A.M., Ph.D.
University Chaplain
Theodore S. deBruyn, B.A., M.T.S., Ph. D.
Divinity Secretary
W.J.Torrance Kirby, B.A., M.A., D.Phil.
Dean of Residence
Margaret A.M-L. Kirby, B.A., M.A., M.Litt.
Dean of Women
Robert A. Quigley, B.Sc., BPE., M.Sc.
Director of Athletics

Officers of Convocation
The Honourable Mr. Justice R.A. Ritchie, LL.D., D.C.L.
Chancellor
Marion G. Fry, B.A., M.A., M. Litt., D.C.L.
Vice-Chancellor
The Rev. R.D. Crouse, B.A., S.T.B., M.Th., Ph.D., D.D.
Clerk of Convocation

J.P. Atherton, M.A., Ph.D.
Public Orator

Chancellors of the University

The Very Rev. Edwin Gilpin, D.D., D.C.L., 1891-1897
Edward Jarvis Hodgson, D.C.L., 1897-1911
Sir Charles J. Townshend, D.C.L., 1912-1922
The Most Rev. John MacKenley, D.D., 1937-1943
The Hon. Ray Lawson, O.B.E., LL.D., D.Cn.L., D.C.L., 1948-1956
Lionel Avard Forsyth, Q.C., D.C.L. 1956-1958
H. Ray Milner, Q.C., D.Cn.L., D.C.L., LL.D. 1958-1963
Robert H. Morris, M.C., B.A., M.D., F.A.C.S., 1964-1969
Norman H Gosse, M.D., C.M., D.Sc., D.C.L., LL.D., F.A.C.S., F.R.C.S. (C), 1971-1972
The Honourable Mr. Justice R.A. Ritchie, D.C.L., LL.D., 1974-

Presidents and Vice-Chancellors of the University

The Rev. Dr. William Cochran, 1789-1804
The Rev. Thomas Cox, 1804-1805
The Rev. Dr. Charles Porter, 1805-1836
The Rev. Dr. George McCawley, 1836-1875
The Rev. Dr. John Dart, 1875-1885
The Rev. Dr. Isaac Brock, 1885-1889
The Rev. Dr. Charles Willets, 1889-1904
Dr. Ian Hannah, 1905
The Rev. Dr. C.J. Boulden, 1905-1909
The Rev. Dr. T.M. Powell, 1909-1914
The Rev. Dr. T.S. Boyle, 1916-1924
The Rev. Dr. A.M. Moore, 1924-1937
The Rev. Dr. A.Stanley Walker, 1937-1953
The Rev. Dr. H.L. Puxley, 1954-1963
Dr. H.D. Smith, 1963-1969
Dr. F. Hilton Page, (Acting), 1969-1970
Dr. J. Graham Morgan, 1970-1077
Dr. J.F. Godfrey, 1977-1987
Dr. Marion G. Fry, 1987-

Academic Staff

King's Faculty (1987-88)

A.J. Andrew, B.A., M.A. (Dal.), D.C.L. (Vind.)
Visiting Professor of Journalism
J.P. Atherton, M.A. (Oxon.), Ph.D. (Liverpool)
Professor of Classics
R.D. Crouse, B.A. (Vind.), S.T.B. (Harv.), M.Th. (Trinity), Ph.D. (Harv.), D.D. (Trinity)
Professor of Classics
R. MacG. Dawson, B.A. (Trinity), M.A. (Tor.), B.Litt. (Oxon)
Associate Professor of English
M. G. Fry, B.A. (Vind.), M.A. (Dal.), M. Litt. (Oxon.), D.C.L.(Vind.)
Professor of Humanities and Social Sciences
W.J. Hankey, B.A. (Vind.), M.A. (Tor.), D.Phil. (Oxon.)
Associate Professor of Classics
K.G. Jaeger, M.A. (U.B.C.), Ph.D.(Dal.)
Fellow
A.M. Johnston, B.A., (Mt.A.), M.A., Ph.D. (Dal.)
Assistant Professor of Humanities and Social Sciences
W.H. Kemp, Mus. Bac. (Tor.), Mus.M. (Tor.), M.A. (Harv.), D.Phil. (Oxon.), F.R.C.C.O.
Professor of Music
J.K. Kierans, B.A. (McGill), D.Phil. (Oxon.)
Assistant Professor of Humanities and Social Sciences
S. Kimber
Assistant Professor of Journalism
H.E. Meese, B.A. (Ohio State), Dip. Journ. (U.W.O.)
Assistant Professor of Journalism
H. Roper, B.A. (Dal.), M.A., Ph.D. (Cantab.)
Associate Professor of Humanities and Social Sciences
C.J. Starnes, B.A. (Bishops), S.T.B. (Harv.), M.A. (McG.), Ph.D. (Dal)
Associate Professor of Classics
D.H. Steffen, Ph.D. (Gott.)
Professor of Humanities and Social Sciences, Associate Professor of German
K.E. von Maltzahn, M.S., Ph.D. (Yale)
Professor of Biology
I.R. Wiseman, B.A. (M.U.N.)
Assistant Professor of Journalism

Associate Fellows

Alan R. Andrews, B.A., Dip. Ed., M.A. (Leeds), Ph.D. (Ill.), FRSA
Professor of Theatre, Dalhousie University
Elizabeth Beale, B.A., M.A.
Economist
Michael Bishop, B.A., B.Ed. (Manch.), M.A. (Man.), Ph.D. (Kent, Canterbury)
Professor of French, Chairman of the Department, Dalhousie University
Marian Bruce
Part-time Lecturer in the School of Journalism
Bruce Cameron, B.A., B.J. (Hons.) M.B.A.
Part-time Lecturer in the School of Journalism
Joan Dawson, M.A. (Oxon.), M.L.S. (Dal.)
Part-time Lecturer in French in the School of Journalism
Yuri Glazov, Ph.D. (Oriental Institute, Moscow)
Professor of Russian, Dalhousie University
John F. Graham, B.A. (U.B.C.), A.M., Ph.D. (Col.), F.R.S.C.
Fred C. Manning Professor of Economics, Dalhousie University
Nita H. Graham, B.A., B.Ed. (Dal)
George P. Grant, B.A. (Queen's), D.Phil. (Oxon), LL.D. (Trent), D.Litt. (Mount A.), LL.D. (Dal.), LL.D. (Queen's), LL.D. (Tor.), LL.D. (Acadia), F.R.S.C.
Emeritus Professor of Humanities, Dalhousie University
Leslie G. Jaeger, B.A., M.A. (Cantab), Ph.D. (London), D.Sc. (London
Research Professor in Civil Engineering and Applied Mathematics, Technical University of Nova Scotia)
R.C. Kaill, B.A. (Dal.), B.D., M.A. (Tor.), Ph.D. (McG.)
Professor of Sociology, Dalhousie University
Alan E. Kennedy, B.A., M.A., (U.B.C.), Ph.D. (Edin.)
Professor of English, Chairman of the Department, Dalhousie University
Judge Robert J. McCleave, B.A., LL.B. (Dal.)
Judge Sandra E. Oxner, B.A., LL.B. (Dal.)
John A. Yogis, Q.C., LL.B. (Dal.), LL.M. (Dal.), LL.M. (Mich.)
Professor of Law, Dalhousie University

Historical Sketch

The history of higher education in Canada began in 1789 with the founding at Windsor, Nova Scotia, of the University of King's College. At the time of its establishment it was, with the exception of the fifteenth-century King's Colleges in Cambridge and in Aberdeen, the only foundation of that name in existence. Although there had been a King's College, New York, chartered by George II in 1754, it did not survive the end of the colonial period in America and its reorganization in 1784 under the name of Columbia College was undertaken on an entirely different plan. The Loyalist political and religious principles upon which the New York seminary had been founded migrated, along with the Loyalists themselves, to Eastern Canada, and in 1802 a Royal Charter was granted by George III proclaiming King's College, Windsor, "The Mother of an University for the education and instruction of Youth and Students in Arts and faculties, to continue forever and to be called King's College."

In 1923 King's accepted the terms of a munificent grant from the Carnegie Foundation, and moved to Halifax and into its association with Dalhousie University which, with a Royal Charter dating from 1820, is the third of Canada's senior universities. By an agreement reached in 1923, the two universities on the same campus have maintained joint faculties of Arts and Science, so that undergraduates of King's read for the B.A. and B.Sc. of Dalhousie, King's having left her own degree-granting powers in abeyance in these faculties. King's students registered in Arts and Science attend classes with Dalhousie students; the students of both institutions follow the same curriculum, take the same examinations, and must attain the same academic standard.

In May, 1941, the King's College buildings were taken over by the Royal Canadian Navy as an Officers' Training Establishment, and during the next four years, until May, 1945, nearly 3100 officers were trained for sea duty with the R.C.N. The students and academic staff of King's carried on during this period through the kindness of Dalhousie University and Pine Hill Divinity Hall.

In July 1971, King's College entered into a partnership agreement with Pine Hill Divinity Hall (for the United Church of Canada) and the Corporation of the Roman Catholic Archdiocese of Halifax to found the Atlantic School of Theology. This unique institution provides ecumenical as well as denominational theological education for candidates for the ministry and for laymen. During 1974 the School received incorporation as a degree-granting institution of higher education; thus the work previously done by the Faculty of Divinity of King's College is now conducted by that School. King's holds in abeyance its powers to grant degrees in Divinity in course. King's grants the honorary degree of D.D. and also that of Doctor of Civil Law (D.C.L.), an Doctor of Canon Law (D.Cn.L.).

A significant development in King's history began in the 1972/73 academic year with the introduction of the Foundation Year Programme for first year undergraduates. By taking advantage of its independence from the dominant concerns of a large modern North American University, and yet drawing strength from its very close association with Dalhousie, King's established this Programme, which is unique in Canada and aims to provide the solid foundation of a modern humanistic education through a comprehensive view of Western Civilization from its beginnings in the Ancient World up to the present day. In 1977 the University took another step forward by establishing the only degree-granting School of Journalism in the Atlantic Provinces. This School now offers two degree programmes (B.J. Honours and B.J.)

King's College is residential,on the Oxford and Cambridge pattern, and, in addition to students who live off-campus, men and women can be accommodated in residence. The corporate life in King's is designed to educate "the whole person" and not simply to train him or her for specific examinations.

In addition to athletic activities, the College also runs a Debating Society, known as the "Quintilian", and a Dramatic Society. Daily Services are held in the Chapel for those who wish to participate. Although the College is an Anglican foundation, there is no denominational bar aimed at the exclusion of non-Anglicans from membership of the College, either as lecturers or as students. Members of Faculty may themselves be resident and function in the traditional manner as "dons" for the staircase (i.e. "bays"). The bays are named Chapel Bay, Middle Bay, Radical Bay, North Pole Bay, Cochran Bay, and The Angel's Roost. Alexandra Hall is the residence for women only.

Drawing its strength from both the older tradition of classical European culture and at the same time offering its students all the opportunities and challenges of a large modern North American University through its association with Dalhousie, King's tries to maintain itself in the Canadian context as a miniature of the Christian ideal of the larger community.

Constitution

The Board of Governors is the Supreme Governing Body of the University. It consists of the Bishops of the Dioceses of Nova Scotia and Fredericton,The Chancellor, the President of the University, the Vice-President, the Treasurer, the Secretary to the Board, the Director of the Foundation Year Programme, the Director of the School of Journalism, two members elected by the Faculty, together with eight members elected by the Alumni Association, three members by the Students' Union, six by each of the Synods of Nova Scotia and Fredericton, and not more than eight co-opted members. The Governors have the management of the funds and property of the College, and the power of appointment of the President, professors and officials. The Board appoints an Executive Committee.

Convocation consists of the Chancellor and the Vice-Chancellor, together with all Bachelors of Divinity and Masters and Doctors of the University; Members of the Board of Governors and of the Faculty of Arts and Science who hold the degree of Master or Doctor from any recognized University. Fellows of the University and Bachelors of the University of five years' standing who are recognized by the Clerk of Convocation. All degrees are conferred by Convocation.

The Chapel

An attractive collegiate chapel provides a centre of spiritual life on the campus. All students, regardless of their denominational affiliations are cordially invited to attend the daily Anglican services conducted in the chapel.

The offices of Mattins and Evensong are said in the chapel Monday through Friday, and the Holy Eucharist is celebrated daily during term. The chaplain is assisted by other campus clergy in the daily celebrations, and there is a wide variety of liturgies and liturgical styles, ranging from traditional to contemporary forms.

Students take a large responsibility for the operation of the chapel, and normally they conduct the daily offices. An active guild of student acolytes assist at the daily Eucharist, and an active sanctuary guild cares for the altar and its appointments. An excellent choir, with an impressive repertoire, sings three services in the chapel each week in addition to various guest appearances during the year. A group of contemporary musicians sing a Folk Mass each month.

The Anglican chaplain is available to all students for pastoral counseling.

King's College Library

The Library dates from the origins of the College, is the sole usable link with those beginnings, and survives as the College's greatest treasure. It is only one of two collegiate collections in Canada which is continuous from the eighteenth century and one of a handful in all North America. The nineteenth century saw generous gifts, and while government and SPG support lasted, substantial purchases. It was probably for most of the century the best library in English-speaking Canada. The collection included sections in law, medicine, biology, the physical sciences, as well as in the humanities and theology. Our Rare Books and Special Collections now include most of the original library since it was not affected by the fire in 1920.

The Library has over 78,000 volumes primarily in the humanities, journalism and theology. We purchase books and periodicals in English and Canadian history, English and Canadian literature, philosophy–particularly the philosophy of religion and the history of philosophy—Classics, theology—particularly Anglican and historical divinity–the history of art and ideas, and journalism. In addition, the School of Journalism maintains a Resource Room where newspapers, periodicals, reference materials and clippings necessary to its teaching are gathered.

The first purpose of the collection is to support the undergraduate teaching of the College. New purchases are oriented to serve students in the foundation Year Programme, the School of Journalism, and those undertaking work in the humanities. By agreement, King's maintains its substantial theology section for the benefit of its own staff and students, as well as of those at Atlantic School of Theology and for the Dioceses of Nova Scotia and Fredericton. This portion of the collection is supported entirely from the Divinity Endowment of the College. Another major use of the Library is for graduate research at Dalhousie University. Advanced work in English history and literature, the philosophy and psychology of religion. Classics and the history of philosophy depends in part on materials at King's. Care is taken to eliminate duplication at this level between King's and other Halifax libraries. Finally, King's is a net lender in the Interlibrary Loan system, often supplying from its Special Collections volumes needed for research in the Atlantic region.

The Treasures of the Library are varied and of outstanding importance. The Weldon Collection of domestic china brought to Nova Scotia and New Brunswick by the early settlers is one of only two such in North America. It is important both for the intrinsic value of

the pieces and because their provenance is known. The Library houses other artifacts connected with the College, its members, founders, and benefactors. The greatest wealth of the College lies, however, in the bibliographic treasures of the Library. These include beautifully illuminated medieval manuscripts, forty-two incunabula, several thousands of sixteenth, seventeenth and specially eighteenth century printings where King's often possesses the only North American copy, and many rare editions from the nineteenth century. The total of Rare Books and Special Collections exceeds fifteen thousand volumes.

The Special Collections are the Bray Library, Maritime Canadian and Tractarian writings. The Bray Library holdings, now exceeding 400 books, are the remains of libraries sent out to Christ Church, Windsor and Trinity Church, Digby in the eighteenth and early nineteenth century. Because of the association of the College with the beginnings of English literature in Canada, the Library has acquired early and autographed editions of the works of such writers and literary figures as Thomas Chandler Haliburton, Joseph Howe, Thomas Beamish Akins (a great benefactor of the Library), Sir Charles G.D. Roberts, Bliss Carmen, A.S. Bourinot, Robert Norwood and Oliver Wendell Holmes. William Inglis Morse bestowed an endowment on the Library by which additions are made in this area. The Tractarian Movement was part of the nineteenth century revival of the Anglican Church and King's was closely connected with it from the beginning. John Keble and Dr. Pusey themselves started our collection of Tractarian publications. It has been extended by other English gifts and bequests and by the donation of the libraries of G.W. Hodgson of St. Peter's Cathedral, Prince Edward Island and of Hollingworth Tully Kingdon, second Bishop of Fredericton. The Kingdon Library, the best private theological Library in Canada at the turn of the century, was given by Trinity Parish, St. John in 1985 and makes the King's collection of Tractarian materials the best in Canada.

The Library has endowment funds associated with Professor Burns Martin, William Morse, John Haskell Laing, William Johnston Almon, Frances Hannah Haskell, James Stuart Martell and Thomas Henry Hunt. About one quarter of the accessions budget and one fifth of the operating funds are supplied by endowment income.

The Library Hours are:

Monday to Friday	9:00 a.m. - 5:00 p.m.
Monday, Tuesday, Thursday evenings	6:00 p.m. - 11:00 p.m.
Wednesday evenings	7:30 p.m. - 11:00 p.m.
Friday evenings	6:00 p.m. - 9:00 p.m.
Saturday	9:00 a.m. - 12:00 noon 1:00 p.m. - 5:00 p.m. 7:00 p.m. - 9:00 p.m.
Sunday	2:00 p.m. - 5:00 p.m. 7:00 p.m. - 11:00 p.m.

The student loan period for all books except those on reserve is two weeks. Journals circulate for one week.

Fines are charged for overdue books at the rate of fifty cents a day.

Students are given the privilege of borrowing books for the summer.

Staff

Librarian
The Rev'd Professor Wayne Hankey, D.Phil. (Oxon)

Assistant Librarian (Operations)
Elaine Galey, B.A. (Vind.)

Assistant Librarian (Special Projects)
Jane Trimble, B.A. (Mt. Allison), B.L.S. (Toronto)

Cataloguer
Drake Petersen, B.A. (New York University)

Secretary
Paulette Drisdelle

Degrees

The degrees of Doctor of Divinity, Doctor of Canon Law and Doctor of Civil Law, may be conferred *honoris causa* in recognition of eminent literary, scientific, professional or public cervical

The dignity and honour of Fellow may be conferred by the vote of Convocation upon any friend of the University for noteworthy services rendered on its behalf.

The University confers the degrees of Bachelor of Journalism (Honours) and Bachelor of Journalism in course.

Convocation confers the Master of Sacret Theology in Pastoral Care on recommendation of the Graduate Studies Committee of the Institute of Pastoral Training.

Students intending to enter one of the Dalhousie professional schools may take pre-professional work in Arts and Sciences as students of King's College.

The Dalhousie Senate confers the degrees of Bachelor of Arts and Bachelor of Science ordinary and honours, in course, at the King's Encaenia.

King's Institute for Advanced Study

The purpose of the Institute is to further and to communicate the interests of the College in the investigation of the foundations of Western Culture. The Institute is thus an expression of the College's involvement in interdisciplinary work beyond the current degree programmes. There are a number of themes the Institute wishes to concern itself with, given the interest, ability and the need of the King's faculty to transcend departmental boundaries and disciplines. The Council has selected as its initial focal point the interpretation of nature and human position within and relation to nature.

All members of King's are encouraged to participate in the activities of the Institute and it is expected that common interests will be shared with members of other institutions in the region and elsewhere.

King's College Residences

Dean of Residence
W.J.Torrance Kirby, B.A., M.A., D.Phil.

Dean of Women
Margaret Kirby, B.A., M.A., M.Litt.

Dons (1987-88)
Marguerite Bourbeau, B.Sc., M.A., Ph.D.
Gavin Dunbar, B.A.
Simon Jackson, B.Sc.
The Rev. John Matheson, B.A., M.Div.
Thilairani Pillay, B.A., M.A.
Graham Steele, B.A.
Laurie Taylor, B.N.

The Rev. Prof. W.J. Hankey, B.A., M.A., D.Phil.
Professor in Residence

King's College provides residential accommodation for 250 undergraduate students registered at King's in the B.A., B.Sc. and B.J. (Hons) programmes who have completed an application for residence, subject to the approval of the Dean of Residence or the Dean of Women. Students are advised to apply for places in residence as soon as they have been accepted into the University. Owing to pressure of numbers, the College cannot guarantee residence accommodation to all applicants. A certain priority for rooms is granted to first-year undergraduate students, returning students and transfer students are readmitted to the residence

primarily according to their academic standing. Students in the one-year B.J. programme are regarded normally as graduate students and are granted a lower priority for rooms than are undergraduates. They may, however, be considered for residence if there is available space.

All rooms are furnished with bed, dresser, desk, and chairs. Students are required to provide their own bedding (sheets, blankets, pillows), and towels, and to attend to their own laundry arrangements. Washing and drying equipment is provided in both men's and women's residences.

Single and double rooms are available to both men and women, priority for single rooms being given to students in the upper years.

The Men's Residence is divided into Bays in which there are both single and double rooms. A "double" for men is defined as a suite of two rooms shared by two male students.

The Women's Residence (Alexandra Hall) was built in 1962. Traditional double and single rooms are available and in addition the residence provides reception rooms, a portress desk, a music room, a study room, a laundry room, a service elevator and a trunk storage room.

Both residences are designed so that it is not necessary to go outside for meals and extra-curricular activities.

Meals are prepared and served to all resident students in Prince Memorial Hall, erected in 1962.

Applications for accommodation in all residences are accepted on the understanding that the student will remain for the whole academic session. No student may withdraw from residence without permission from the Deans. Students withdrawing from residences are required to give one month's notice in writing to the Deans. Students withdrawing after occupying a room will lose their room deposit. In addition failure to give one month's notice will result in students' being charged rent for that month. No student will receive a refund for withdrawal after March 15.

It should be noted that the University assumes no liability for personal property in the case of theft or damage. No pets of any kind are allowed in residence.

The residence will be open for new and returning students from 10:00 a.m., September 8, 1987 until the morning of the last day of examinations in the Faculty of Arts and Science for the Fall Term. The residence will reopen on January 3, 1988, and remain open until the morning of the last day of examinations in the Faculty of Arts and Science for the academic year.

Students in their graduating year are permitted to remain in residence until the morning after the last day of Encaenia activities. Resident students in faculties whose terms exceed those periods may reside in the College by permission of the Deans on payment of rent. When Prince Hall is open, meals may be purchased.

As the residences will not be open during the Christmas holidays, students are urged to make arrangements for their Christmas vacations as early as possible in the Fall term. Except under unusual circumstances and with the permission of the Deans, no student is permitted to occupy the residences over the Christmas holidays.

Application for accommodation cannot be made until the student has been accepted by the University for the coming session. Residence applications must be accompanied by a $100.00 residence deposit. No room will be assigned until this residence deposit has been received.

Cancellation of an application received by the Registrar or the Deans prior to August 1st will entitle the student to a refund of the $100.00. Failure to cancel with the Registrar or the Deans before August 1st will result in forfeiture of the $100.00 deposit.

Fees

Academic and Related Fees

The final step in the registration process is the payment of fees. A student is considered registered only after financial arrangements have been made at the Bursar's Office, King's College, and the Student Accounts Office, Dalhousie.

Foreign Students

Students registered in a programme at Dalhousie or King's who are not Canadian citizens or permanent residents are required to pay a differential fee of $1,700.00, or, if registered part-time, a proportionate fee related to their part-time studies. The DIFFERENTIAL FEE IS PAYABLE EACH YEAR WITH THE PAYMENT OF THE FIRST INSTALLMENT OF FEES.Visa students who commenced their current programme of study prior to the 1985-86 academic year are requested to pay a differential fee of $1,625.00.

Fees are subject to change. Those payable in 1987-88 were as follows:

Full-Time Students–Academic Fees (1987-1988)

Faculty	University Fee	Student Union Fee	Total	If paid on on or before August 31, 87	or In Full at Registration	or Payable in 2 installments At Registration	Bal. Jan 25
Arts and Science	$1590.00	$99.00	$1657.00	$1657.00	$1689.00	$1174.00	$515.00
Journalism	$1635.00	$99.00	$1734.00	$1734.00	$1734.00	$1200.00	$554.00 (Includes $20.00 carying charge)

There is an interest charge of 12% per annum on overdue accounts

Full-time Students

Full-time students include those registered for fall and winter terms for more than three full credit classes and those registered for wither term in more than three one-half credit classes.

Part-time Students

Part-time students include those who are registered for fewer than three full-credit classes or for fewer thjan three half-classes in either term. Part-time students should consult the Registrar of the University of King's College with regard to fees and charges.

Audit Students

Students who wish to audit a class but not for degree credit are required to register and pay fees at registration on the following basis:
University Fee
One-third credit class $ 54.00

One-half credit class	$ 81.00
One full credit class	$162.00

A student registered to audit a course who during the session wishes to receive credit for the class must receive approval from the Registrar and pay the difference in class fees plus a transfer fee of $25.00.

Day Students

A significant number of students of King's College live off-campus. Their participation in the various societies, sports activities and campus events that make up collegiate life is encouraged. They are also encouraged to make full use of campus facilities. To this end, lockers are available for the safe storage of personal effects.

King's Student Union Fee

Students at King's are required to pay the King's Student Union Fee of $99.00, which at the request of the King's Student body is collected upon entrollment from each student who takes more than one class. This fee entitles the student to the privilege of the various students' organizations and clubs, a copy of the King's College Record and free prescription drugs.

King's students are not required to pay the Dalhousie Student Union Fee, or the Rink and Athletic Field Fee. However, any King's student who wishes to participate in the Dalhousie Student Union Activities must pay both King's and Dalhousie Student Union Fees. Dalhousie students resident at King's College must pay the King's Student Union Fee.

Application Fee

An application fee of $20.00 is required with the application form submitted by any student for any programme except those in which the applicant has been previously enrolled. If the fee is paid for in a given session, and the applicant does not attend, whether accepted or not accepted, and an application is made for a subsequent session, the fee is again payable.

Application fees are not refundable and are not applied as a credit to class fees.

Payments

Fees are due and payable at registration. Full-time students and part-time students with classes extending over fall and winter terms may pay fees in two installments.

Bills for fees will not be issued. The receipt issued at registration will show the balance outstanding.

Students planning to pay the first installment of fees from a Canada Student Loan should apply to their province as early as possible so that funds will be available at registration.

Scholarships or bursaries paid by or through the University of King's College may be applied to fees. Students must produce at registration adequate documentary evidence of entitlement to the sums claimed under the award. If fees are to be paid by a government or other agency, a signed statement from the agency must be presented at registration. (All such students are required to pay the appropriate deposit on registration.)

Fees cannot be deducted from salaries paid to students who are employed by the University of Kings College.

Fees Deductible For Income Tax

The amount of fees constituting an income tax exemption for the student is calculated by deducting from the total charge the Student Union Fee. Fees may be claimed as a deduction only by the student. A special certificate for income tax purposes will be issued on request to the Student Accounts Office, Dalhousie in February of each year (for students in Arts and Science) or the Accounts Bursar at King's (for students in Journalism).

Further information on the payment of fees for 1988-89, deadline for payment, refund policy, etc., is contained in the separate Fees Handbook, which will be included in the student registration package.

Other Charges

Identification Cards

All new, full- and part-time students may obtain an identification card upon registration and payment of proper fees. I.D. Cards are issued by the I.D. office, located in the central foyer of the Dalhousie Arts and Administration Building basement. I.D. Cards will only be issued upon presentation of the appropriate requisition form, authorized by the Registrar's Office, the Bursar's Office and the Dalhousie Student Accounts Office. Regular academic I.D. cards remain valid until the beginning of the following academic year (including summer session). (I.D. Cards issued specifically for a summer session expire at the conclusion of that session). At the commencement of subsequent consecutive years, validation stickers are affixed to the "expired" I.D. card. **Students of the University of King's College cannot receive either an I.D. card or a validation sticker until they register in September.** If an I.D. card is lost, authorization for a replacement may be obtained from the Office of the King's Bursar. A fee of $12.00 is charged for all replacement I.D. cards, except those expressly directed by the University.

Laboratory Charge

No laboratory deposit is charged. Students will be charged for careless or willful damage.

Examinations

An application for a supplemental examination must be accompanied by the proper fee.

Supplemental and Special Examinations
(per examination) $25.00

Extra fee for each examination written at an outside center $25.00

Fee will be forfeited unless application for refund is made on or before July 31, or in the case of February supplemental examination, January 31.

Fee for reassessment of a class grade (when permitted) is $3.00.

Degree in Absentia

Any graduating student who is unable to appear at Encaenia is expected to notify the Registrars of Dalhousie and King's in writing prior to May 4 (or October 15 for Fall Convocation), giving the address to which the diploma is to be mailed. In any case where notification is not received by the required date, and a student does not appear at the convocation, there will be a fee of $20.00.

Transcripts

Transcripts, official or unofficial, will be issued only on the request of the student concerned. Official transcripts will be sent only to other universities, prospective employers, etc. The charge is $3.00 for the first copy, $0.50 for each additional copy ordered at the same time for the same address. Transcripts will not be issued if any account with the University is delinquent. Applications for transcripts by B.A. and B.Sc. students must be made at the Registrar's office, Dalhousie University. Applications for transcripts by Journalism students must be made at the Registrar's Office, University of King's College.

Scholarships

Scholarships awarded by King's College will normally be applied to charges at King's. If a student has a larger scholarship than his obligation to King's, the balance may be paid by King's to Dalhousie University towards tuition fees. The student should enquire at the Bursar's Office to ascertain if the Dalhousie Business Office has been informed of the arrangement.

Student Photograph

At time of first registration at King's each student will be asked to supply two pictures.

Parking on the Campus

Each student who has a car on campus may obtain a parking permit from the General Office upon the presentation of insurance and license number for a charge of $35.00.

Students with motorbicycles may obtain parking permits under the same conditions for a charge of $35.00, and will be required to park them in a designated area.

Residence Fees

All resident rates include three meals per day for the duration of the academic year. There are no meal plans which exempt resident students from some meals. In the case of timetable conflicts, students are permitted to obtain a box lunch or an early supper from the kitchen. Non-residents can pay for individual meals at any time, and they can also obtain a full meal plan by arrangement with the Bursar.

No student will be admitted to the King's College Residence who has not paid his/her room deposit of $100.00. This deposit will not be refunded to anyone who accepts a room after August 1, 1987, or who fails to notify the Dean of Residence or the Dean of Women that he or she does not intend to occupy the room which has been assigned before this date.

Students are expected to remain in residence for the whole of the academic year, unless other arrangements have been made with one of the Deans. Students are not free to withdraw at will, and every student who withdraws from residence after occupying a room will lose his caution deposit. In addition, should the student fail to give one of the Deans one month's written notice of intention to withdraw, he or she will be fined $100.00, and charged one month's rent. No student will be allowed to withdraw after March 15.

A complete session is defined for students registered in the Faculty of Arts and Science and the School of Journalism as being from the first day of regular registration to the day of the last regularly scheduled examination in the Faculty of Arts and Science. A graduating resident student may stay in residence without charge after these periods up to and including the last day of Encaenia activities, but will be expected to pay for meals during this time.

In exceptional circumstances a student may seek the permission of the Deans to occupy a room at times other than those specified above. For charges and conditions, students should consult with the Dean of Residence and the Bursar.

Resident students who are not registered at King's College are required to pay the King's College Student Union fee of $99.00. In return for the payment of this fee, resident students not registered at King's become fully active members of the King's College Student Union.

Failure to Pay Residence Fee

Residence Fees for the Fall term must be paid by September 30 of each year. Residence Fees for the Winter term must be paid by January 30 of each year. Students who have not paid these fees by the deadline indicated will be charged a penalty of $40.00 in addition to 12% interest on the unpaid fees.

1. No student may return to residence in the Winter term until first term residence (and interest) charges are fully paid; the rooms of these students will be reassigned.

2. No student may return to residence after the study break of the Winter term until second term residence (and interest) charges are fully paid; the rooms of these students will be reassigned.

Expulsion

Each student expelled from residence loses his or her caution deposit of $100.00.

Caution Deposit

On enrollment each student is required to make a deposit of $100.00 as caution money to cover damage done to furniture, etc. This amount, less deductions, will remain a credit on the books until the student graduates or leaves, when the balance will be returned by cheque usually during June. No refund in whole or in part will be made until that time. All students in residence are held responsible for the care of furnishings within their respective rooms. Losses or damages incurred during the session will be charged to the caution deposit.

Each year a student, on returning, is expected to make up for the previous year's deductions so that his or her credit may be maintained at $100.00.

The items above, together with a key deposit of $5.00 and gown rental of $20.00 (gowns for non-resident students are optional), are payable at King's Business Office.

The following schedule shows **Residence Fees and Meal Charges** applicable during the 1987-88 academic year.

RESIDENCE	TOTAL	Residence Fees PREPAID DEPOSIT	MINIMUM PAYABLE AT REGISTRATION	BALANCE JAN. 22 (INCLUDES SERVICE CHARGE)
Single Room and Board (Bays)	$3677.00	$100.00	$2500.00	$1197.00
Single Room and Board (Alexandra Hall)	$3677.00	$100.00	$2500.00	$1197.00
Suite Room and Board (Alexandra Hall)	$3797.00	$100.00	$2500.00	$1317.00
Double Room and Board (Bays)	$3432.00	$100.00	$2500.00	$ 952.00
Double Room and Board (Alexandra Hall)	$3432.00	$100.00	$2500.00	$ 952.00

UNIVERSITY REGULATIONS

General

1. All students must report their local address while attending the University to the Office of the Registrar, on registration or as soon as possible thereafter. Subsequent changes must be reported promptly.

2. Place of Residence of Students. For the purpose of admission to the University the place of residence of a student is the place of domicile. This is normally presumed to be the place (country, province, etc.) where the home of the student's parents or guardian is located. That place remains unchanged unless he or she takes steps that satisfy the Registrar that a place of residence is established elsewhere.

3. No person under sixteen years of age is admitted to any class except by special permission of the Senate.

4. All students must agree to obey all the regulations of the Univer-

sity already made or to be made, and pay the required fees and deposits before entering any class or taking any examinations.

5. Students taking classes in another Faculty as part of an affiliated course must conform to the regulations of that Faculty with respect to these classes.

6. A student is not eligible to register unless all previous accounts, including fees, library fines, and other fines to the University have been paid.

7. Late registration requires the approval of the Dean of the Faculty.

8. Withdrawal: See the individual faculty regulations, and the fee section.

9. Tuberculin Test: In the interests of public health in the University, students are encouraged to have a tuberculin test. This is compulsory for Dental, Dental Hygiene and Physiotherapy students. Facilities for testing are arranged by the University Health Services.

10. Transcript of Record: A student may receive only an unofficial transcript. Official transcripts will be sent at a student's request to other universities, or to business organizations, etc., on payment of the required fee. If a student so requests, a copy of a medical certificate will be enclosed with the transcript.

11. The Senate is charged with the internal regulations of the University, including all matters relating to academic affairs and discipline, subject to the approval of the Governors. Within the general policies approved by the Senate, academic requirements are administered by the Faculty concerned.

12. When the work of a student becomes unsatisfactory, or a student's attendance is irregular without sufficient reason, the Faculty concerned may require withdrawal from one or more classes, or withdrawal from the Faculty.

13. If a student is required to withdraw from a Faculty because of failure to maintain adequate academic standing, such a student may apply to another Faculty. However, in assessing the application, previous performance may be taken into consideration.

14. Students whose accounts are delinquent on March 15 will not be eligible for graduation at the May convocation. For October or February graduation the dates are Sept. 1 and Jan. 1 respectively.

Discipline

1. Members of the University, both students and staff, are expected to comply with the general laws of the community, within the University as well as outside it.

2. Alleged breaches of discipline relating to life in the residences are dealt with by the appropriate Dean or Director of Residence in consultation with the relevant Residence Council. Senate is charged with the authority to deal with cases of alleged academic offences (which is delegated to the Senate Discipline Committee), as well as certain other offences.

3. On report of a serious breach of the law, or a serious academic offence deemed by the President, or in his or her absence by the Vice-President or the Dean of a Faculty, to affect vital University interests, a student involved may be temporarily suspended and denied admission to classes or to the University by the President, Vice-President or Dean, but any suspension shall be reported to the Senate, together with the reasons for it, without delay.

4. No refund of fees will be made to any student required to lose credit for any course taken, or to withdraw, or who is suspended or dismissed from any class or from any Faculty of the University.

Examples of Academic Offences

(a) Plagiarism

Plagiarism is considered a serious academic offence which could lead to loss of credit and suspension from the University. Plagiarism may be defined as the presentation by an author of the work of another author, in such a way as to give one's reader reason to think that the other author's work is one's own. A student who is in any doubt as to what constitutes plagiarism is urged to discuss the matter with the instructor concerned before competing an assignment.

(b) Irregularities in Admissions Procedures

A member of the University who gains admission, or assists any other person in gaining admission, by an irregular procedure — for example, by falsifying an academic record or by forging a letter of recommendation or by impersonating any other person — commits an academic offence and is liable to a penalty.

(c) Irregularities in Evaluation Procedures

A member of the University who attempts or who assists any other person in an attempt to obtain, by irregular procedures, academic standing in a course related to any degree, diploma or certificate program, commits an academic offence and is liable to a penalty. Without limiting possible irregularities in evaluation procedures that may be considered by the Senate Discipline Committee, the following examples shall be considered irregular procedures:

(i) arranging for or availing oneself of the results of any personation at any examination or test, or

(ii) attempting to secure or accepting assistance from any other person at any examination or test, or

(iii) having in one's possession or using any unauthorized material during the time that one is writing any examination or test or,

(iv) without authorization procuring a copy of an examination, test or topic for an essay or paper or

(v) in the absence of any enabling statement by the Faculty member in charge of that course, submitting any thesis, essay, or paper for academic credit when one is not the sole author, or

(vi) without authorization submitting any thesis, essay or term paper that has been accepted in one course for academic credit in any other course in any degree, diploma or certificate programme.

Senate Discipline Committee

1. Composition

Academic Offences are dealt with by the Senate Discipline Committee, which consists of five members, three of which are members of the Senate and two of which are students.

2. Terms of Reference

(a) The Senate Discipline Committee is vested with original jurisdiction to consider all complaints of allegations respecting offences or irregularities of an academic nature, including those relating to admissions procedures and evaluation procedures, and to impose penalties in cases where the Committee finds an offence or irregularity has occurred.

(b) The Senate Discipline Committee shall assume jurisdiction when a complaint or allegation respecting offences or irregularities of an academic nature are brought to its attention by the Secretary of Senate.

(c) The Senate Discipline Committee shall report its findings and any penalty imposed to the Secretary of the Senate. The Secretary of the Senate shall forward a copy of the report to any member of the University community whom the Senate Discipline Committee has found to have committed an offence or irregularity and if the member concerned be other than a student a copy shall also be sent to the Vice-President (Academic).

(d) If the member of the University found to have committed an offence or irregularity is a student, he may appeal to Senate any finding or penalty imposed by the Senate Discipline Committee by advising the Secretary of the Senate in writing within 30 days of receipt of the report by the student.

(e) The Senate Discipline Committee, when its finds that a member of the University who is a student has committed an academic offence or irregularity, may impose one or more of the following penalties:

(i) loss of all credit for any academic work done during the year in which the offence occurred;

(ii) suspension of rights to attend the University for a specified period;

(iii) dismissal from the university;

(iv) such lesser penalty as the Committee deems appropriate where mitigating circumstances exist.

Definitions

Full-time Students: those registered for three full classes or more, or the equivalent of three half-credit classes or more in either first or second term.

Graduate Students: students who are enrolled in the Faculty of Graduate Studies.

Matriculation Standing: Senior Matriculation designates the level of studies attained by students who have successfully completed Grade XII in public high school in Nova Scotia or its equivalent elsewhere.

No-degree Students: students who are not candidates for a degree or diploma but who wish to take one or more university classes which may be allowed for credit. This is not the same as auditing a class. No-degree students must satisfy normal admission requirements.

Part-time Students: students registered for fewer than three full-credit classes or the equivalent of three half-credit classes in either first term or second term.

A full-credit class is equivalent to 6 credit hours.

Undergraduates: students who are candidates for an undergraduate qualification.

Programmes of Study

King's offers the following Programmes of Study leading to degrees in Arts and Science.

B.A. (General) three years *
B.A. (Honours) four years
B.Sc. (General) three years *
B.Sc. (Honours) four years
* Twenty credit Major Bachelor of Arts and Bachelor of Science programmes are also available in some disciplines.

King's offers two Programmes of Study leading to degrees in Journalism:

B.J. (Honours) four years
B.J. one year following B.A. or B.Sc.

The University of King's College and Dalhousie University have one Faculty of Arts and Science. King's students can take all the courses offered by that Faculty leading to the Bachelor of Arts or the Bachelor of Science either ordinary or honours. Currently these degrees can be done in Social Anthropology, Biochemistry, Biology, Chemistry, Classics, Economics, English Language and Literature, French, Greek, Geology, German, History, Latin, Mathematics, Medieval Studies, Music, Philosophy, Physics, Political Science, Psychology, Religion, Russian, Sociology, Spanish and Theatre. Joint majors or joint honours may be taken in a number of subjects.

King's students can also do the pre-professional work offered by the Faculty of Arts and Science and which sometimes amounts to less than what is required for the B.A. or B.Sc. Architecture, Medicine, Dentistry, Physiotherapy, Social Work, Law, Education and Theology all accept students after one level or another of work in Arts and Science. The University of Kings College does not, however, admit students to programmes which involve degrees or diplomas other than the B.A. and B.Sc. (except Journalism–B.J., B.J. (Hons.)). For example, King's students cannot be taking the Diploma in Engineering, or the Bachelor of Music Education, nor will they be doing Commerce or Graduate Studies. What King's does offer other than what is available to Dalhousie Arts and Science students is a unique way of doing an Arts and Science first year–the Foundation Year Programme.

The King's alternative first year programme, the Foundation Year Programme, is a first year programme for both general and honours students. Bachelor of Arts students enrolled in the Foundation Year Programme do one class in addition to the Foundation Course. Bachelor of Science students in the Programme do two additional classes. Thus for B.A. students the Foundation Year Programme is equivalent to four classes, for B.Sc. students it is equivalent to three classes.

The University of King's College has a School of Journalism offering programmes leading to the B.J. (Hons.) and B.J. degrees. These degrees are awarded by King's. Approximately 120 King's students are enrolled in Journalism degree programmes. The Foundation Year Programme is taken by all first-year students enrolled in the B.J. (Hons.) degree programme.

The University year begins in early September and classes are completed by the end of April. In Arts and Science, the ordinary degree is normally completed in three years after admission, the honours degree in four years. Five classes constitute a normal class load in an academic year. A total of fifteen classes is required for the ordinary degree, and twenty for the honours degree. In some disciplines, twenty-credit/four year Major Bachelor of Arts and Bachelor of Science programmes are also available.

Faculty of Arts and Science

Introduction

The Faculty of Arts and Science consist of several groups of persons: some four thousand undergraduate students who typically spend three or four years in the faculty, over four hundred teaching and research faculty members most of whose positions are more or less permanent as well as a number of part-time teachers, and a third important element consisting of the support staff of secretaries, technicians, etc. Academically, the student's almost exclusive role is to learn – from teachers, from laboratory experience, from books, from other students and from solitary contemplation. Students learn not only facts but concepts, and most important, learn how to learn. Almost all of what undergraduate students learn of fact, concepts and methods, although new to them, is not new to the world.

Through intellectual interaction with other members of the academic community, undergraduate students should gain the background knowledge, the ability and the appetite for independent discovery. This point is marked formally by the award of a Bachelor's degree.

The academic faculty has two equally important roles: to teach the same facts, concepts and methods that the student must learn; and to contribute to human knowledge through research, scholarly or artistic activities.

The Faculty of Arts and Science at Dalhousie/King's is divided into twenty-three departments representing at least that number of intellectual disciplines. Most of the departments are devoted either to

the liberal arts or to the pure sciences. In addition, at Dalhousie/King's this faculty contains a second group of quasi-professional departments including Music, and Theatre. An important role of these professional departments is to prepare students for employment in the corresponding profession.

Much less well understood is the role of liberal arts and pure science departments. The Bachelor's degrees of B.A. or B.Sc. are not intended to signify that the student is qualified for any particular job. The goal of such programmes is simply to produce educated persons with competence in one or more subjects. Such competence includes not only factual knowledge but more importantly the ability to think critically, to interpret evidence, to raise significant questions and to solve problems. A B.A. or B.Sc. often plays a second role as a prerequisite to a professional programmes of study or as a stage towards a Ph.D. in an arts or science discipline.

The non-professional departments in the Dalhousie/King's Faculty of Arts and Science comprise the humanities, including languages, social sciences, life sciences, physical sciences and mathematical sciences. Students in B.A. and B.Sc. programmes should sample classes across these areas to have some appreciation of the nature of a variety of disciplines. The section of the Calendar which follows describes the nature of the subjects which can be studied in the Faculty of Arts and Science at Dalhousie/King's, the content of each of the classes offered, the regulations governing admission, and the awarding of degrees. It is designed to help those who wish to enrol in the Faculty, as well as those who are already enrolled, to make informed choices about their programmes of study.

The dean, associate deans and assistant dean of Arts and Science and the chairpersons of the departments and other members designated as faculty advisors, are available for general consultation and are ready to help in the planning of programmes of study. In the latter activity they are assisted by the Director of Admissions, and all new students are invited to discuss their proposed academic programs with him before registration. The Dean of Student Services, Director of Admissions, and the Registrar are prepared to help in the interpretation of University Regulations and to answer general questions, while the Director of Awards is available for advice and assistance concerning awards, scholarships, and other financial aid.

Students planning to take a postgraduate degree should consult the department in which they intend to specialize before finally deciding on the choice between a general and an honours undergraduate programme.

Officers of the Faculty

Dean of the Faculty of Arts and Science
D.D. Betts, B.Sc., M.Sc. (Dal.), Ph.D. (McG), F.R.S.C., Professor of Physics

Associate Deans of the Faculty
A.R. Andrews, B.A., Dipl. Ed., MA. (Leeds), Ph.D. (Ill.), F.R.S.A., Professor of Theatre

T.S. Cameron, B.A., M.A., D. Phil. (Oxon), Professor of Chemistry.

Assistant Deans of the Faculty
M.M.Furrow, B.A. (Dal.), M.A., M.Phil., Ph.D. (Yale), Assistant Professor of English

Secretary of the Faculty
E.W. Angelopoulos, B.Sc., B.A., M.S., Ph.D. (Minn.), Associate Professor of Biology

Administrator
D.G. Miller, B. Comm (Acadia)

NOTE REGARDING THE FOLLOWING REGULATIONS:

The regulations numbered 3, 11, 12 and 22 have been revised. **All students registering for the first time in the Faculty of Arts and Science for the academic year 1988-89 are subject to the new regulations. For those students whose first registration in Arts and Science was for the academic year 1987-88 or earlier, the old regulations remain in force.**

Any students registered in 1987-88 or earlier who wish to pursue 20-credit (Advanced Major) degrees should consult their academic advisor and the Office of the Registrar as soon as possible to ensure that their programmes of study will satisfy the degree requirements.

1. Definitions

For definitions of some commonly used terms, see page 17.

2. Departments of the Faculty of Arts and Science

Biochemistry (also in the Faculty of Medicine)
Biology
Chemistry
Classics
Comparative Religion
Economics
Education
Engineering
English
French
Geology
German
History
Mathematics, Statistics and Computing Science
Microbiology (also in the Faculty of Medicine)
Music
Oceanography
Philosophy
Physics
Political Science
Psychology
Russian
Sociology and Social Anthropology
Spanish
Theatre

Old 3. Subject Grouping

The various subjects in which instruction is offered are grouped as follows:

A. **Languages:** French, German, Russian, Spanish as well as Greek and Latin. (See Classics Department)

B. **Humanities:** Classics, Comparative Literature, Comparative Religion, English, History, Medieval Studies, Music, Philosophy, and Theatre.

C. **Social Sciences:** African Studies, Economics, Education, History, International Development Studies, Political Science, Psychology, Sociology and Social Anthropology.

New 3. Subject Groupings

The various subjects in which instruction is offered are grouped as follows:

A. **Languages and Humanities:** Classics, Comparative Literature, Comparative Religion, English, French, German, Greek, History, Latin, Medieval Studies, Music, Philosophy, Russian, Spanish and Theatre.

B. **Social Sciences:** African Studies, Economics, Education, History, International Development Studies, Political Science, Psychology, Sociology and Social Anthropology.

C. **Life Sciences and Physical Sciences:** Biochemistry, Biology,

D. **Sciences:** Biochemistry, Biology, Chemistry, Computing Science, Geology, Mathematics, Microbiology, Neuroscience, Oceanography, Physics and Statistics.

Classes are also offered in Architecture, Education, Engineering.

Chemistry, Computing Science, Geology, Mathematics, Microbiology, Neuroscience, Oceanography, Physics, Psychology and Statistics.

In cases where a subject is listed in more than one of the groupings, A, B and C, any class taken in that particular subject can only be used to satisfy one of the grouping requirements. (See Regulation 11.1 (a) below). A second class in the same subject cannot be used to satisfy another subject grouping requirement.

4. Programmes Offered

Programmes leading to the following qualifications are offered to students registered at the University of King's College: Bachelor of Arts and Bachelor of Science.

Many of the classes offered may be taken on a non-degree basis by persons who do not wish to study for a degree.

5. Admission Requirements

Applications are available from the Registrar, University of King's College, Halifax, Nova Scotia B3H 2A1. For application deadlines, see the Almanac. In years in which space permits, applications received after the deadline may be considered.

5.1 Students from Nova Scotia High Schools

At least five senior level university preparatory classes should be taken in the grade XII year as follows:

(a) English

(b) At least two of Biology, Chemistry, French, German, History Latin, Mathematics and Physics.

(c) The remaining classes may be from those listed above or from Economics, Geography, Geology, Law, Modern World Problems, Music, Political Science, Sociology, Spanish

Any special or experimental classes must have been previously approved by Dalhousie if acceptance for credit for admission is to be assured.

A passing grade of at least 50% is required in each class, with an average of at least 60%. Special consideration will be given to grades in English and Mathematics.

For certain programs there are additional requirements. These include the following:

Bachelor of Science, Grade XII Mathematics 441

Mathematics 441 is required for admission to Mathematics and Computing Science classes

The University does not apply criteria rigidly. Students who do not meet the above requirements, particularly those with high standing, are invited to apply and will be given consideration as special cases.

5.2 Admission from Outside Nova Scotia

Students are accepted from other provinces and countries at levels as shown below, which are considered equivalent for the purpose of admission to Nova Scotia Grade XII.

New Brunswick, Newfoundland, Labrador, Prince Edward Island, Manitoba, Saskatchewan, Alberta and British Columbia: Grade XII, with subject distribution as for Nova Scotia.

Quebec: Two years at CEGEP. In special cases, one year CEGEP (high standing in a strong program required.)

Ontario: Grade XIII or very high standing in Grade XII.

U.S.A.: Outstanding students may be admitted from U.S.A. Grade XII on the basis of advanced placement work or high SAT or CEEB scores; transfer credits will be considered for such outstanding students if they have completed a full year of study with good standing (minimum: 30 semester hours) at a recognized university. Other students from the U.S.A. can normally be admitted only after completing a first year at a recognized university or junior college (minimum: 30 semester hours) and credit, if any, for that year's work is determined on an individual basis.

The United Kingdom, West Indies, West Africa: General Certificate of Education (GCE) with pass standing in at least five subjects, of which one must be English and at least two must be at Advanced Level.

Hong Kong: GCE as for Great Britain, or University of Hong Kong Matriculation Certificate under same conditions as for GCE.

Bangladesh, India, Pakistan: Bachelor's degree with first or second-class standing from a recognized university, or in certain circumstances, first-class standing in the intermediate examinations in Arts and Science, provided the candidate has passes at the university level in English, Mathematics and a language other than English. Note: This standing is not sufficient for admission to the sequential BEd program at Dalhousie.

Countries not mentioned above: Write to the Registrar's Office, University of King's College, Halifax, N.S. B3H 2A1, for further information.

5.3 Transfers from Colleges and other Universities

Students who have begun their post-secondary studies elsewhere, and who are in good standing, may be considered for admission. Credit for work completed may be granted, subject to the conditions given in section 13.

5.4 Mature Students

Students who do not meet the usual admission requirements may be considered under the **mature student** category provided that:

1. they are at least 23 years old, and
2. they have been absent from full-time high school study for at least four years.

Prospective student should submit to the Admissions Committee an application form together with a letter outlining their work experience and other activities. Normally high school transcripts are required and interviews may be required.

Under exceptional circumstances, the Admissions Committee may agree to admit the student directly to a degree program if the student's background is deemed sufficient preparation for such admission. Otherwise, the Admissions Committee may admit mature students initially to the **University Exploration** category until they have achieved grades of C- or better in at least three full-year classes (or equivalent) taken. At that time, they are eligible to apply for admission as regular undergraduate students.

5.5 Proficiency in English

Applicants for admission whose native language is not English must give evidence that they are proficient in spoken and written English. Evidence may be provided by the English Language Test of the University of Michigan, or the Test of English as a Foreign Language (TOEFL) (normally with a score of at least 550). Both of these tests are administered in various centres throughout the world. Information may be obtained by writing to the English Language Institute, Testing and Certification Service, Ann Arbour, Michigan 48104, U.S.A. or TOEFL Box 899, Princeton, New Jersey 08540, U.S.A.

Certified copies of original documents, or relevant sections of documents, (eg. calendar pages) are acceptable in lieu of originals. Certificates in languages other than English or French must be accompanied by certified translation into English or French.

5.6 January Admissions

Admission to Dalhousie/King's is normally for classes beginning in September, and the University does not admit full-time, first-year students in January. Part-time students and transfer students, however, may be admitted for classes beginning in January. The deadline for application for January 1988 admission is November 15.

6. Student Aid, Scholarships and Other Awards

See the Scholarships, Bursaries and Prizes section of this Calendar.

7. Admission to Classes

7.1 Numbering of Classes

Classes are numbered to indicate their general level. Those in the 1000 series are introductory and can normally be taken by fully matriculated students without any previous classes at Dalhousie/King's, while classes in the 2000, 3000 and 4000 series are usually first available to students in the second, third and fourth years, respectively. Often these classes have prerequisites. Some departments have minimum grade requirements for entry into classes above the 1000 level. Such requirements are listed in the calendar entries for the departments concerned.

The letter following a class number indicates the session in which the class is offered. The letters A and B denote classes given in the first and second terms respectively. The symbol A/B indicates a class given in the first term *and /or* in the second term. Students should consult timetables to verify whether a particular class will be offered in the A or B term in a given academic year. The letters C and R denote classes spread over both terms, i.e., given for the full academic year. An R class carries one full credit or more, and a C class less than one full credit. For summer sessions, A denotes a class given in the first three weeks, B a class given in the second three weeks, and R and C classes continuing for six weeks.

Classes with numbers below 1000 do not carry credits but may be prerequisites for entry to credit classes for students whose matriculation backgrounds are deficient.

7.2 Academic Advice

At Dalhousie/King's all students are offered academic advice prior to registration. First-year students, particularly those in B.A. and B.Sc. programmes, may wish to consult with the Director of Admissions or Registrar, or with a Faculty advisor in an academic department of particular interest. After the first year, students plan their programmes in consultation with Faculty advisors in their major departments. Each student must complete a Class Approval Form, obtainable from academic departments or the Office of the Registrar. This form must be completed before registering.

Students can be registered only after the Class Approval Form is completed and submitted.

NOTE THAT THE COMPLETION AND SUBMISSION OF A CLASS APPROVAL FORM DOES NOT CONSTITUTE REGISTRATION

Registration is complete only after the registration form, which will be provided to each eligible student, is submitted to the Office of the Registrar and financial arrangements have been made with the Student Accounts Office.

8. Registration

Registration material and detailed information will be sent to all eligible students except those admitted late, in which case documentation must be completed in person. After the Class Approval Form has been completed (see above) students may register, either in person or by mail. Late registration requires approval of the Dean. In Arts and Science, such approval will be automatic during the month of September. Thereafter, up to and including October 15, the Dean of Arts and Science will grant approval only when compelling reasons for the applicant's lateness can be given. After October 15 approval is extremely unlikely.

A STUDENT IS REGISTERED ONLY AFTER FINANCIAL ARRANGEMENTS HAVE BEEN MADE AT THE ACCOUNTS OFFICE.

9. I.D. Card

Upon registration, a receipt which is also a requisition for an I.D. Card will be issued by the Accounts Office. An I.D. Card which gives the student access to many campus services and activities may then be obtained at the I.D. Unit. The unit is open during special times as posted by the unit, which is located in the basement of the Dalhousie Arts and Administration Building. See further explanation page 14 of this calendar.

10. Withdrawal and Change of Registration

10.1 Responsibility of Registered Students

Students who have registered are responsible for fees. Those who withdraw from the University may be entitled to refunds of fees. Withdrawals are not effective until notification is received at the Office of the Registrar.

NON-ATTENDANCE DOES NOT, IN ITSELF, CONSTITUTE WITHDRAWAL

10.2 Class Changes

It is recognized that some students may wish to make changes in programs already arranged. Class changes will normally be completed during the second week after the beginning of the class. (For summer session information see the Summer School Calendar). No change is effective until a change form, available at the Office of the Registrar, is received at that Office.

See the almanac for deadlines for adding and dropping classes, and separate University Fees Handbook for the schedule of refunds.

Old 11. Degree, Certificate and Diploma Requirements

Old 11.1 Bachelor of Arts, Bachelor of Science–Major Programs

(a) **First Year.** In the first year full-time students normally take five full-credited classes or the equivalent in half-credit classes, chosen from subject groups A, B, C and D listed in old Section 3. (The King's Foundation Year Programme is equivalent to four credits for B.A. candidates or three credits for B.Sc. candidates. This programme is only available to King's students.) For part-time students the first five credits taken constitute the work of the first year.

Students in the first year may not take for credit more than the equivalent of two full-credit classes in a single subject from the subject groups given in old section 3.

One of the five classes chosen must be selected from a list of classes in which written work is considered frequently and in detail. These writing classes are approved by the Curriculum Committee and are listed below:

Chemistry 1000, Classics 1000, 1010, 1100, Comparative Religion 1301, English 1000, German 1000, 1050, History 1400, 1990, Philosophy 1010, 1030, Political Science 1103, Spanish 1100 A/B and 1110 A/B. (The King's Foundation Year Programme also satisfies this requirement.)

In order to qualify for B.Sc. degree candidates are required to complete successfully at least one full university credit in Mathematics other than Mathematics 1020 and Mathematics 1100 and 1110.

Students should seriously consider choosing a class from a list of classes which deal with a formal subject. Classes which are recognized as formal are:

Chemistry 1100, 1110, 1120, 1200, Computing Science (all classes), Economics 1106A/B, 1107A/B, 2222A, 2223B, 2228, Mathematics (all classes), Philosophy 2110, 2130A, 2140B, 2190A/B, 2660, Physics 1000, 1100, 1300, Political Science 2494, 3495A/B.

Students should consider becoming fluent in French.

It is recommended that one class be chosen from each of the groups A, B. C and D listed in old section 3. (This recommendation does not apply to students entering the King's Foundation Year Programme).

For students enrolled at the University of King's College, the King's Foundation Year Programme offers first-year students in Arts and Science an integrated introduction to the humanities and social sciences through study of some of the principal works of western culture. See the section of this calendar headed Foundation Year Programme.

If students who have not completed their first year wish to enroll for further study, they must complete the first year requirements at the first opportunity.

(b) **Second and Third Years.** Before registering for the second year, each student must declare a major, or area of concentration, and obtain program advice and approval from a faculty advisor in the major department. (This may be done before registering for the first year, at the option of the student.)

New 11. Degree, Certificate and Diploma Requirements

New 11.1 Bachelor of Arts, Bachelor of Science—Major Programs (15 credits)

(a) **First Year.** In the first year full-time students normally take five full-credit classes or the equivalent in half-credit classes. (The King's Foundation Year Program is equivalent to four credits for BA candidates or three credits for BSc candidates. This programme is only available to King's students.) For part-time students the first five credits taken constitute the work of the first year.

Students are required to include, in their first ten credits, one full-credit class or two half-credit classes from each of the subject groupings on page 18, new 3. (Note: Students enrolled in Honours programs in Biochemistry, Computing Science and Microbiology need not include these credits among their first ten credits, but must include them among the 20 earned to qualify for the degree.)

Students in the first year may not take for credit more than the equivalent of three full-credit classes in a single subject from the subject groups given in new section 3 on page 18.

One of the five classes chosen must be selected from a list of classes in which written work is considered frequently and in detail. These writing classes are approved by the Writing Across Curriculum Committee and are listed below.

Chemistry 1000R, Classics 1000, 1010, 1100, Comparative Religion 1301, English 1000, German 1000, 1050, History 1400, 1990, Philosophy 1010, 1030, Political Science 1103, Spanish 1100A/B and 1110A/B. (The King's Foundation Year Programme also satisfies this requirement.)

In order to qualify for a BSc degree candidates are required to complete successfully at least one full University credit in Mathematics other than Mathematics 1020R, 1100, and 1110A/B. A class taken to satisfy this requirement cannot also satisfy the requirement of a class from Subject Grouping C.

Students may satisfy this requirement by passing the test which is administered by the Department of Mathematics, Statistics & Computing Science under the supervision of the Curriculum Committee. Such students must nevertheless complete 15 or 20 credits in order to graduate.

Students should seriously consider choosing a class from a list of classes which deal with a formal subject. Classes which are recognized as formal are:

Chemistry 1100, 1110, 1120, 1200, Computing Science (all classes), Economics 1106A/B, 1107A/B, 2222A, 2223B 2228, Mathematics (all classes), Philosophy 2110, 2130A, 2140B, 2190A/B, 2660, Physics 1000, 1100, 1300, Political Science 2494, 3495A/B.

Students should consider becoming fluent in French. BA students are required to obtain one credit from the following language classes: Classics 1700R, 1800R, 2700R, French 1000R, 1001A/2001B, 1020R, German 1000R, 1010R, 1050R, 1060R; Russian 1000R, 1050R; Spanish 1020R, 2000A, 2010B. For students with advanced langauge skills, upper-level langauge classes may be substituted. Consult the Office of the Registrar if you require further information. A class taken to satisfy this requirement cannot also

Ten full credits, or the equivalent in half-credit classes, make up the course for the second and third years. These must meet the following requirements:

(a) at least seven credits shall be beyond the 1000 level.

(b) at least one credit or two half-credits shall be in each of at least two subjects other than the major field.

(c) at least four and no more than eight credits beyond the 1000 level shall be in a single area of concentration (the major).

(d) up to four of the credits in the major subject must be selected in accordance with departmental or interdepartmental requirements.

For the B.A., the major may be chosen from African Studies, Classics, Comparative Religion, Economics, English, French, German, Greek, International Development Studies, Latin, Music, Philosophy, Political Science, Russian, Sociology and Social Anthropology, Spanish, Theatre, Women's Studies or from any of the B.Sc. major subjects. **N.B.** students majoring in Costume Studies cannot be registered at the University of King's College.

For the B.Sc. the major subject may be chosen from Biology, Chemistry, Computing Science, Geology, Mathematics, Physics, Psychology or Statistics.

For the standing required for a B.Sc. or B.A. see old section 22.

Old 11.2 Arts and Science Electives

Students may choose electives from any of the classes listed by departments offering major or honours programs in the Faculty of Arts and Science. In addition, up to three classes may be taken from the following:

(a) Architecture 1000, and Comparative Literature 1000.

(b) Education Foundation Offerings (Education classes with numbers below 4400).

Note: Education classes numbered 4400 and above are not available as Arts and Science electives;

(c) Classes in Engineering and Oceanography

Note: The restriction on Engineering electives does not apply to students in the Diploma in Engineering Programme who combine their studies with a programme leading to a B.Sc. in Biology, Chemistry, Computing Science, Geology, Mathematics, Physics or Statistics. **N.B.** Students registered at King's are not eligible to take this programme.

(d) Classes in Music. Note: Music classes 1000, 2007, 2088C, 2089C, 2010, 2012 and 2013 are available as normal electives, but other classes in Music may be taken by special permission of the Department of Music.

(e) The following approved classes from other faculties and institutions: Commerce 1101A/B, 1102A/B, 1401A/B, 2201A/B, 2301A/B, 2302B, 2601A/B, 3203A/B, 3304A/B, 3306A/B, 3308B, 3501A/B, 4120A/B and Health Education 4412.

Note: Students enrolling in elective classes must meet normal class prerequisites.

Old 11.3 Individual Programmes

In cases where students feel that their academic needs are not satisfied under the above requirements, individual programmes may be submitted to the Curriculum Committee. The Dean shall act as advisor for such students.

Old 11.4 Bachelor of Arts and Bachelor of Science – Honours Programme

Second, Third and Fourth Years. Able and ambitious students are urged to enter Honours Programmes. These programmes require a higher quality of work than is required by major programmes.

For the BA, the Honours subject may be chosen from Classics, Economics, English, French, German, History, International Development Studies, Philosophy, Political Science, Russian, Social Anthropology, Sociology, Spanish and Theatre or any of the BSc Honours subjects.

satisfy the requirement of a class from Subject Grouping A.

Students may satisfy this requirement by passing one of the tests administered by the language departments under the supervision of the Curriculum Committee. Such students must nevertheless complete 15 or 20 credits in order to graduate.

BA students who choose to major in African Studies, Economics, International Development Students, Philosophy, Political Science, Psychology or Sociology and Social Anthropology may substitute for a language class at least one full class in Mathematics or Statistics, other than Mathematics 1020R or Mathematics 1100A/1120B,to meet this requirement, or they may meet it by passing the test administered by the department of Mathematics, Statistics & Computing Science under the supervision of the Curriculum Committee. A class taken to satisfy this requirement cannot also satisfy the requirement of a class from Subject Grouping C (new section 3).

For students enrolled at the University of King's College, the King's Foundation Year Programme offers first year students in Arts and Science an integrated introduction to the humanities and social sciences through study of some of the principal works of western culture. See section of this calendar headed Foundation Year Programme.

If students who have not completed their first year wish to enrol for further study, they must complete the first year requirements at the first opportunity.

(b) Second and Third Years. Before registering for the second year, each student must declare a major, and obtain program advice and approval from a faculty advisor in the major department. (This may be done before registering for the first year, at the option of the student).

Ten full credits, or the equivalent in half-credit classes, make up the course for the second and third years. These must meet the following requirements:

(a) at least seven credits shall be beyond the 1000 level.

(b) at least one credit or two half-credits shall be in each of at least two subjects other than the major field.

(c) at least four and no more than eight credits beyond the 1000 level shall be in a single area of concentration (the major), and at least two of these must be beyond the 2000 level.

(d) up to four of the credits in the major subject must be selected in accordance with departmental or interdepartmental requirements.

For the BA, the major may be chosen from African Studies, Classics, Comparative Religion, Economics, English, French, German, Greek, History, International Development Studies, Latin, Music, Philosophy, Political Science, Russian, Sociology and Social Anthropology, Spanish, Theatre, Women's Studies or from any of the BSc major subjects.

For the BSc the major subject may be chosen from Biology, Chemistry, Computing Science, Geology, Mathematics, Physics, Psychology, or Statistics.

For the standing required for a BSc or BA see new section 22.

New 11.2 Arts and Science Electives

Students may choose electives from any of the classes listed by departments offering major or honours programmes in the Faculty of Arts and Science. In addition up to three classes may be taken from the following:

(a) Architecture 1000, and Comparative Literature 1000;

(b) Education Foundation Offerings (Education classes with numbers below 4400).

Note: Education classes numbered 4400 and above are not available as Arts and Science electives;

(c) Classes in Engineering and Oceanography.

Note: The restriction on Engineering electives does not apply to students in the Diploma in Engineering Programme who combine their studies with a programme leading to a BSc in Biology, Chemistry,

For the BSc, the Honours subject may be chosen from Biochemistry, Biology, Chemistry, Computing Science, Geology, Marine Biology, Mathematics, Microbiology, Neuroscience, Physics, Psychology and Statistics.

There are three types of honours programmes: major, combined and unconcentrated.

Applications for admission to honours programmes must be made to the departments concerned on forms available in departments and at the Office of the Registrar. The Registrar may be consulted by those considering unconcentrated honours.

Students should apply before registering for the second year. If application is made later, it may be necessary to make up some work not previously taken.

For each individual student the entire honours programme, including elective credits, is subject to supervision and approval by the department or departments concerned, or in the case of unconcentrated honours, by an interdisciplinary committee approved by the Committee on Studies.

All of the regulations for the B.A. or B.Sc. major programme must be satisfied, and there are additional requirements as follows:

Honours in a major programme is based on the general requirement that the 15 credits beyond the first year of study comprise:

(a) A normal requirement of nine credits beyond the 1000 level in one subject (the major subject). Students may, with the approval of the department concerned, elect a maximum of eleven credits in this area. In this case (c) below will be reduced to two or three credits.

(b) Two credits in a minor subject satisfactory to the major department.

(c) Four elective credits not in the major field.

(d) An additional grade (see Honours Qualifying Examination below).

Honours in a combined programme is based on the general requirement that the 15 credits beyond the first year of study comprise:

(a) A normal requirement of eleven credits beyond the 1000 level in two allied subjects, not more than seven credits being in either of them. Students may, with the approval of the departments concerned, elect a maximum of thirteen credits in two allied subjects, not more than nine credits being in either of them. In this case, the requirement in (b) below is reduced to two or three credits.

(b) Four elective credits in subjects other than the two offered to satisfy the requirement of the preceding clause.

(c) An additional grade (see Honours Qualifying Examination below).

Details of specific departmental honours programmes are given under departmental listings of Programmes of Study.

Unconcentrated Honours programmes are based on the general requirement that the 15 credits beyond the first year of study comprise:

(a) Twelve credits beyond the 1000 level in three or more subjects. No more than five of these may be in a single subject, no less than six nor more than nine may be in two subjects.

(b) Three elective credits.

(c) For an Unconcentrated B.A. (Honours), at least ten credits of the twenty selected must be selected from subject groups A, B, and C, and D.

(d) For an Unconcentrated B.Sc. (Honours), at least eight credits of the twenty required must be selected from Biochemistry, Biology, Chemistry, Computing Science, Geology, Mathematics, Microbiology, Neuroscience, Physics, Psychology, and Statistics, and at least six additional classes must be selected from subject groups C and D listed on p. 18.

(e) An additional grade (see Honours Qualifying Examination below).

Honours Qualifying Examination. At the conclusion of an Honours

Computing Science, Geology, Mathematics, Physics, or Statistics. NB. Students registered at King's are not eligible to take this programme.

(d) Classes in Music. Note: Music classes 1000, 1001A, 1002B, 2007, 2008, 2010, 2011, 2012, 2013, 2021 and 2087 are available as normal electives, but other classes in Music may be taken by special permission of the Department of Music.

(e) The following approved classes from other faculties and institutions: Commerce 1101A/B, 1102A/B, 1401A/B, 2201A/B, 2301A/B, 2302B, 2601A/B, 3203A/B, 3304A/B, 3306A/B, 3308B, 3501A/B, 4120A/B and Health Education 4412.

Note: Students enrolling in elective classes must meet normal class prerequisites.

New 11.3 Bachelor of Arts, Bachelor of Science—Advanced Major Programmes (20 credits)

Students are encouraged to enter Advanced Major degree programmes, and are advised to consult the department in which they wish to major for detailed information. The requirements for such programmes are consistent with requirements for Major degree programmes (see 11.1 above). The five additional credits required must all be obtained at an advanced level.

In order to satisfy the requirements for the Advanced Major degree, at least 12 of the 20 credits must be beyond the 1000-level. A minimum of six and a maximum of nine classes beyond the 1000-level are to be in the Major, and three of them must be beyond the 2000-level.

New 1.1.4 Individual Programmes: In cases where students feel that their academic needs are not satisfied under the above requirements, individual programmes may be submitted to the Curriculum Committee. The Dean shall act as advisor for such students.

New 11.5 Bachelor of Arts and Bachelor of Science—Honours Programmes

Second, Third and Fourth Years. Able and ambitious students are urged to enter Honours Programmes. These programmes require a higher quality of work than is required by major programmes.

For the BA, the Honours subject may be chosen from Classics, Economics, English, French, German, History, International Development Studies, Philosophy, Political Science, Russian, Social Anthropology, Sociology, Spanish and Theatre or any of the BSc Honours subjects.

For the BSc, the Honours subject may be chosen from Biochemistry, Biology, Chemistry, Computing Science, Geology, Marine Biology, Mathematics, Microbiology, Neuroscience, Physics, Psychology and Statistics.

There are three types of honours programmes: major, combined and unconcentrated.

Applications for admission to honours programmes must be made to the departments concerned on forms available in departments and at the Office of the Registrar. The Registrar may be consulted by those considering unconcentrated honours.

Students should apply before registering for the second year. If application is made later, it may be necessary to make up some work not previously taken.

For each individual student the entire honours programme, including elective credits, is subject to supervision and approval by the department or departments concerned, or in the case of unconcentrated honours, by an interdisciplinary committee approved by the Committee on Studies.

All of the regulations for the BA or BSc major programme must be satisfied, and there are additional requirements as follows:

Honours in a major programme is based on the general requirement that the 15 credits beyond the first year of study comprise:

(a) A normal requirement of nine credits beyond the 1000 level in one subject (the major subject). Students may, with the approval

programme a student's record must show a grade which is additional to those for the required twenty classes. This grade may be obtained through a comprehensive examination, the presentation of a research paper (which may be an extension of one of the classes), or such other method as may be determined by the committee or department supervising the student's programme. The method by which this additional grade is obtained is referred to as the Honours Qualifying Examination. Departments may elect to use a pass-fail system for this examination.

For the standing required for honours see old section 22.3.

Old 11.5 Conversion of a B.A. or B.Sc. to an Honours Degree

A person who holds a BA or BSc may apply through his/her department advisors for an honours programme. On completion of the required work with proper standing a certificate will be awarded which has the effect of upgrading the degree to honours status.

Old 11.6 Co-operative Education Programs

Certain departments, currently Chemistry, Physics and Mathematics, Statistics and Computing Science, offer integrated programmes of academic study and supervised work terms. On completion of the programmes, Honours degrees in the relevant disciplines are awarded. For details, see the entries for the departments named above.

Old 11.7 Joint Honours: Dalhousie-Mount Saint Vincent

Special arrangements exist under which students may be permitted to pursue an honours programme jointly at Dalhousie and Mount Saint Vincent University. Interested applicants should consult the appropriate department of their own university at the beginning of the second year. Prospective joint honours students must be accepted by the major departments concerned at both institutions. These departments supervise the entire program of study of accepted applicants. Students should be aware that not all classes available for credit at Mount Saint Vincent can be given credit at Dalhousie and vice versa. In order for students to obtain a joint honours degree they must satisfy all requirements of both institutions.

of the department concerned, elect a maximum of eleven credits in this area. In this case (c) below will be reduced to two or three credits.

(b) Two credits in a minor subject satisfactory to the major department.

(c) Four elective credits not in the major field.

(d) An additional grade (see Honours Qualifying Examination below).

Honours in a combined programme is based on the general requirement that the 15 credits beyond the first year of study comprise:

(a) A normal requirement of eleven credits beyond the 1000 level in two allied subjects, not more than seven credits being in either of them. Students may, with the approval of the departments concerned, elect a maximum of thirteen credits in two allied subjects, not more than nine credits being in either of them. In this case the requirement in (b) below is reduced to two or three credits.

(b) Four elective credits in subjects other than the two offered to satisfy the requirement of the preceding clause.

(c) An additional grade (see Honours Qualifying Examination below).

Details of specific departmental honours programmes are given under the departmental listings of Programmes of Study.

Unconcentrated Honours programs are based on the general requirement that the 15 credits, beyond the first year of study comprise:

(a) Twelve credits beyond the 1000 level in three or more subjects. No more than five of these may be in a single subject; no less than six nor more than nine may be in two subjects.

(b) Three elective credits.

(c) For an Unconcentrated BA (Honours), at least ten credits of the twenty selected must be selected from subject groups A, B, and C listed on page 18.

(d) For an Unconcentrated BSc (Honours), at least eight credits of the twenty required must be selected from Biochemistry, Biology, Chemistry, Computing Science, Geology, Mathematics, Microbiology, Neuroscience, Physics, Psychology, and Statistics, and at least six additional classes must be selected from subject groups B and C listed on page 18.

(e) An additional grade (see Honours Qualifying Examination below).

Honours Qualifying Examination. At the conclusion of an Honours program a student's record must show a grade which is additional to those for the required twenty classes. This grade may be obtained through a comprehensive examination, the presentation of a research paper (which may be an extension of one of the classes), or such other methods as may be determined by the committee or department supervising the student's program. The method by which this additional grade is obtained is referred to as the Honours Qualifying Examination. Departments may elect to use a pass-fail grading system for this grading examination.

For the standing required for honours see new section 22.3.

New 11.6 Conversion of a BA or BSc to an Honours Degree

A person who holds a BA or BSc may apply through his/her department advisors for an honours programme. On completion of the required work with proper standing, a certificate will be awarded which has the effect of upgrading the degree to honours status.

New 11.7 Programmes in Co-operative Education (20 credits)

The aim of Co-op degree programmes is to enable students to combine their studies with work experience. The programmes are thus year-round, including Summer Schools, and will normally require from 48 to 52 months for completion.

Old 12. Counting of Classes for Two Undergraduate Degrees

Students who hold one undergraduate degree from Dalhousie/King's and who wish to gain a second undergraduate degree must fulfill the requirements of the second degree and meet the following stipulations:

(a) Only classes that are applicable to the course for the second degree may be counted for credit.

(b) Each class carried forward must have a grade of C or higher.

(c) A minimum of six new full-credit classes must be taken (11 for a 20-credit program), four of which must be above the 1000 level in a new area of concentration and two normally in other subjects.

(d) Merit points must be scored on the new classes as required by Regulation 22 below.

Students intending to gain a second undergraduate degree should consult with the department in which the new major classes will be taken to plan their programme of studies. Application must be made to the Registrar prior to enrollment in any of the classes which constitute the minimum additional requirement. This application must give details of the proposed programme and must be supported by the new major department.

Students who hold one undergraduate degree from another recognized university, and who wish to gain a second undergraduate degree from Dalhousie/King's, must complete at least half of the classes for that degree at Dalhousie/King's. Accordingly, they must meet the requirements set out above but must take a minimum of seven and one half credits for a 15-credit program, at least four of which must be above the 1000 level in a new area of concentration, and at least two in other subjects. At least 10 credits must be taken at Dalhousie/King's for a 20-credit programme.

13. Transfer Credit

(a) Students from another college or university who are not eligible for readmission to that college or university will not be admitted to Dalhousie/King's.

(b) No credit will be given for any work used as the basis for admission.

(c) No transfer credit will be granted for any class in which a final mark of less than C (or the equivalent in Dalhousie terms) was obtained, or for any class in which a final mark was granted conditionally.

(d) To obtain a first degree or diploma from the Faculty of Arts and Science, at least half of the classes, including at least half in the field of concentration, must normally be taken at Dalhousie/King's.

(e) Students in Arts and Science who wish to complete honours programmes must attend Dalhousie/King's for the last ten credits unless special permission to the contrary is obtained from the Committee on Studies.

Co-op degree programmes conform to the requirements for either the Advanced Major or Honours degrees.

The following departments currently offer Co-op programs: Chemistry, Mathematics, Statistics and Computing Science, and Physics. For details of these programs, consult the Calendar entries for the departments.

New 11.8 Joint Honours: Dalhousie-Mount Saint Vincent

Special arrangements exist under which students may be permitted to pursue an honours programme jointly at Dalhousie and Mount Saint Vincent Universities. Interested applicants should consult the appropriate department of their own university at the beginning of the second year. Prospective joint honours students must be accepted by the major departments concerned at both institutions. These departments supervise the entire programme of study of accepted applicants. Students should be aware that not all classes available for credit at Mount Saint Vincent can be given credit at Dalhousie and vice versa. In order for students to obtain a joint honours degree they must satisfy all requirements of both institutions.

New 12. Counting of Classes for Two Undergraduate Degrees

Students who hold one undergraduate degree from Dalhousie/King's and who wish to gain a second undergraduate degree must fulfil the requirements of the second degree and meet the following stipulations:

(a) Only classes that are applicable to the course for the second degree may be counted for credit.

(b) Each class carried forward must have a grade of C or higher.

(c) For the Major degree (15 credits), a minimum of six new full-credit classes or the equivalent, must be taken. At least four of these are to be beyond the 1000 level in a new major subject, and at least two of the four must be beyond the 2000 level. Normally, two of these classes will be in a subject other than the new major.

For the Advanced Major (20-credit) degree, a minimum of eleven new full-credit classes, or the equivalent, must be taken. At least six of these are to be beyond the 1000 level in a new major subject, and at least three of the six must be beyond the 2000 level.

(f) No classes taken at another institution will be counted towards fulfillment of the concentration requirement of the Bachelor's degree or the principal subject requirement of an honours program without advance approval from the department concerned at Dalhousie/King's.

(g) Transfer credits may be granted only for classes which are offered by a recognized university or equivalent institution of higher learning and which are judged to be of comparable standard to classes offered at Dalhousie/King's and to be appropriate to an academic program of the faculty.

(h) Transfer credits for classes that lie within the scope of Dalhousie Departments are subject to approval by those departments.

(i) Transfer credits are not normally granted for classes that are not within the scope of any Dalhousie department. Students may, however, apply to the Committee on Studies for credit for such classes but they must justify the inclusion of such classes in their proposed programme.

(j) No credit will be given for any classes taken at another university while a student is inadmissible at Dalhousie/King's. Students who have been permitted to reregister, after having been declared ineligible at Dalhousie/King's, cannot take classes at another institution for Dalhousie credit until they have taken further Dalhousie classes.

(k) No grades are recorded for transfer credits awarded on admission to Dalhousie/King's. However, for classes taken on Letters of Permission while a student is registered at Dalhousie/King's, grades are recorded.

14. Advanced Placement

Students possessing advanced knowledge of a subject which was acquired other than at a university will be encouraged to begin their studies in that subject at a level appropriate to their knowledge, as determined by the department concerned, and will be exempted from any classes which are normally prerequisites for the one to which they are admitted. However, such students must substitute for the exempted classes an equal number of other classes, not necessarily in the same subjects (i.e. they must complete at Dalhousie/King's the full number of credits required for the particular credential being sought).

15. Part-Time Students

Part-time students are admitted to most of the programmes offered in the Faculty. Admission requirements and regulations generally are the same for all students. For part-time students, the first five credits taken constitute the work of the first year. Part-time students are encouraged to consult with the Dean of Henson College for advice on their academic programmes and other matters.

16. Audit of Classes

Students who have been admitted to the faculty are permitted to audit many of the classes offered. For those who are not full-time students, fees are payable as indicated in the University Fees Handbook. A class may not be changed from credit to audit or from audit to credit status after the last date for dropping classes without penalty (see the almanac, page 6). In order to change from audit to credit prior to the deadline an additional fee is required. Permitted changes require that the procedures as given in section 10.2 be followed.

17. Duration of Undergraduate Studies

Students are normally required to complete their undergraduate studies within ten years of their first registration, and to comply with the regulations in force at the time of that registration. This is also the normal limit for transfer credits. However, the Committee on Studies may grant permission to continue studies for a reasonable further period, subject to such conditions as the committee deems appropriate and with the stipulation that the student must meet the degree requirements in force when the extension is granted.

18. Preparation for Other Programs

Work in the Faculty of Arts and Science is prerequisite for various programs in other faculties and other institutions. A brief summary of the academic work required for admission to certain programmes is given here. Further information may be found in this calendar or in the separate faculty calendars, or in the calendars of other institutions.

Occupational Therapy or Physiotherapy: One year of work in the Faculty of Arts and Science, or the equivalent elsewhere, is required for admission to these two programmes. For details, see the entries in the calendars of the School of Occupational Therapy and the School of Physiotherapy.

Medicine: At least two years of work at Dalhousie/King's, or the equivalent elsewhere, including: English 100, Biology 1000 or 2000, one of Chemistry 110, 111, 112 or 120, Chemistry 240, Physics 1000, or 1100 or 1300 or equivalent classes.

Dentistry: See Faculty of Dentistry Calendar.

Law: At least two years of work leading to one of the degrees of BA, BSc, BCom.

Engineering: The Diploma in Engineering qualifies a student for entry to the Technical University of Nova Scotia to study Engineering. The Diploma in Engineering cannot be taken by King's students.

Architecture: Two years of work, including at least one class in mathematics, are required for entry to a program in Architecture at the Technical University of Nova Scotia. For details, apply to the Faculty of Architecture at TUNS.

Engineering Physics: A degree in Engineering Physics is offered by the Technical University of Nova Scotia in cooperation with Dalhousie. The diploma in Engineering is prerequisite for admission to this program at TUNS. This programme cannot be taken by King's students.

Design: Students completing one year in the Faculty of Arts and Science at Dalhousie/King's may be admitted into the second year of the four-year programme leading to the Bachelor of Design degree in Communication Design or Environmental Design at the Nova Scotia College of Art and Design.

Veterinary Medicine: Normally three years of work at Dalhousie/King's are required for admission to the Atlantic Veterinary College of the University of Prince Edward Island. Dalhousie classes should normally include Computing Science 1400, Mathematics 1000 and 1060, one of Chemistry 100, 111 or 120, Chemistry 240, Biochemistry 2000, one of Physics 1000, 1100 or 1300, English 100, Biology 1000, 2012, 2030, 2100 and 3323, and an additional two and a half classes from the Humanities and Social Sciences.

Graduate Studies: The normal requirement for admission to a graduate programme is an honours degree in an appropriate discipline, or the equivalent.

19. Assessment

19.1 Method

Examinations may be oral, written (closed or open book); under supervision or take-home. To gain credit toward a degree or diploma, students must appear at all examinations, prepare such essays, exercises, reports, etc. as may be prescribed, attend the classes of their prescribed course to the satisfaction of the instructors and, in classes involving field or laboratory work, complete such work satisfactorily.

Within two weeks of the first meeting of a class, each instructor shall make available a written description of the method of evaluation to be used in this class including information on the availability of a supplemental examination and the proportion of the grade to which such an examination would apply; within four weeks after the beginning of each term the department chairperson must report to the Dean the method of evaluation to be used by each instructor in each class.

19.2 Examinations and Tests

Periods of approximately two weeks in the spring and one and one-half weeks in December are set aside for the scheduling of formal written examinations by the Registrar. Instructors wishing to have examinations scheduled by the Registrar for their classes must so inform the Registrar at the beginning of the 3rd week of classes in the fall and spring terms. Instructors may also arrange their own examinations at times and places of their choosing during the formal examination periods, with the understanding that in cases of conflict of examinations for an individual student, the Registrar's examination schedule takes priority. No tests or examinations covering the work of a whole term shall be held during the last two weeks of classes in the term. No tests may be held between the end of classes and the beginning of the official examination period. Students may contact the Dean's Office for assistance if they are scheduled for more than two examinations on the same day.

19.3 Grades

A letter grade system is used to evaluate performance. Grades in the A range represent excellent performance, grades in the B range represent very good performance, and those in the C range represent satisfactory performance. A grade of D represents marginally satisfactory performance except in programs where a minimum grade of C is specified. See the calendar entries for specific programmes where a minimum grade of C is specified. F and FM indicate failure, marginal in the case of FM. Grades in the ranges of A, B, C, D and P are passing grades. Other grades, including W, NP, ILL, INC, F and FM, are non-passing grades (see section 25).

19.4 Submission of Grades

On completion of a class, the instructor is required to submit grades to the Registrar, such grades to be based on the instructor's evaluation of the academic performance of the students in the class in question. Christmas grades must be submitted to the Registrar in all 1000-level classes in which enrollment on October 1 exceeded 25. Christmas grades are normally submitted in other full-year classes.

19.5 Incomplete

Students are expected to complete class work by the prescribed deadlines. Only in special circumstances may an instructor extend such deadlines. Incomplete work in a class may be completed within four weeks of the required date for submission of grades in that class to the Registrar's Office.

Exceptions to this rule will normally be extended only to classes which require field work during the summer months. At present the list of these classes consists of Biology 4800 and 4900, Music 3470C and 4470C. Students taking any of these classes in their final year should note that they will not be able to graduate at the spring convocation.

19.6 Correction of Errors in Recorded Grades

Correction of errors in the recording of a grade may be made at any time. Otherwise changes will only be made as in Regulations 19.7 below.

Students are not entitled to appeal for any grade change more than six months after the grades are sent from the Registrar's Office.

19.7 Reassessment of a Grade

On payment of a fee, a student may appeal to the Dalhousie Registrar for reassessment of a grade in a class. The Registrar will direct the request to the head of the academic unit concerned, who will ensure that the reassessment is carried out and reported to the Registrar. Written applications for reassessment must be made to the Registrar within two months of the date the grade is sent from the Registrar's Office. Students have a right to view their marked examination papers by appointment for a period of two months after the date the grades are sent to students from the Registrar's Office.

19.8 Special Examinations

Special examinations may be granted to students in the case of illness supported by a medical certifiate, or in other exceptional circumstances. Medical certificates must be submitted to the Office of the Registrar at the time of the illness and will not normally be accepted after a lapse of one week from the date of the examination. Arrangements for special examinations should be made with the instructor concerned and the Registrar at the time the illness or other exceptional circumstances arrises, or as soon thereafter as possible.

19.9 Supplemental Examinations

One full credit supplemental examination (or two half-credit supplemental examinations) may be written by any student on the work of any one year, provided that:

(a) the student has obtained a final grade of FM in that class.

(b) the student has satisfied the requirements for the class.

(c) a single compulsory final examination or test in the class in question accounted for at least forty per cent of the final grade (the supplemental examination should–at the discretion of the department–constitute the same proportion of the final grade as did the final examination during the regular session), and

(d) the student has not been required to withdraw from the faculty.

Apart from the case of "A" classes (given in the fall term), the supplemental examinations must be written in the following September. For "A" classes, supplemental examinations must be written in February immediately following the failure. Supplemental examinations may not be deferred.

An eligible student who wishes to write a supplemental examination must submit to the office of the Registrar a completed application form (which may be obtained from that office), and the required fee by July 10 for the September examination, and January 25 for the February examination.

A student who fails to pass the supplemental examination can obtain credit for that class only by repeating it.

A student may not write both a supplemental examination and an examination at the end of Summer School in the same class in the same year. No supplemental examinations are allowed for classes taken at Summer School. No more than five credits obtained as a result of supplemental examinations may be counted toward a degree.

20. Repeating Classes for which a Passing Grade has been Awarded

With the permission of the department concerned and the endorsement of the Committee on Studies, a student may repeat any class for which a passing grade has previously been awarded. The original passing grade will nevertheless remain on the transcript and a second entry will be recorded with the new grade and the notation "repeated class". No additional credit will be given for such a repeated class, but the higher grade, or point count appropriate to it, will be used for degree purposes. Note that both grades are used in calculating the merit point total, when a degree with distinction is awarded.

21. Merit Points

21.1 Scale

Merit points are awarded for each class as follows:

Grade	Points
A+, A, A-	3
B+, B, B-	2
C+, C, C-	1
D	0

For merit points for transfer credits see 21.2 below.

Note that although D is a passing grade, no merit points are awarded. For fractional credit classes, corresponding fractional merit points are awarded (.e.g in a half-credit class, a B would yield one point).

21.2 Merit Points for Classes Transferred from Other Institutions

One merit point is awarded for each class transferred from another institution except where:

(a) the external classes are taken to pursue a program of study approved in advance by the faculty (at the present time this refers only to the programs at Stirling University, Université de Provence (Aix-Marseilles), the Pushkin Institute, Leningrad University and the Colegio de Espana).

(b) the performance in the external class is first class, and

(c) these classes are approved by the Committee on Studies for that purpose for the particular student.

In these cases merit points may be awarded on the basis of equivalent Dalhousie standing. Departmental advice on the equivalent Dalhousie grade for a particular class is sought where necessary.

Old 22. Required Standing

22.1 For a B.A. or B.Sc. Degree

A minimum of twelve merit points on the fifteen credits offered is required for the awarding of a B.A. or B.Sc.

22.2 For a B.A. or B.Sc. with Distinction

At least 40 merit points are required. This number is prorated upward if more than fifteen credits appear on the student's record. For the purpose of determining a B.A. or B.Sc. with distinction all Dalhousie/King's classes, including repeated classes, and classes for which non-passing grades were obtained, are included. At least 10 Dalhousie/King's classes must be included. The Committee on Studies will monitor the records of graduating students having transfer credits and will bring to faculty appropriate recommendations for a degree with distinction in any case where the regulations regarding transfer credits appear to create injustice.

Old 22.3 B.A. or B.Sc. with Honours and First Class Honours

Students who have not obtained a grade of B- or better in five advanced classes, that is, classes other than electives, will not be admitted to the fourth Honours year without explicit Departmental recommendation and prior approval of the Committee on Studies.

To count towards an Honours degree each advanced class, i.e, each class of the second, third, and fourth years, except electives, must be passed with a grade of at least C. Should D or C- be received, it must be made good by repeating the class and achieving a C or better grade or by taking an additional advanced class (preferably in the same subject). Otherwise the student must transfer out of the Honours programme.

New 22. Required Standing

22.1 For a BA or BSc Degree

A minimum of twelve merit points on the fifteen credits offered is required for the awarding of a BA or BSc (Major). A minimum of sixteen merit points on the twenty credits offered is required for the awarding of a BA or BSc (Advanced Major).

22.2 For a BA or BSc with Distinction

At least 40 merit points are required for a BA or BSc (Major) with Distinction. This number is prorated upward if more than fifteen credits appear on the student's record. Thus, at least 53.5 merit points are required for a BA or BSc (Advanced Major) with Distinction. Again, the number is prorated upward if more than twenty credits appear on the student's record. For the purpose of determining a BA or BSc with distinction, all Dalhousie/King's classes, including repeated classes, and classes for which non-passing grades were obtained, are included. At least 10 Dalhousie/King's classes must be included for the BA or BSc (Major) with Distinction; at least 15 Dalhousie/King's classes must be included for the BA or BSc (Advanced Major) with Distinction. The Committee on Studies will monitor the records of graduating students having transfer credits and will bring to Faculty appropriate recommendations for a degree with distinction in any case where the regulations regarding transfer credits appear to create injustice.

New 22.3 BA or BSc with Honours and First Class Honours

Students who have not obtained a grade of B- or better in five advanced classes, that is, classes other than electives, will not be

In five of the advanced classes in a student's Honours programme, a grade B or better must be achieved, and in three additional advanced classes, a grade of B- or better is required. For first class Honours, students must achieve either:

(a) grades of A or better in four advanced classes and of A- or better in four additional advanced classes, or

(b) grades of A or better in six advanced classes and of B or better in all advanced classes.

The Honours Qualifying Examination as prescribed by the department(s) concerned must be passed. This is the additional grade referred to in section 11. Unless Pass-Fail grading is employed, the grade must be B- or better and for first class Honours, A- or better.

admitted to the fourth Honours year without explicit Departmental recommendations and prior approval of the Committee on Studies.

To count towards an Honours degree each advanced class, ie, each class of the second, third and fourth years, except electives, must be passed with a grade of at least C. Should D or C- be received, it must be made good by repeating the class and achieving a C or better grade or by taking an additional advanced class (preferably in the same subject). Otherwise the student must transfer out of the Honours programme.

In five of the advanced classes in a student's Honours programme, a grade of B or better must be achieved, and the three additional advanced classes, a grade of B- or better is required. For first class Honours, students must achieve either:

(a) grades of A or better in four advanced classes and of A- or better in four additional advanced classes, or

(b) grades of A or better in six advanced classes and of B or better in all advanced classes.

The Honours Qualifying Examination as prescribed by the department(s) concerned must be passed. This is the additional grade referred to in section 11. Unless Pass-Fail grading is employed, the grade must be B- or better and for first class Honours, A- or better.

23. Graduation

In order to be graduated students must submit a Request to Graduate to the Registrar's office by the deadlines indicated below:

Graduation Month	Application Deadline
February	December 1
May	February 15
October	August 15

In cases where requests can be accommodated after the deadline, a $50.00 fee will be charged.

24. Change from B.A. to B.Sc. Programme and Vice Versa

According to present regulations all students who have completed all the requirements for a B.Sc. degree have automatically completed all the requirements for a B.A. degree provided they have included a language class. Similarly most students who have completed all requirements for a B.A. degree in a science subject will have automatically completed all requirements for a B.Sc. degree. However, students who are registered for a B.Sc. degree and wish to be awarded a B.A. degree or vice versa must do so by changing their registration at the Office of the Registrar.

25. Workload

25.1 Regular Year

Five full credits per academic year shall be regarded as constituting a normal workload for a student. Written permission from the Committee on Studies is required if this workload is to be exceeded or if the planned workload in any term would amount to the equivalent of six half-credit classes. In no case may the workload exceed this. Applications from students who give good reasons for wishing to take an overload, and who in the preceding year completed a full programme in good standing, will be considered. Such permission will not normally be granted to any student in the first year of study, or to any student who, in the preceding academic year, earned fewer than ten merit points. Applications from students who were part-time during the preceding year will be considered if they have completed at least five classes and earned on average at least two merit points per class.

25.2 Summer Sessions

Students may not normally take more than one full credit in any summer session, nor may the workload in any one week exceed one sixth of a credit. Exceptions will normally be granted by the Committee on Studies only in respect to attendance at a university which operates a trimester system or its equivalent. Students may apply in advance to the Committee on Studies to increase the workload to a maximum of 2.5 credits by summer school in any one year with a maximum of 1.5 credits in any one summer session.

26. Required Withdrawal

Any student who has accumulated more non-passing grades than the number of merit points earned (see section 19.3 and 21), is required to withdraw from the faculty. This regulation applies once students have enrolled in four full credits after admission or readmission.

27. Readmission after Required Withdrawal

Students who have been required to withdraw from the Faculty of Arts and Science may apply to the Admissions Committee to be considered for readmission.

A student who has been required to withdraw from the Faculty of Arts and Science for the first time will be ineligible for readmission for a period of one academic year.

A student who has been required to withdraw twice will be ineligible for readmission to the faculty as either a full-time or a part-time student. Ordinarily an appeal is allowed only if illness has seriously interrupted the student's studies and this is established by submission to the Registrar of a medical certificate from the physician attending the student at the time of the illness.

28. Off-Campus, Summer School and Correspondence Classes, and Classes Taken at Other Universities under Concurrent Registration.

Students should note the special limitations that apply.

28.1 Off-Campus Classes

A maximum of three credits may be taken by off-campus classes, whether offered by Dalhousie/King's or taken from another university under concurrent registration.

28.2 Summer School

Dalhousie currently offers two summer sessions of approximately six weeks each, one in May-June and the other in July-August. See Regulation 25.2 for permitted workload. The maximum number of credits that may be gained by summer school and correspondence classes combined is five.

Those interested in summer school may request a summer school calendar from the Office of Continuing Education, Dalhousie University.

28.3 Correspondence Classes

At present no correspondence classes are offered by the Faculty of Arts and Science. Students who wish to take correspondence classes from other institutions may apply as in 28.4 below. See the limitation referred to in 28.2 above.

28.4 Classes Taken at Other Universities Under Concurrent Registration

A student who wishes to take classes at other institutions while registered at Dalhousie/King's, whether in the academic year or in summer sessions, or by correspondence, must obtain approval in advance on a form available in the office of the Registrar. A letter of permission will be provided if approval for the classes is given. The workload at the other institution must conform to Dalhousie/King's limitations.

The departments of French, German, Russian, and Spanish have special arrangements whereby up to a total of 5 full-credit classes taken at other universities may be considered as part of a student's major program at Dalhousie/King's.

The class fee will be paid by Dalhousie/King's if:

(a) the student is registered and has paid fees as a full-time student at Dalhousie/King's,

(b) the classes are approved as part of the student's programme and

(c) the class is not part of a summer school programme.

Note that classes taken elsewhere under Concurrent Registration are treated as transfer classes for purposes of record. Merit points are awarded in accordance with 21.2 and not more than half of the work for any credential may be by transfer credit.

29. Coordinated Programmes

Students may in their second and third years follow a two-year integrated programme or two one-year integrated programme(s) of study. If two one-year programmes are chosen, they may be in different departments. All such coordinated programs have been explicitly approved by the Curriculum Committee. A department or group of departments offering coordinated programs may structure them as it wishes, consistent with sound academic practice and subject to the following guidelines:

(a) that the equivalent of five class units constitute a normal year,

(b) that the function of each programme form part of the calendar description of each programme,

(c) that each two-year programme permits students at least one class of their own choice in each of the second and third years,

(d) that two-year programmes normally not be exclusively in a single discipline,

(e) that the normal prerequisite for entry into a department one-year or two-year programme be the introductory class of the department in question, or an equivalent that the department considers acceptable, and not more than one introductory class in a related subject.

A student considering a Coordinated Programme should consult as early as possible with the departments concerned.

30. Experimental Classes

Experimental classes, on any subject or combination of subjects to which arts or sciences are relevant, and differing in conception from any of the classes regularly listed in departmental offerings, may be formed on the initiative of students or faculty members.

If formed on the initiative of students, the students concerned shall seek out faculty members to take part in the classes.

Whether formed on the initiative of students or on the initiative of faculty members, the faculty members who wish to take part must obtain the consent of their department.

The class may be of one-year length or half-year length.

A class shall be held to be formed when at least one faculty member and at least eight students have committed themselves to taking part in it for its full length.

Classes may be formed any time before the end of the second week of classes in the fall term to run the year or first half year or any time before the end of the second week of classes in the spring term. If they are formed long enough in advance to be announced in the calendar, they shall be so announced, in a section describing the experimental programme: if they are formed later, they shall be announced (a) in the Dalhousie Gazette, (b) in the Dal News, (c) on a central bulletin board set aside for this purpose.

One faculty member taking part in each experimental class shall be designated the rapporteur of the class with responsibility for (a) advising the Curriculum Committee of the formation and content of the class; (b) obtaining from the Curriculum Committee a ruling as to what requirement or requirements of distribution and concentration and credit the class may be accepted as satisfying; (c) reporting to the Registrar on the performance of students in the class; (d) reporting to the Curriculum Committee, after the class has finished its work on the subjects treated, the techniques of instruction, and the success of the class as an experiment in pedagogy (judged so far as possible on the basis of objective comparisons with more familiar types of classes).

Students may have five one-year length experimental classes (or some equivalent combination of these with half-year length classes) counted as satisfying class for class any of the requirements for the degree, subject to the rulings of the Curriculum Committee (above) and (where relevant) to the approval of the departments.

31. International and Exchange Programmes

The Faculty of Arts and Science offers a number of programmes which enable students to pursue part of their studies in a foreign-language environment. These include:

(a) One term of study at the Pushkin Institute, Moscow Pedagogical Institute, or Leningrad State University, U.S.S.R. (for details see the entry of the Russian Studies Programme.)

(b) One term of study at Colgio de España, Salamanca, Spain (see the entry for the Spanish Department).

(c) Up to one full year of study in a foreign-language environment. In recent years students have studied at the University of Provence (Aix-Marseilles) in France (consult the appropriate language department).

(d) Up to one full year of study at a francophone university in Quebec (consult the Department of French).

32. Appeals

Any students who believe they will suffer undue hardship from the application of any of the regulations of the faculty may appeal for relief to the Committee on Studies. Students wishing to appeal a decision based on Faculty regulations may obtain copies of the document "How to appeal a Faculty of Arts and Science regulation." Briefly, such appeals must be addressed in writing to the Chair of the Committee on Studies, c/o Registrar's Office, Dalhousie, and must clearly state the arguments and expectations of the petitioners. An appeal arising from a required withdrawal from the faculty for academic reasons should be addressed to the Admissions Committee.

Students who wish to appeal on matters other than those dealt with by faculty regulations can obtain copies of the document "A Procedure for Special Academic Appeals in the Faculty of Arts and Science." Both documents can be obtained from the Office of the Registrar, Dalhousie, or any departmental office.

33. Changes in Regulations

In general, any change which affects a currently registered student adversely will not apply to that student. Any student suffering *undue hardship* from application of any of the regulations may appeal for relief to the Committee on Studies as in Section 32 above.

School of Journalism

1. Admissions

1. Admission to the four year B.J. (Hons.) programme

For applicants from High School. (See below -2- for application procedure for admission to one year B.J. degree programme–for applicants who hold a Bachelor's degree.)

General

The normal minimum requirement which applicants must possess to be considered for admission to the B.J. (Hons.) programme, is that for admission to the Dalhousie/King's Arts and Science programme. As the number of places in the programme is limited, it is expected that only a proportion of qualified applicants will be admitted; selection will be made on a competitive basis.

Application Procedure

Candidates for admission to the School of Journalism must apply using the Dalhousie/King's common application form (available from the Registrar's Office, or from most high schools). Completed application forms should be received by the Registrar as soon as possible after January 1, and not later than March 15. Late applicants will be considered only if space is available. Candidates must indicate on their application form that they are applying for admission to the B.J. (Hons.) degree. The following supporting evidence must also be provided by the candidate.

(a) a completed application form (available from Registrar's office);

(b) an application fee;

(c) an official record of high school work, sent directly from the high school;

(d) recommendations from high school officials;

(e) an official transcript of the record of work done at previous post-secondary institutions (if applicable).

When these documents have been received, applicants judged to have obtained the minimum requirements will be so notified by the Registrar, University of King's College.

With this notification, you will receive advice from the School of Journalism about written work which will be needed to complete your application. This written work must reach the School of Journalism no later than April 1, and should be addressed to:

Professor Michael Cobden
Director, School of Journalism
University of King's College
Halifax, N.S. B3H 2A1

Your written work is intended to tell us something about you and also to let us see how well you express yourself on paper. This constitutes a regular part of the application and influences the decision on admission.

The school follows a policy of considering applications as they come in, and the number of places is kept deliberately small. It is to the advantage of the applicant, therefore, to complete the submissions as early as possible. Applications ordinarily will be completed (including submissions of written work) by April 1. Late applications will be considered only if space remains.

A reasonable ability to type is required. Students should note the policy of the School of Journalism with respect to this matter as stated in this calendar under the heading "Typing Requirement."

2. Admission to the one year B.J. programme

For applicants who hold a Bachelor's degree.

General

The intention of the B.J. programme is to foster the professional development of students so that they may fill editorial positions in news organizations with not only a high degree of technical competence, but responsibility, dedication and a sense of purpose. It is designed to do two things–to give students a mastery of the techniques of news gathering, writing and presentation, this in a newsroom atmosphere, and to acquaint them with issues so as to provide the sort of background essential to the knowledgeable reporting of increasingly complex affairs.

Although other academic qualifications may be considered, normally only those students may be admitted to this programme who have successfully completed a B.A. or B.Sc. degree at a recognized university with a minimum average of B. Enrollment is limited and students will not ordinarily be admitted unless their record shows a broad acquaintance with the history of the development of western civilization such as that which is provided by the Foundation Year Programme outlined in the University Calendar.

Prospective students who have not taken the Foundation Year Programme in the first year of their first degree and who are in course at another institution are advised to consult with the University on the course of studies which will best prepare them to meet this requirement.

Application Procedure

For admission to the one year B.J. programme the student must:

1. Complete the Dalhousie/King's common application form available from the Registrar. Students must indicate on the application form that they are applying for the B.J. degree. This form must be returned to the Registrar, University of King's College.

2. Submit an official transcript of credits covering undergraduate and any graduate work.

3. Be prepared to demonstrate before graduation a reading knowledge of French. The University administers such a test at the beginning of the Fall Term and at the end of the Winter Term and it may be taken more than once without penalty. The student is required to translate–the use of a dictionary is permitted–a designated passage or passages from a current French-language newspaper, such as le Devoir. No French course will be offered or available to B.J. students during the academic year, but informal help, on a non-credit basis, will be available in the School of Journalism itself for students who wish it.

4. As in the case of admission of the B.J. (Hons.) programme, applicants will be asked to submit written work. More information about this will be mailed to you when the Dalhousie-King's common application form has been received. When completed, your written work should be mailed to Michael Cobden, Director, School of Journalism, University of King's College, Halifax, N.S. B3H 2A1.

5. All assignments are typewritten; therefore students must know how to type, not to a stenographic standard, but with reasonable speed and accuracy.

6. Prospective students should note that the B.J. programme begins before the regular session of the Faculty of Arts and Science. For the academic year 1988/89 registration is on August 22 and classes begin on August 23.

The School takes into account the student's academic records, contributions to school, university, and other publications, extra-curricular activities, and other evidence of a keen interest in journalism. Previous professional experience or writing, though frequently a good test of motivation, is not essential.

The School follows a policy of continuously reviewing applications and admits only a limited number of qualified applicants. Thus it is to the advantage of the applicant to complete the submissions as early as possible. Application forms must ordinarily be received by March 15, and submission of written work by April 1. Late applications for admission will be considered only if space is available.

Students are admitted for the full-year course which begins August 23. The School has no regular summer session, offers no correspondence courses and accepts no part-time students in the one-year B.J. programme.

B. General Academic Regulations–School of Journalism

Applicability of General Regulations, School of Journalism

Students registered at the University of King's College as candidates for the B.J. (Hons.) and B.J. degrees are subject to the General Regulations, School of Journalism, and not to the Faculty Regulations of the Faculty of Arts and Science. Students taking classes in the Faculty of Arts and Science must, however, conform to the General Faculty Regulations of the Faculty of Arts and Science with regard to those classes.

Changes of Regulations usually become effective upon publication in the Calendar. Students are subject to changes in regulations and courses made after their first registration unless specifically excused by the Faculty. All enquiries about the regulations hereunder should be made to the Registrar. Any students suffering from undue hardship as a result of application of any of the regulations may appeal for relief through the Registrar to the Journalism Studies Committee, University of King's College.

1. General

Admission to Classes

No student shall be admitted to a class until he has satisfied the regulations regarding entrance and complied with the General University Regulations. Students who wish to add classes after two weeks from the commencement of the term in which the class begins would have to get the approval of the Director of the School of Journalism, as well as the approval of the class instructor.

Duration of Studies

Students in the Bachelor of Journalism (Honours) programme will normally complete their studies within four years of first registration. All requirements for the degree must be complete within ten years of first registration. Students in the Bachelor of Journalism programme are normally required to complete their studies within one calendar year of first registration.

Advanced Placement

Students possessing advanced knowledge of a subject, which they have acquired other than at a University, will be encouraged to begin their studies in that subject at a level appropriate to their knowledge, as determined by the School of Journalism, and will be exempted from any classes which are normally prerequisites for the one to which they are admitted. However, such students must substitute for the exempted classes an equal number of other classes, not necessarily in the same subjects (i.e., they must complete at the University the full number of classes required for a B.J. (Hons.) or B.J. degree).

Concurrent Registration at University of King's College and Another Educational Institution other than Dalhousie

Ordinarily no student may register at the University of King's College in the School of Journalism if concurrently taking work in another educational institution. Regulation 7 below outlines procedures to be followed to secure waiver of this general regulation. Regular exceptions are made with respect to registration at affiliated institutions other than Dalhousie.

In-Course Requirements for continuing in the B.J. (Hons.) degree programme and the B.J. degree programme

In order to proceed from first year to second year of the BJ (Hons.) programme, students must acheive a grade of C+ or better in the Foundation Year Programme. In order to be assured of maintaining their places in the B.J. (Hons.) programme, students must achieve at least a C+ average in the journalism writing programme (those courses based upon reporting an editing assignments) and a minimum average overall of B-.

The one-year B.J. programme, because it is intensive and accumulative, will be conducted on a semester system and in order to be assured of maintaining their places from one semester to the next, students must achieve the same standards as above.

Degree Requirements—Writing Courses

In both the B.J. (Hons.) programme and the one-year B.J. programme students must acheive at least an overall C+ average in writing programmes to receive their degrees.

Forced Withdrawal Consequent on Unsatisfactory Performance

When the work of a student becomes unsatisfactory his/her case will be discussed by the Journalism Studies Committee which may require him/her to withdraw from the class or classes concerned, and to be excluded from the relevant examinations, or may advise him/her to withdraw temporarily from the University, or to reduce his/her class load.

In-Course transfers from B.A. or B.Sc. to B.J. (Hons.)

Provided that a student has successfully completed the Foundation Year Programme, and with a sufficiently high standing, he or she may transfer into the B.J. (Hons.) programme normally at the end of the first year only. A student who has completed first year at another institution and who is deemed to have preparation equivalent to the Foundation Year Programme may also be eligible to transfer into the B.J. (Hons.) programme, normally at the end of the first year only. All such transfers are to be made on a space available basis as determined by the limited enrollment policy of the University.

Applications for such in-course transfers from the B.A. or B.Sc. to B.J. (Hons.) programme are made to the Registrar, and applicants must write a letter of application and meet other admission requirements as specified by the School of Journalism.

2. Credit and Assessment

A credit towards a degree is earned in a full-credit class, a class in which typically there is a minimum of two to three lecture hours weekly for the regular (September to April) academic year. Credits may be obtained for university-level studies:

(a) normally during the regular academic year in classes offered by the School of Journalism at King's or in the Faculty of Arts and Science at Dalhousie, or exceptionally

(b) during a summer session or by correspondence,

(c) by transfer from other universities attended prior to entrance to the University of King's College

(d) in Faculties of Dalhousie, other than Arts and Science, or

(e) at institutions other than King's or Dalhousie while registered at King's.

Regulations governing each of these ways of earning credits are presented below.

Gaining Credit

To gain credit towards the B.J. (Hons.) or B.J. degree, a student must meet the requirements relevant to that degree and must appear at all examinations, prepare such essays, exercises, assignments, reports, etc. as may be prescribed.

Credit Contingent on Settling Debts to the University

To gain credit, a student must settle all obligations to the University with respect to tuition and residence fees, bookstore debts, library fines, etc. (not later than April 30 for Spring Convocation).

Method of Assessment

In determining pass lists, the standings attained in prescribed class exercises, in field work, workshops, and in the various examinations may be taken into consideration by an instructor. Each instructor must ensure that students are informed of the method of evaluation to be used in a class within two weeks of the first meeting of the class. Within two weeks after the beginning of each term, instructors teaching in the School of Journalism must report to the Director on the method of evaluation used in each class.

Grades

The passing grades are A+, A, A-, B+, B, B-, C+, C, C- and D. The failing grades are F/M. and F. However, it should be observed (above) that averages required may be above the pass/fail line.

Submission of Grades

On completion of a class, instructors teaching classes in the School of Journalism are required to submit grades to the Director, such grades to be based on the instructor's evaluation of the academic performance of the students in the class in question. Christmas grades are normally submitted in all full-year classes.

Incomplete

Each student is expected to complete class work by the prescribed deadlines. Only in special circumstances may an instructor extend such deadlines. Incomplete work in a class must be completed within four weeks of the required date for submission of grades in that class to the Director's Office.

Change of Grade

Corrections of errors in the recording of a grade may be made at any time. The final date for grade changes for other reasons is September 1 following the academic year, such changes to be made only after the procedures for reassessment of a grade have been complied with.

No student is entitled to appeal for a grade change six months after the required date for submission of grades in that class to the Director's Office.

Examinations and Tests

A period of roughly two weeks in the spring and one week in December will be set aside for the scheduling by the Registrar of formal written examinations. Instructors wishing to have an examination scheduled by the Registrar for a class must so inform the Registrar by October 15 for the Christmas period and February 15 for the Spring period. The School of Journalism will advise the Registrar, on request, of examinations to be scheduled by the Registrar. Instructors may also arrange their own examinations at a time and place of their choosing (including the formal examination periods), but with the understanding that in cases of conflict of examinations for an individual student, the Registrar's examination schedule takes priority. No tests or examinations covering the work of an entire term or year shall be held during the last two weeks of classes in the term. No tests or examinations shall be held during the period between the end of classes and the beginning of the official examination period.

Reassessment of a Grade

On payment of a fee, a student may appeal to the Registrar at the University of King's College for reassessment of a grade in a class. The Registrar will direct the request to the Director of the School of Journalism who will ensure that the reassessment is carried out and reported to the Registrar. Written applications for reassessment must be made to the Registrar within two months of the date the grade is sent from the Registrar's Office.

Special Examinations

Special examinations may be granted to students in case of genuine illness, supported by a medical certificate, or in other unusual or exceptional circumstances. Medical certificates must be submitted at the time of the illness and will normally be accepted after a lapse of one week from the date of the examination. Students wishing to appear as a candidate at a special examination shall be required to give notice of their intention to the Registrar's Office at the University of King's College on or before July 10. Students wishing to write at outside centres must apply by July 10.

Supplemental Examinations

Students are permitted to write a supplemental examination in one failed class provided that:

(a) The student has obtained a final grade of FM;

(b) The student has satisfied the requirements for the class (see Regulations);

(c) a single compulsory final examination or test in the class in question accounted for at least forty percent of the final grade (the supplemental examination should–at the discretion of the instructor–constitute the same proportion of the final grade as

did the final examination during the regular session);

(d) The student has not failed the year (see Regulations.)

Apart from the case of "A" classes (given in the fall term) the supplemental examination must be written in August immediately following the failure. For "A" classes, supplemental examinations must be written in February immediately following the failure. Supplemental examinations may not be deferred. Notice of intention to write, together with the required fee, must be presented to the Registrar's Office, University of King's College by July 10th for supplemental examinations to be written in August, and by January 28th for supplemental examinations to be written in February.

A student who fails to pass the supplemental examination can obtain credit for that class only by repeating it.

No more than one supplemental examination may be written by any student on the work of any one year.

No student may write both a supplemental examination and an examination at the end of the Summer School in the same class in the same year.

No supplemental examinations are allowed for classes taken at Summer School

No more than five passes obtained as a result of supplemental examinations may be counted towards a degree.

Repetition of Classes not Passed

Except as provided in Regulation above, students can gain credit only by repeating a class which they have not passed.

3. Regular Academic Year

Workload

Five to five and one-half courses shall be regarded as constituting a normal year's work for a student. (See curriculum for B.J. (Hons.) and B.J. degree programmes). Applications from students who have strong reason for wishing to take an overload will be considered by the Journalism Studies Committee. Such permission will not normally be granted to any student in his/her first year of study, or to any student who, in the preceding academic year, has failed any class or had two or more class grades below B-. In no case will the workload exceed six classes per term. Applications from students who were part-time during the preceding year will be considered if they have completed at least five classes with grades of B- or better in all classes.

Failed Year

Students who have not passed at least half of the classes for which they are enrolled, and all of their required writing and reporting workshops, after the final date of withdrawal without penalty, will be considered to have failed the year. The results reported in the pass lists of the academic year determine whether students have passed or failed their year.

Penalty for Failed Year

(a) A student who has failed his year for the first occasion is required to reapply to the University for consideration for readmission.

(b) A student who fails a year on two occasions will be ineligible to return to the University as either a full-time or a part-time student. Ordinarily an appeal will be allowed only if illness has seriously interrupted the student's studies and this is established by submission of a medical certificate to the Registrar from the physician attending the student at the time of the illness.

Repeating Classes for which a Passing Grade has been Awarded

With the permission of the School of Journalism and the endorsement of the Journalism Studies Committee a student may repeat any class for which a passing grade has previously been awarded. The original passing grade will nevertheless remain on the transcript, and a second entry will be recorded with the new grade and the notation "repeated class". No additional credit will be given for such a repeated class, but the higher grade, or point count appropriate to it, will be used for degree purposes.

4. Summer School and Correspondence Classes (Applicable to B.J. (Hons.) Students Only)

Limits on Credits

Up to two credits from Summer School and correspondence classes at King's or Dalhousie may be accepted towards the requirements for a degree. Such classes must have been passed at an adequate level and can be accepted only if they are closely equivalent to courses normally given in the joint Faculty of Arts and Science or the School of Journalism.

Maximum Workload

Normally no student may take classes totalling more than one full credit in any one Summer School session where the University offers more than one Summer School session per year. Not more than two full credits can be obtained at Summer School in any one academic year.

Exceptions will normally be granted by the Journalism Studies Committee only in respect of attendance at a university which operates a trimester system or its equivalent.

In all cases, permission must be obtained in advance, following the procedure detailed below.

Credit for Summer School Classes at Other Institutions

Students wishing to take, at a university other than King's, a Summer School class to be counted towards a B.J. (Hons.) degree must:

(a) obtain from the university they propose to attend a full description of the Summer School classes (or alternative classes) they wish to take; usually the Summer School calendar will suffice;

(b) make application to the Registrar of the University of King's College and submit the class description of the class they wish to take (alternatives should be indicated where possible.)

When a decision has been reached, the student will be notified directly by the Registrar. If the decision is favourable, the receiving university will be so advised by the Registrar's Office.

5. Transfer Credit (Applicable to B.J. (Hons.) Students Only)

Upon receipt of an application for admission to this University, and an official transcript, students will be advised of the number of credits which may be transferred from another university. However, provisional assessment can be made on interim transcripts. See Section 9 below.

6. Credits from other Faculties

A student taking classes in the joint Faculty of Arts and Science as part of the B.J. (Hons.) programme must conform to the regulations of that Faculty with respect to these classes, and likewise for classes taken with permission of the Journalism Studies Committee in Faculties other than Arts and Science at Dalhousie.

Each B.J. (Hons.) student must submit to the Journalism Studies Committee by the end of the first year a proposal for a coherent academic programme involving an in-depth study of a particular area of discipline for the 4 courses that must be taken in the second year and the two courses that must be taken in the third year in the Faculty of Arts and Science. The Committee will advise each student on that proposed programme and will approve (with changes where necessary) each student's plan. Any subsequent changes in a student's programme will require the approval of the Committee. See also Regulation 7 in the General Academic Regulations for the School of Journalism.

7. Credits from Other Universities under Concurrent Registration

A student, while registered at King's, wishing to take classes at another institution, must make an application to the Registrar at the University of King's College and provide a description of the classes offered at the other institution. A letter of permission will be provided if approval for the classes is given by the Journalism Studies Committee (see above, Regulation 6).

The class fee will be paid by the University of King's College, if:

(a) the student is registered as a full-time student in the B.J. (Hons.) or B.J. programme,

(b) the classes are approved.

The class fee will be paid by the student if registered as a part-time student at Dalhousie/King's.

8. Change of Registration

Changing a Class

Class changes will not be permitted during the first week after commencement of classes in September. Students should decide during the first week of classes what changes they wish to make and make these changes during the second week of classes (see below).

Adding Classes

The last date for adding classes is two weeks from the commencement of the term in which that class begins. Students must complete the appropriate registration change form which must be approved by the instructors concerned, the Director of the School of Journalism and by the Registrar at Dalhousie, for courses taken at Dalhousie and by the Registrar at the University of King's College for courses taken in the School of Journalism.

Withdrawing from Classes

(a) The last day for withdrawing from a class without penalty is: for A classes, October 13; for B classes, February 1; for C classes, October 13; for full-year classes, October 13. Classes dropped after these dates are recorded as a W (withdrawal). Students must complete the appropriate registration change form which must be approved by the instructors concerned and by the Registrar.

(b) No class may be dropped after the last day of classes in the term in which that class ends.

(c) Classes may not be added to replace withdrawn classes after the second week of the term in which that class begins (see Regulation).

Withdrawing from the University

A registered student who wishes to withdraw from the University must write to the Registrar at King's explaining his or her circumstances. The student should not discontinue attendance at any class until his or her application has been approved. A student proposing withdrawal willl normally be invited to discuss his/her situation with the Director of the School of Journalism, the Registrar at the University of King's College and, where appropriate, with the Director of the Foundation Year Programme. Non-attendance, by itself, does not constitute official withdrawal.

9. Transfer from other Colleges and Universities to the School of Journalism (B.J. (Hons.) only)

Deadlines for Receipt of Applications

Canada and the U.S.A.	March 15
Other Countries	March 15

Applications received after the above dates will be considered, but prompt processing cannot be assured.

Documents to be submitted:

(a) Completed application form (available from Registrar's Office);

(b) Official academic transcripts (or certified copies) from all Colleges and Universities attended;

(c) Certification of proficiency in English if the native language of the applicant is another language.

Certificates in languages other than English or French must be accompanied by certified translations into English or French. On receipt of these documents, students will be notified by the Registrar and are then required to submit a letter of application–the procedure for these two matters is described under, "Admissions to the B.J. (Hons.) degree programme."

Transfer of Credits

Students who have attended a recognized junior college, for at least one year, and can present satisfactory certificates may be granted Senior Matriculation standing provided the work has been done in approved academic courses. For work completed beyond the Senior Matriculation level, credit may be granted on admission for a maximum of five equivalent classes. Students who are admitted under these conditions can complete the requirements to the B.J. (Hons.) degree in three years.

Students who have attended another recognized university may, on presentation of satisfactory documentary evidence, be granted credits for appropriate classes, within the limits of the Regulations set out below.

General Regulations Concerning Transfer (see also General Faculty Regulations)

(a) A student from another college or university who is not eligible for readmission to that college or university on academic grounds will not be admitted to King's College.

(b) No transfer credit will be granted for any class in which a final mark of less than C (or the equivalent) was obtained or for any class in which a final mark was granted conditionally.

(c) Students in the B.J. (Hons.) programme must attend King's as a full-time student in their last two years, unless special permission to the contrary is obtained from the Journalism Studies Committee.

(d) No classes taken at another institution will be counted towards fulfilling the concentration requirement in the Arts and Science or in the Journalism parts of the B.J. (Hons.) degree programme without specific approval from the Journalism Studies Committee.

(e) Transfer credits may be granted only for classes equivalent to classes offered at Dalhousie/King's, and only in subjects recognized as having standing in a faculty of Arts and Science, or approved classes in Journalism Studies, equivalent to classes offered at King's.

(f) No credit will be given for any classes taken at another university while a student is inadmissible at Dalhousie-King's.

(g) The programme of studies of all transfer students will be subject to approval by the Journalism Studies Committee.

C. Programmes and Curricula – School of Journalism

The University of King's College offers the only degrees in Journalism in the Atlantic Provinces. The University offers two degrees.

1. The four-year Bachelor of Journalism with Honours, B.J. (Hons.)

General Description: The aim of the B.J. (Hons.) programme is to provide a grounding in the methods and problems of contemporary journalism in the context of a liberal education. In addition to training in journalistic skills and methods, the student will acquire both a knowledge of the history of Western civilization and a specific competence in some of the traditional disciplines of Arts and Science. As well the University will require the attainment of a certain degree of competence in both of the official languages of Canada.

In the first year the B.J. (Hons.) student will normally take the Foundation Year Programme (see page 38 of this calendar) and an elective in the Arts and Science Faculty. Electives will usually be taken in the field of Arts and Science in which the student aims to fulfill the Arts and Science requirement of the B.J. (Hons.) programme. Each B.J. (Hons.) student will be asked to submit to the Journalism Studies Committee by the end of the first year, a proposal for a coherent academic programme involving an in-depth study of a particular area or discipline for the four courses that must be taken in the second year, and the two courses that must be taken in the third year in the Faculty of Arts and Science. The Committee will advise each student on his/her proposed programme, and will approve with changes, where necessary, each student's plan. Any subsequent changes in a student's programme will require the approval of the Committee. In addition, second-year students are required to do a full course in Writing and Reporting in the School of Journalism.

In the third year the student will take three courses in Journalism designated by the School of Journalism, and two courses in the Faculty of Arts and Science (see above).

In the fourth year the student will take five courses in the School of Journalism.

French Requirement

It is the policy of the University that students graduating from the School of Journalism shall pass a test demonstrating their comprehension of written French. The test may be taken at any time and, if failed, may be tried again at a later date without academic penalty. Credit courses will be available to bring a student up to the required level, though the successful completion of such a course or courses does not, in itself, waive the requirement of passing the test.

Students are encouraged to take the test as early as they can during the course of studies so that they may know how they stand with respect to this requirement. The University will normally administer the test at the beginning and end of each academic year and at other times by special arrangement.

Typing Requirement

A reasonable ability to type is required and students entering the School of Journalism must learn to type before the workshops begin. (For B.J. (Hons.) students, this means they should know how to type by the beginning of their second year in the Journalism programme; for B.J. students, before entering the School). All assignments in the School of Journalism must be typewritten.

2. The one-year Bachelor of Journalism (B.J.)

This is a post-first degree course offered to students who have completed a first degree, normally a BA or BSc. The University of King's College expects the same degree of competence and in the same areas for those who graduate from this programme as it does from those who graduate with the B.J. (Hons.) degree. Specifically this means: (1) students who are admitted to this programme must show the same competence in French required to those who graduate with the B.J. (Hons.) and (2) admission to the programme depends on the student's ability to show that he or she has acquired a broad knowledge of the history of Western civilization such as the Foundation Year Programme provides as well as having a competence in an area of humanistic study.

Because of the intensive nature of this one-year programme it does not conform to the lecture schedule of the Faculty of Arts and Science. Students in the B.J. programme will begin work during the last part of August (see Almanac). Please see the B.J. curriculum below for the courses offered in this programme.

3. Curricula for B.J. (Hons.) and B.J. programmes.

B.J. (Hons.) Curriculum

Year 1	Required of All Students	Credits	Total Credits
	Foundation Year Programme and one elective course in the Faculty of Arts and Science Normally, although not necessarily, this would be a French course. See the statement on the French Requirement.	4	
		1	5

Year 2	Required of All Students	Credits	Total Credits
	Courses in the Faculty of Arts and Science	4	

Each B.J. (Hons.) student must submit to the Journalism Studies Committee by the end of the first year a proposal for a coherent academic programme involving study of a particular area or discipline for the four courses that must be taken in the second year, and two courses that must be taken in the third year in the Faculty of Arts and Science. The Committee will advise each student on his/her proposed programme and will approve (with changes where necessary) each student's plan. Any subsequent changes in a student's programme will require the approval of the Committee. See also Regulations 6 and 7 in the General Academic Regulations for the School of Journalism.

J201R	Introduction to Journalism		
	Basic Writing and Reporting	1	5
Year 3	**Required of All Students**	**Credits**	**Total Credits**
FIRST TERM			
	Courses in the Faculty of Arts and Science	2	
J302R	Broadcast Writing and Reporting (Continues in second term)	1	
J317A	Journalism Research	1/2	
J316R	Newspaper Reporting (Continues in second term)	1	
SECOND TERM			
	Courses in the Faculty of Arts and Science		5
J351B	Elements of Design and Makeup	1/2	
Year 4	**Required of All Students**	**Credits**	**Total Credits**
FIRST TERM			
J416A	Newspaper Production	1/2	
J472A	Copy Editing	1/2	
	Students will develop programmes to meet individual goals in consultation with faculty advisers. To complete their fall term work, they will select three half-courses or equivalent from the following:		2 1/2
J404A	Analytical and Interpretive Reporting	1/2	
J411A	Legal Issues	1/2	
J441A	Television Production	1/2	
J445A	Issues in Business, Finance and Economics	1/2	
J460A	Independent Project	1/2	
J480A	Diplomatic Reporting 1: International Organization*	1/2	
SECOND TERM		**Credits**	**Total Credits**
	Students will choose courses to complete their necessary credits from the following:		
J403B	Magazine Writing	1/2	
J420B	Senior News Seminar	1/2	
J450B	Specialist Writing	1/2	
J460B	Independent Project	1/2	
J480B	Diplomatic Reporting II: International Issues*	1/2	
J481B	Radio Production	1/2	2 1/2

B.J Curriculum

FIRST TERM	Required of All Students	Credits	Total Credits
J501A	Advanced Writing and Reporting	1/2	
J502A	Broadcast Writing	1/2	
	Students will select three half-courses or equivalent from the following:		2 1/2
J503A	Magazine Writing	1/2	
J511A	Legal Issues	1/2	
J520A	Senior News Seminar	1/2	
J545A	Issues in Business, Finance and Economics	1/2	
J551A	Elements of Design and Makeup	1/2	
J580A	Diplomatic Reporting I: International Organization*	1/2	
SECOND TERM	**Required of All Students**	**Credits**	**Total Credits**
J516B	Newspaper Production	1/2	
J572B	Copy Editing	1/2	
	Students will choose courses to complete their necessary credits from the following		2 1/2
J540B	Analytical and Interpretive Reporting	1/2	
J517B	Journalism Research	1/2	
J541B	Television Production	1/2	
J550B	Specialist Writing	1/2	
J580B	Diplomatic Reporting II: International Issues*	1/2	
J581B	Radio Production	1/2	

*Only a limited number of students are accepted into Diplomatic Reporting

Foundation Year Programme

Introduction

The University of King's College, in association with Dalhousie University, offers a special Foundation Year Programme in the first year of the Bachelor of Arts and Bachelor of Science. First offered in 1972-73, the Programme has proved a successful way of providing an integrated and interdisciplinary course for first year students. Approved by the Dalhousie Senate as a permanent part of the offerings of the Dalhousie-King's Faculty of Arts and Science, the Programme is open only to students registered at King's. Students taking this course will, like other King's students, be proceeding to the degrees of Bachelor of Arts or Bachelor of Science granted by the Senate of Dalhousie University, or will be engaged in one of the pre-professional courses in Medicine, Dentistry, Law, Architecture, Divinity, Social Work, Education, Physiotherapy, and so on, or will be proceeding to the Bachelor of Journalism (Honours) awarded by King's College. The course can be taken as three or four first-year credits.

The Foundation Year Programme is a new approach to the first year of University. It is not a pre-university year but forms part of the first year work, for a B.A. or B.Sc. (King's-Dalhousie) and for the B.J. (Hons.) (King's). Literature, history, philosophy, political and social institutions, the history of science, economic forms, religion, art and music are studied together in one course in an integrated manner which sees them as interdependent elements in the development of western culture. The movement of this culture is understood through the examination of some of the most basic works in our history. To learn to deal with these works is to acquire a foundation for studies in the humanities and social sciences, just as to have a conception of the nature of our society and culture is to have a basis for thoughtful living. To provide these is the aim of this programme.

Many scientists are acutely aware of the need to understand the relation of science to other aspects of culture and to social life; a stream of the Programme will provide a general view of our culture for science students interested in these questions.

The form of the teaching is designed to meet the special problems of first year students. Enrollment in the Programme is limited to 115 Arts, 30 BJ (Hons.) and 25 Science students. The very favourable ratio of staff to students and the concentration of the student's work within one course permit the course to offer a wide variety of experiences and allow it to help students analyze, focus, and evaluate their experiences. The amount of time spent in small group tutorials permits close attention to be paid to each student's development. The exposure to many different aspects of our civilization, and the large number of departments recognizing the Programme as a substitute for their introductory class, give Foundation Year students both a wider experience from which to judge their interests and wider options for second year study.

The instructors in the programme are specialists in a wide variety of university subjects. All take the view, however, that first year study at university can profitably be devoted to attempts to integrate knowledge and understanding rather than to premature specialization in particular subjects.

Teaching Staff

Lecturers: 1986-87
R. Apostle, B.A. (Sim. Fr.), M.A. (Calif.), Ph.D. (Berkeley),
Associate Professor of Sociology
J.P. Atherton, M.A. (Oxon.), Ph.D. (Liverpool),
Professor of Classics
M. Bourbeau, B.Sc., M.A. (Dal.), Ph.D. (Laval)
Fellow
G.R.Bridge, B.A. (Tufts), M.A. (T.U.), M.Div. (T.O.S.), A.M.,Ph.D. (Univ. of Penn.),
University Chaplain
S.A.M. Burns, B.A. (Acad.), M.A. (Alta.), Ph.D. (London),
Associate Professor of Philosophy
L.M. Byrne, B.A. (McGill), Ph.D. (Tor.)
Junior Fellow
R.D. Crouse, B.A. (Vind.), S.T.B. (Harvard), M.Th. (Trinity), Ph.D. (Harv.), D.D. (Trinity),
Professor of Classics
D.Farrell, B.A. (St. Norbert Coll.), M.Mus., Ph.D. (Wisc.),
Associate Professor of Music
Y. Glazov, Ph.D. (Oriental Institute, Moscow),
Professor of Russian and Chairman of the Department
J.F.Graham, B.A. (U.B.C.), A.M., Ph.D. (Col.), F.R.S.C.,
Fred C. Manning Professor of Economics
G.P. Grant, B.A. (Queen's), D.Phil. (Oxon.), LL.D. (Trent), D.Litt. (Mount A.), LL.D. (Dal.), LL.D. (Queen's), LL.D. (Tor.), LL.D. (Acadia),F.R.S.C.,
Emeritus Professor of Humanities
W.J. Hankey, B.A. (Vind.), M.A. (Tor.), D.Phil. (Oxon.),
Associate Professor of Classics
K.M. Heller, B.A. (L.U. et Dal.), M.A. (Dal.),
Junior Fellow
P.M. Howison, B.A. (Winnipeg),M.C.S. (Regent College/U.B.C.), M.A., Ph.D. (Ott.)
Registrar, University of King's College
K. Jaeger, B.A., M.A. (U.B.C.), Ph.D. (Dal.)
Fellow
A.M. Johnston, B.A. (Mt.A.), M.A. (Dal.), Ph.D. (Dal.),
Director, Foundation Year Programme, Assistant Professor of Humanities and Social Sciences
R.C. Kaill, B.A. (Dal.), B.D., M.S.A. (Tor.), Ph.D. (McG.),
Professor of Sociology
W.H. Kemp, Mus. Bac., Mus. M. (Tor.), A.M. (Harv.), D.Phil. (Oxon.),
Professor of Music
A.E.Kennedy, B.A., M.A. (U.B.C.,), Ph.D. (Edinburgh),
Professor of English, Chairman of Department
K. Kierans, B.A. (McG.), D.Phil. (Oxon.)
Associate Director , Foundation Year Programme, Lecturer in Humanities and Social Sciences
M.A.M-L. Kirby, B.A. (Vind.), M.A. (Dal.), M.Litt. (Oxon.)
Junior Fellow and Dean of Women
W.J.T. Kirby, B.A. (Vind.), M.A. (Dal.), D.Phil. (Oxon.)
Fellow and Dean of Residence
K.E. von Maltzahn, M.S., Ph.D. (Yale),
Professor of Biology
V. Provençal, B.A., M.A. (Dal.)
Junior Fellow
H. Roper, B.A. (Dal. et Cantab.), M.A., Ph.D. (Cantab.),
Associate Professor of Humanities and Social Sciences
R. Rosen, B.S. (Brooklyn), M.A. (Col.), Ph.D. (Chic.),
Professor of Biophysics
C.J. Starnes, B.A. (Bishops), S.T.B. (Harv.), M.A. (McG.), Ph.D. (Dal.),
Associate Professor of Classics
D.H. Steffen, Ph.D. (Gott.),
Professor of Humanities and Social Sciences, Associate Professor of German
T. Tomkow, B.A. (SFU.), Ph.D. (Cantab),
Associate Professor of Philosophy
J. Weir, Ph.D. (Mich.)
Associate Professor of Art History, Nova Scotia College of Art and Design

Admission Requirements

The admission requirements are those pertaining to the Faculty of Arts and Science, i.e. Nova Scotia Grade XII or its equivalent. Mature students, students whose education has been interrupted and who do not meet the normal admission requirements, but who can demonstrate that there is a reasonable likelihood of success at university, may be admitted as special cases. Students from Newfoundland, New Brunswick and Prince Edward Island should complete Grade XII and have an average of 60%.

Scholarships

Scholarships ranging from $5,000 to $1,000 are open to students entering the Foundation Year Programme in Arts, Science and Journalism. Application for admission constitutes application for a scholarship. In recent years more than one-quarter of the entering students have received awards. The George David Harris and A.L. Chase Memorial Entrance Scholarships ($5,000) require a separate application–see the entry under Scholarships, Bursaries and Prizes elsewhere in the calendar.

Course Designation, Lecture and Tutorial Hours

The formal designation of the Programme courses is as follows:

King's Interdisciplinary Studies

K100 Foundation in Social Science and Humanities: (4 credits)
Lectures M.W.F. 9:35 a.m. - 11:25 a.m.; Four hours of tutorials to be arranged.

K110 Foundation in Social Science and Humanities: (3 credits)
Lectures M.W.F. 9:35 a.m. - 11:25 a.m.; Three hours of tutorials to be arranged.

Grading and Credit

The Programme is to be regarded as a complete unit. It is not possible for students to enroll in only part of the course. Evaluation of the students' performances is continuous and made on the basis of tutorial participation, examinations and essays. The final grade is a composite of all evaluations. Final grading is the result of discussion among all those teachers who have had grading responsibilities. Grades are given in terms of the letter grade system of the Faculty of Arts and Science.,

Successful completion of the Programme gives students in the K100 course twenty-four credit hours or four class credits toward a Bachelor of Arts or Bachelor of Science degree. These students do one other class to achieve a complete first year. Students taking K110 do two courses in addition to their work in the Foundation Year Programme. This stream of the Foundation Year Programme carries eighteen hours of credit, i.e., three class credits, and comprises three-quarters of the work and requirements of K100. Normally students taking K100 would be candidates for the Bachelor of Arts degree and students taking K110 will be candidates for the degree of Bachelor of Science but exceptions may be made.

The Foundation Year Programme may be combined with almost any programme of study in Arts and with many in Science but in all cases students are requested to discuss their proposed programs with the Director before completing their registration.

Upon successful completion of the Programme the normal departmental requirement of passing an introductory course in the discipline concerned is waived by the following departments:

English Language and Literature
History
Philosophy
Sociology (excluding Social Anthropology)

The following departments admit students completing the Foundation Year Programme to introductory and advanced courses for which there is no language requirement:

Classics
German
Spanish
Russian

The following special departmental provisions have been established:

Biology

Successful completion of the Foundation Year Programme supplies the prerequisites for Biology 3400, 3401A, 3401B.

These are courses in the history of science, the history of biological sciences and man in nature.

Economics

Honours students in Economics who have completed the Foundation Year Programme are exempted from doing one economics course.

German

Successful completion of the Foundation Year Programme may be regarded as a substitute for German 220.

Religion

The Department of Religion recognizes the Foundation Year Programme as satisfying the prerequisites for Religion 2101, 2202 and 2531.

While there are no special arrangements with the Department of Political Science, students should note that some second year Political Science classes have no prerequisite and the Department will consider waiving the requirement for certain introductory courses.

Pre-Professional Training

The Faculties of Medicine and Dentistry and the School of Physiotherapy of Dalhousie University have approved the Foundation Year Programme as part of the pre-professional work they require for admission to their respective faculties and schools. Students may substitute the Programme for the appropriate requirements laid down by these faculties; for details of these provisions consult the Director of the Foundation Year Programme. The Department of Education of Dalhousie University waives its requirement of English 100 for students enrolled in the B.Ed. Integrated Course who have successfully completed the Foundation Year Programme. The University of King's College requires the Foundation Year Programme for its first year of the B.J. (Hons.) degree.

Evaluation

The mark for the course is based on students' papers, examinations and class participation. No student will be able to pass the course without completing the written requirements. All students (K100 and K110) write the first essay of the year within two weeks of the start of term. Beyond this, students registered in K100 will write two essays for each of the six units of the course. Students in K110 write two essays in three of the six units and one essay for each of the three remaining units. Some of the additional work of students in K100 will relate to the Thursday lectures which are required for them but not for students in K110.

Outline of the Foundation Year Programme

The course is not just a collection of diverse materials but integrates them in accord with the interpretation of our culture which it develops. As we work out this interpretation, we consider works of various kinds, some of the most crucial works in this culture. These we consider no matter what discipline ordinarily studies them. Thus we look, for example, at Mozart's *Don Giovanni*, early Greek urns, Michelangelo's "Last Judgment", the Bamberg Dom; these are usually understood to belong to the disciplines of music, archaeology, art history, and architecture. We read Homer's *Odyssey*, Shakespeare's *The Tempest*, Eliot's *The Waste Land*; works usually studied by the departments of classics, theatre, and English literature. We analyse St. Anselm's *Proslogium*, Descartes' *Meditations*, and Luther's *The Freedom of a Christian*, which are usually studied by the departments of theology, philosophy, and religion. We study Diaz's *The Conquest of New Spain*, Rousseau's *Social Contract*, Marx's *The Communist Manifesto*, Heilbroner's *The Making of Economic Society*; works thought to belong to history, political theory, sociology and economics. We read selections from Kepler's *Epitome of Copernican Astronomy*, and Newton's *Mathematical Principles*; texts taken from the history of astronomy and physics.

The following are the teaching units of the course. One or more of the aspects of culture mentioned above tends to be stressed in each unit. This is because of both the differences between the general character of each period, and the particular approach which the co-ordinator responsible for the section brings to the presentation of it. Four teaching weeks are devoted to each of these units.

1. **The Ancient World**: the origin of the primary institutions and beliefs of the western world in Greece, Rome and Israel. Religion manifesting itself in art, myth and institutions provides a focus for our approach to this epoch.

2. **The Medieval World:** the formation of Christendom. The development of Christian forms in political, social, intellectual life as these grow in contrast to and by assimilation of ancient culture is our main concern. We attempt to grasp the unity of this world as the medievals themselves saw it in Dante's *Divine Comedy*.

3. **The Renaissance and Reformation:** the foundations of modernity in the breakup of the medieval world. The worldliness of the Renaissance and the renunciation of this in the Reformation form the two poles of our treatment of this period.

4. **The Age of Reason or the Enlightenment**: modern freedom developed theoretically in the philosophy of Descartes and in relation to nature and society is the central theme. Special attention is paid to political theory and natural science in this section.

5. **The Era of Revolutions:** bourgeois culture from its triumph in the French Revolution to its collapse in World War I. The nineteenth century is mainly treated in terms of the revolutions, political and industrial, and we endeavour to understand the rise of parties and ideologies relative to them. The century is seen as providing the transition between Classical and Romantic Europe and our own Post-Romantic nationalistic individualism.

6. **The Contemporary World:** the period since World War I is characterized by the shift of political, economic and cultural power from Europe to Russia and the United States and to Asia and Africa, and by the technological and bureaucratic organization of the total means of life for individual well-being and freedom. This has made necessary a radical rethinking of aspects of our tradition and a concern for the validity of much that the "west" has developed.

The following are the recurring general topics which are discussed in each of the units outlined above:

(a) Political institutions, the modes of authority, conceptions of law and the person, the political ideal.

(b) Religious, theological and philosophical positions and forms.

(c) The conception of nature and forms of natural science.

(d) Economic institutions.

(e) The structure of society.

(f) Literary, musical and artistic expression.

A classroom with facilities for slides, films and musical reproduction is used so that the presentation of these aspects of culture can be an integral part of the teaching.

Required Reading (1987-88)

Section I—The Ancient World

The Epic of Gilgamesh, (Selections).
Homer, *Odyssey*.
Aeschylus, *The Eumenides*.
Sophocles, *Oedipus Rex* and *Antigone*.
Plato, *Republic*.
Aristotle, *Physics* (Selections)
The Bible (Genesis, Exodus, Isaiah, Job).
Vergil: *Fourth Ecologue* and *Aeneid*.

Section II—The Middle Ages

The Bible, (Epistle to the Romans)
"The Apostles' Creed"
"The Nicene Creed"
Eusebius, *Life of Constantine* and *Oration*, (Selections)
St. Augustine, *The Confessions*, and *The City of God*, (Selections)
St. Benedict, *The Rule*, (Selections).
The Song of Roland
B. Pullan, *Sources for the History of Medieval Europe* , (Selections)
R.W. Southern, *Making of the Middle Ages*, (Selections)
Boniface VIII, and Philip IV, (Selected Documents).
St. Anselm, *Proslogium*.
St. Thomas Aquinas, *Summa Theologica*, (1, qq. 1 and 2)
Dante, *Divine Comedy*.

Section III—The Renaissance and Reformation

Pico della Mirandola, *Oration on the Dignity of Man* (Selections)
Th. More, *Utopia*.
Machiavelli, *The Prince*.
J. Huizinga, *The Waning of the Middle Ages*.
Kepler, *Epitome of Copernican Astronomy*, (Selection).
R.S. Westfall, *The Construction of Modern Science*, (Selection).
Luther, *Selections from his Writings*, ed. by Dillenberger.
Calvin, *Institites of the Christian Religion*, (Selections)
Shakespeare, *The Tempest*.
Marlowe, *Dr. Faustus*.

Section IV—The Age of Reason

Descartes, *Meditations on First Philosophy*.
Corneille, *The Cid*.
Hobbes, *Leviathan*, Parts 1 and 2.
Newton, *Principia Mathematica*, (Selections)
A. Koyre, "The Significance of the Newtonian Synthesis."
Hume, *Enquiry Concerning Human Understanding*, (Selections), *A Treatise on Human Nature*, (Selections).
Rousseau, *Discourse on the Origin and Foundation of Inequality among Mankind* and *The Social Contract*, Book 1.
Mozart, *Don Giovanni*.
Goethe, *Novelle*.

Section V—The Era of Revolutions

de Tocqueville, *The Old Regime and the French Revolution*
Byron, *Childe Harold*, (Selections) and *Manfred* , (Selections).
Adam Smith, *The Wealth of Nations* (Selections)
R.L. Heilbroner, *The Making of Economic Society*, (Selections)
J.S. Mill, *Mill on Bentham and Coleridge*.
Marx and Engels, *The Communist Manifesto*.
Marx and Engels, *The German Ideology*.
Nietzsche, *Genealogy of Morals* and *The Case of Wagner*.
R. Nisbet, *The Sociological Tradition*, (Selection)
Dostoyevsky, *The Devils*.

Section VI—The Contemporary World

Th. Mann, *Death in Venice*.
S Freud, *The Ego and the Id*.
T.S. Eliot, *The Waste Land*.
R.L. Heilbroner, *Economic Society*, (Selection).
Alex Thio, *Deviant Behaviour*, (Ch. 1).
L. Pirandello, *Six Characters in Search of an Author*.
Heidegger, *Question Concerning Technology*.
C. Lasch, *The Minimal Self*.
Wittgenstein, *Lecture on Ethics* and *Philosophical Investigations*, (Selections)
A.J. Ayer, *Language, Truth and Logic*, (Selection)
Wold, Milo and Cyklen, *Introduction to Music and Art in the Western World*, (Ch. 13).
W.V.O. Quine, "The Interdependence of Beliefs."
Mary Daly, *Pure Lust*, (Selection).

Scholarships, Bursaries and Prizes

Any scholarship winner who can afford to do so is invited to give up all or part of the money awarded. He will still be styled the winner of the scholarship during its tenure. This arrangement increases the value of the scholarship funds as it enables other students of scholarly attainments to attend the university.

All scholarships, prizes and bursaries, except awards to graduating students, will be credited to the student's account and not paid in cash.

No special application forms are required as all students who have been admitted are automatically considered for a scholarship. Students who hope to receive scholarships should apply for admission by March 1.

Applicants

Applicants who wish to be considered for scholarship awards must indicate which of the College's programmes of study they wish to enter: B.A. Foundation Year Programme, B.A. regular first year, B.Sc. Foundation Year Programme, B.Sc. regular first year, B.J. (Honours), B.J.

In order to be considered for a scholarship, a student must receive credit for five full classes or the equivalent in half classes during the regular academic session (September to May).

In addition, they should ensure that the school authorities show on the transcript the applicant's rank and standing in the school graduating class.

In order to retain scholarships tenable for more than one year, a B average must be made each year, with no failing mark in any subject.

Arts and Science

1. ENTRANCE AWARDS

A. Annual scholarships up to the value of $5,000, provided from various bequests to the university as well as from university funds.

The George David Harris Memorial Scholarship–one at $5,000. (George David Harris was a student at King's who lost his life by drowning in an attempt to save the life of a friend.)

The Arthur L. Chase Memorial Scholarship–one at $5,000. (A.L. Chase was a King's student who died in tragic circumstances.)

Established from bequests of the estates of James R. Harris and Harold M. Chase, these two scholarships are open to competition to all students admitted to the university. The award is based on the record of performance in High School and on qualities of mind and character. Applications and nominations for this scholarship must be supported by High School transcripts, letters of reference and a sample of the applicant's writing. For further details, application and nomination forms, inquire from the Registrar.

Completed applications for the Harris and Chase Scholarship should be received by March 1. Final selection may be based on interviews of leading candidates.

Anna H. Cousins bequest, in memory of her husband, Henry S. Cousins, to be known as the Henry S. Cousins Scholarship.

Susanna Weston Arrow Almon bequest, to be known as the Almon Scholarships.

Alumni Association Funds to provide for a number of scholarships, ranging from $5,000 to $500, of which one is to be awarded to a student from King's-Edgehill; Rothesay Collegiate; Netherwood or Armbrae Academy.

Dr. Norman H. Gosse, former Chancellor of the University, bequest. This scholarship of $400 is open to a science student entering the Foundation Year Programme.

Alexandra Society Scholarships–The Alexandra Society of the University of King's College provides entrance scholarships, the number of which is determined annually by the Society on a funds-available basis.

Mrs. W.A. Winfield bequest, in memory of her husband.

The Rev. J. Lloyd Keating bequest, to encourage students in the study of chemistry and physics.

B. Scholarships and Bursaries tenable for three years, or for four years if the student takes the Honours Course

Margaret and Wallace Towers Bursary–$1,000 a year. Established by Dr. Donald R. Towers, an alumnus of King's, in memory of his mother and father. This bursary, tenable for four years, is open to a student of high academic standing entering the University to study Arts and Science and who is a resident, or a descendant of residents, of Charlotte County, New Brunswick. Failing any qualified applicants from this county in any one year, the bursary for that year only will become available to a student resident anywhere outside the Maritime Provinces of Canada. The holder must live in residence.

King's College Naval Bursary – $500 a year. In order to commemorate the unique and valuable relationship between the University of King's College and the Royal Canadian Navy during the Second World War, ships and establishments of the Atlantic Command have set up a Bursary to enable a student to attend King's.

Applicants must be children of officers and men either serving in the Royal Canadian Navy or retired from the R.C.N. on pension. Academic achievement and promise will be the first consideration in selecting a candidate. Purpose, industry, and character are to be carefully weighed, together with the likelihood that the candidate will make good use of higher education to benefit not only himself but also his country.

The Bursary is awarded annually but it is intended to be tenable by the same student to the completion of his course at King's College provided he makes acceptable progress. The Bursary will be withdrawn in the event of academic failure or withdrawal from King's College for any reason.

The W. Garfield Weston Scholarships. Donated by The W. Garfield Weston Foundation, these awards are given as entrance scholarships to students in either Arts and Science or Journalism.

Alumni Association Memorial Bursary Fund. In 1975 the King's College Alumni Memorial Fund was established with a two-fold purpose. It was to provide an opportunity for gifts to be placed in memory of Kingsmen, staff, students or their friends. Monies received as a memorial are invested and a Book of Memory is established in the Chapel. In it are recorded names of those in whose memory gifts are placed.

The income is to be used as a bursary fund to assist worthwhile students, over and above scholarships, and to provide student aid and/or prize funds. This Fund is intended to provide a limited number of small bursaries for students, registered full time at King's who are in need of financial assistance.

Applications for bursary aid may be submitted in writing to the University Registrar.

C. Professional Scholarships

Dr. W. Bruce Almon Scholarship–$1,500 a year. Established by the will of Susanna Weston Arrow Almon, this scholarship is open to a student entering the University of King's College and proceeding the degree of Doctor of Medicine at Dalhousie University. It is renewable yearly provided that the student maintains a first class average, and lives in residence each year until the regulations of Dalhousie Medical School require otherwise. This scholarship is available to be awarded for the 1988-89 academic year.

By the terms of the will, preference is given to a descendant of Dr. William Johnstone Almon.

Charles Frederick William Moseley Scholarship–$750 a year. Established by the will of Charles Frederick William Moseley, this scholarship is open to a student from regions No. 16 and No. 17 of the

Anglican Diocese of Nova Scotia (to be eligible a student must have resided in the areas for at least one year while attending High School) entering the University of King's College as a pre-Divinity student, and proceeding to the degree of Master of Divinity at the Atlantic School of Theology. It is renewable yearly provided that the student maintains suitable academic standing. When no pre-Divinity student is nominated by the Bishop for any one year when the scholarship is available it will be awarded to the highest competitor from the regions as an entrance scholarship for one year only.

James Fear Scholarships–Two scholarships of $1,000 each, annually. Established by the will of Mary L. Fear in memory of her husband James Fear, a graduate of the University of King's College, two scholarships of $1,000 are awarded to students entering the University of King's College as pre-Divinity students and proceeding to the degree of Master of Divinity at the Atlantic School of Theology. They are renewable yearly provided that the recipients maintain suitable standing. When no pre-Divinity students are nominated by the Bishop for any one year when the scholarships are available, the Fear Scholarships will be awarded as entrance scholarships for one year only.

Hazen Trust Scholarships. Two scholarships of $1,000 annually for students entering King's from New Brunswick High Schools as Pre-Divinity students officially certified by the Diocese of Fredericton.

These scholarships to be retained during the years necessary to complete their degrees at King's and at the Atlantic School of Theology, provided their grades at each institution are satisfactory to the Scholarship Committee, that is, an average no lower than B.

If in any one year, one or both of these scholarships is (are) not so held, such scholarship (or scholarships) will be available for one year only to a qualified student (or students) from the Diocese of Fredericton already registered at the Atlantic School of Theology, provided a nomination by the Diocese, or an application from the student, is made to the Scholarship Committee.

Failing the making of an award (or awards) according to provisions 1, 2 and 3, the scholarship (or scholarships) will be available to qualified students entering King's from New Brunswick High Schools as an entrance scholarship (or scholarships) for one year only.

D. Restricted and Regional Scholarships and Bursaries

Deihl Bridgewater Bursary–$400. To assist needy students of suitable standing, resident in the town of Bridgewater, or within six miles of the town. Bequeathed by the late Lena Ruth Deihl.

I.O.D.E. Bursaries, value $100 to $300. Awarded to entering students who show academic ability and financial need. Address applications to Provincial Education Secretary, Provincial Chapter, I.O.D.E., Roy Building, 1657 Barrington St., Room 505, Halifax, N.S. B3J 2A1. Applications open March 1, close May 1.

The Halifax Rifles Centenary Scholarship–$200. Established by the Halifax Rifles as an entrance scholarship. For particulars, apply to the Registrar.

Lois Hudson Bursary–$150. Established by a bequest from the estate of David W. Hudson in memory of his sister, Lois Hudson, as an entrance bursary for a first year woman student in need of financial assistance.

Charles E. Merrill Trust Scholarship. Scholarship or Scholarships to a total of $4,000. to be awarded annually to students entering or continuing full time degree programmes in Arts, Science or Journalism, who are citizens of the United States and who completed their secondary education in that country. Preference will be given to students who have transferred to King's for a full academic session as exchange students.

The Margaret Rice Memorial Scholarship–$3,500. First consideration will be given to an entering female student of high academic standing from Pictou County. Failing this, the scholarship will be awarded according to the usual criteria for entrance scholarships.

II. SECOND, THIRD AND FOURTH YEAR AWARDS

A. Annual scholarships of up to $2,500, provided by the bequests listed below and from university funds.

Frank Sobey Scholarships–two of $2,500 each.

Archbishop Runcie Scholarships–Established by the Province of Nova Scotia to commemorate the visit of Archbishop Runcie in August, 1985.

G. Frederick Butler Scholarship $1,000. Established by the Alumni Association.

B. Restricted Scholarships

The Honourable Ray Lawson Scholarships–Two of $500 each. Established through the generosity of the Hon. Ray Lawson, Chancellor of the University 1948-56, two scholarships of $500 are awarded to students entering their second year.

The Stevenson Scholarship–$120. Founded by the Rev. J. Stevenson, M.A. (sometimes Professor of Mathematics), this scholarship of $120, tenable for 2 years, will be awarded to a student with the highest average on the five best subjects in the first year examinations.

Alexandra Society Scholarship–$1000. An annual award offered by the Alexandra Society of King's College to a woman student who stands highest in the second or third year examinations. If the student who stands highest holds another scholarship, the award shall be left to the discretion of the Scholarship committee.

The Claire Strickland Vair Scholarship–$300. An annual award to be offered to a student beyond the first year who displays excellence in English, an English Major or English Honours student preferred.

Saint John University Women's Club Scholarship–$1000 (Undergraduate). The Saint John University Women's Club awards a scholarship of $1000 each year to a woman student entering her senior year in the Maritime University. The award is made to a student from the City or County of Saint John, with the consideration being given to both academic attainment and financial need. For particulars apply to the Registrar, before March 1.

The Norah F.W. Bate Prize–$250. An in-course open scholarship used to recognize the standing of a top student.

Holy Trinity (Yarmouth) Scholarships. Established by the Parish of Holy Trinity, Yarmouth, these awards of varying amounts are to be used for in-course scholarships in Arts and Science and Journalism.

C. Bursaries

Walter Lawson Muir Bursary–$175. Endowed by Mrs. W.L. Muir. To be awarded at the discretion of the Scholarship Committee to a student returning to college who won high scholastic standing in the previous year.

E. Mable Mason Memorial Bursary–$200. Available to women students in need of financial assistance, as a single bursary of $200, or two bursaries of $100 each.

Roy M. Haverstock Bursary–$225. Established by a bequest of Gertrude H. Fox in memory of her brother, Roy M. Haverstock.

Khaki Bursary–$60. Awarded to the sons and daughters of the soldiers of the Great Wars. Written application must be made to the Registrar showing claim for consideration.

The Binney Bursary–$50. Founded in the year 1858, by Miss Binney, sister of the late Bishop Binney, and daughter of the late Reverend Hibbert Binney, in memory of her father.

This bursary is intended to aid students who may require assistance, and who shall have commended themselves by their exemplary conduct.

Charles Cogswell Bursary–$20. Charles Cogswell, Esq., M.D., made a donation of $400 to the Governors of King's College, the object of the donation being "to promote the health of the students and encourage them in the prosecution of their studies".

Archdeacon G.S. Tanton Memorial Trust Bursary —$300. This bursary will be awarded annually after consultation with the Priest-in-Charge of the King's Chapel to a male student enrolled in a full time degree programme in Arts, Science or Journalism, and who is preparing for ordination in the Anglican Church. Preference will be given to students from Prince Edward Island and Nova Scotia.

The Jackson Bursary–$25. Founded by the Rev. G.O. Cheese, M.A. (Oxon.) in memory of his former tutor, the late T.W. Jackson, M.A., of Worcester College, Oxford.

James F. Billman Bursaries–up to $800. annually, to be awarded to a student or students preparing for Holy Orders.

D. Prizes

The Lawson Prize–$100. Established by The Hon. Ray Lawson, former Chancellor of the University, for the student who shows the greatest progress between the first and second year.

Dr. M.A.B. Smith Prize–$25. Established by a bequest of $500 from the late Dr. M.A.B. Smith. Awarded to the student with the highest marks at the end of his second year with ten classes In case of a tie, preference will be given to a pre-Divinity student.

Bishop Binney Prize–$20. This prize, which was founded by Mrs. Binney, is given to the undergraduate with the best examination results at the end of the second year with ten classes.

The Akins Historical Prize–$100. Founded by T.B. Akins, Esq., D.C.L., Barrister-at-Law and Commissioner of Public Records.

The award is made for the best original study in Canadian History submitted in competition.

Essays must be handed in, under a nom de plume, with the writer's name in an attached envelope, on or before the 1st day of April of the year concerned. Essays become the property of King's College.

The Beatrice E. Fry Memorial Prize–$50. Established by the Diocesan Board of the W.A. of the Diocese of Nova Scotia, in memory of Miss Beatrice E. Fry. To be awarded to the woman student (Anglican) of the College obtaining the highest mark of the year in English 100, provided that mark is at least B.

The Henry D. deBlois English Prize–$50. The late Rev. Henry D. deBlois, D.C.L., a graduate of King's College, left the sum of $200 to the Governors of the College to establish a prize in English. Awarded to the student of the 2nd, 3rd or 4th year in Arts or Science who submits the best essay on some subject relating to English Literature.

For conditions, apply to the Registrar. All essays must be in the hands of the Registrar of King's College by April 15.

The Almon-Welsford Testimonial Prize–$30. The Honourable William J. Almon, Esq., M.D. (1816-1901) and his family endowed a prize to commemorate the gallant and loyal deeds of Major Augustus Frederick Welsford who died in the Crimean War (1855) and to encourage the study of Latin. The prize is awarded annually to the student in his first year who makes the highest mark in a Latin course at the 100 or 200 level provided the grade is at least B.

The McCawley Classical Prize–$35. Established as a testimonial to the Rev. G. McCawley, D.D., on his retirement from the office of President. This prize is awarded annually to the student who makes the highest mark in a Greek course at the 100 level providing the grade is at least B.

The Zaidee Horsfall Prize in Mathematics–$10. Established as a memorial to the late Zaidee Horsfall, M.A., D.C.L. Awarded to the student who makes the highest mark in first year Mathematics.

The Harry Crawford Memorial Prize–$40. Offered annually by a friend in memory of Harry Crawford, son of Thomas H. and Elizabeth A.Crawford, Gagetown, N.B.; a student of this College, who died true to his King and his Country, April 14, 1915, while serving in the Canadian Motor Cycle Corps. The prize is awarded to the student completing the second year Arts course, of good character and academic standing, who in the opinion of the Faculty deserves it most.

III. Graduate Scholarships, Medals and Prizes

The Governor General's Medal. Awarded to the candidate who obtains the highest standing in the examnation for the B.A. or B.Sc. degree. Preference will be given to an Honours student.

The Rev. S.H. Prince Prize in Sociology. This prize was made available by a $1,000 bequest under the will of the late Dr. S.H. Prince for annual award to both Dalhousie and King's Students.

The Rhodes Scholarship. Tenable at the University of Oxford. Before applying to the Secretary of the Committee of Selection for the Province (which application must be made by November 1), consult the Registrar, King's College.

Rhodes Scholars who have attended the University of King's College

1909 Medley Kingdom Parlee, B.A., '08
1910 Robert Holland Tait, B.C.L., '14
1913 Arthur Leigh Collett, B.A., '13
1916 The Rev. Douglas Morgan Wiswell, B.A., '14, M.A., '16
1916 The Rev. Cuthbert Aikman Simpson, B.A., '15, M.A., '16
1919 William Gordon Ernst, B.A., '17
1924 The Rev. Gerald White, B.A., '23, M.A., '24
1925 M.Teed, B.A., '25
1936 Allan Charles Findlay, B.A., '34
1938 John Roderick Ennes Smith, B.Sc., '38,
1946 Nordau Roslyn Goodman, B.Sc., '40, M.Sc. '46
1949 Peter Hanington, B.A., '48
1950 Ian Henderson, B.Sc., '49
1950 Eric David Morgan, B.Sc., '50
1955 Leslie William Caines, B.A., '55
1962 Roland Arnold Grenville Lines, B.Sc., '61
1963 Peter Hardress Lavallin Puxley, B.A., '63
1969 John Hilton Page, B.Sc., '69
1981 Bernard John Hibbitts, B.A., '80
1986 Gregory Yuri Glazov, B.A., '86

The Canadian Federation of University Women (Halifax Branch)—$700. To assist a woman returning to full time study. For details apply to the Registrar.

Journalism

I. Entrance Awards

Annual Scholarships up to the value of $5000, provided from bequests to the university as well as from University funds. Applicants to the first year of the Bachelor of Journalism (Honours) programme are eligible to apply for the George David Harris Memorial Scholarship and the A.L. Chase Memorial Scholarship (see page 41).

National Bank of Canada Scholarship—$800. One scholarship of $800 to be awarded to a student entering the first year of the Bachelor of Journalism (Honours) programme.

Aetna Casualty/Excelsior Life Scholarship—$800. One scholarship of $800 to be awarded to a student entering the first year of the Bachelor of Journalism (Honours) programme.

Canadian Tire Corporation Scholarship—$500. One scholarship of $500 to be awarded to a student entering the first year of the Bachelor of Journalism (Honours) programme.

The W. Garfield Weston Scholarships. Donated by The W. Garfield Weston Foundation, these awards are given as entrance scholarships to students in either Arts and Science or Journalism.

II. Second, Third and Fourth Year Awards

Annual Scholarships up to $2500, provided from university funds.

Charles E. Merrill Trust Scholarship. Scholarship or scholarships to a total of $4,000. to be awarded annually to students entering or

continuing full time degree programmes in Arts, Science or Journalism, who are citizens of the United States and who completed their secondary education in that country. Preference will be given to students who have transferred to King's for a full academic session as exchange students.

Holy Trinity (Yarmouth) Scholarships—Established by the Parish of Holy Trinity, Yarmouth, these awards of varying amounts are to be used for in-course scholarships in Arts and Science and Journalism.

Major Cecil R. Thompson Prize—$250—Given to the student who achieves the highest grade in Journalism 201.

George B. Pickett Prize—$500. Established from a bequest of the estate of George R.B. Inch, this prize commemorates George B. Pickett, farmer and philosopher of Oak Point, N.B. It is awarded to the first-year Bachelor of Journalism (Honours) student who has the highest aggregate average among those who achieve a first-class standing in a university-level French course.

Atlantic Community Newspapers Association Scholarship —$500. To be awarded to a student or students in the final year of the B.J. (Hons.) programme, who is financial need and who is preparing for a career in community journalism.

Divinity

Scholarships in Divinity are tenable at the Atlantic School of Theology (or elsewhere in the case of particular scholarships). The Anglican faculty members of the Atlantic School of Theology advise on their disposition. Information on and application for these scholarships should be sought from the Divinity Secretary of King's College, Dr. Theodore S. deBruyn.

Canon W.S.H. Morris Scholarship—$1,500. This scholarship was founded by the late Robert H. Morris, M.D., of Boston in memory of his father, the Reverend Canon W.S.H. Morris, M.A., D.D., Kingsman, Scholar and Parish Priest in the diocese of Nova Scotia for forty years.

The scholarship may be awarded annually by the President and Divinity Faculty to the most deserving member of the present or recent graduating class of the Divinity School, who has been at King's at least two years, and who, in the opinion of the Faculty, would benefit from travel and/or study in Britain, the U.S.A. or some other area outside the Atlantic Provinces of Canada, provided he reaches a satisfactory standard. Applications, stating the use which the applicant expects to make of the scholarship, must be submitted to the Divinity Secretary on or before January 8, of the year in which the applicant, if successful, intends to use the scholarship. The recipient will be required to serve in the Atlantic Provinces for a minimum of three years after his return from abroad.

Charles Frederick William Moseley Scholarship—$750 a year. Established by the will of Charles Frederick Moseley, this scholarship is open to a student from regions No. 16 and No. 17 of the Anglican Diocese of Nova Scotia (to be eligible a student must have resided in the areas for at least one year while attending High School) entering the University of King's College as a pre-Divinity student, and proceeding to the degree of Master of Divinity at the Atlantic School of Theology. It is renewable yearly provided that the student maintains suitable academic standing. When no pre-Divinity student is nominated by the Bishop for any one year when the scholarship is available, it will be awarded to the highest competitor from the regions as an entrance scholarship only.

James Fear Scholarships—Two scholarships $1,000 each, annually. Established by the will of Mary L. Fear in memory of her husband James Fear, a graduate of the University of King's College, two scholarships of $1,000 are awarded to students entering the University of King's College as pre-Divinity students and proceeding to the degree of Master of Divinity at the Atlantic School of Theology. They are renewable yearly provided that the recipients maintain suitable standing. When no pre-Divinity students are nominated by the Bishop for any one year when the scholarships are available, the Fear Scholarships will be awarded as entrance scholarships for one year only.

Hazen Trust Scholarships. Two scholarships of $1,000 annually for students entering King's from New Brunswick High Schools as Pre-Divinity students as officially certified by the Diocese of Fredericton.

These scholarships to be retained during the years necessary to complete their degrees at King's and at the Atlantic School of Theology, provided their grades at each institution are satisfactory to the Scholarship Committee, that is, an average no lower than B.

If in any one year, one or both of these scholarships is (are) not so held., such scholarship (or scholarships) will be available for one year only to a qualified student (or students) from the Diocese of Fredericton already registered at the Atlantic School of Theology, provided a nomination by the Diocese, or an application from the student, is made to the Scholarship Committee.

Failing the making of an award (or awards) according to provisions 1, 2, and 3, the scholarship (or scholarships) will be available to qualified students entering King's from New Brunswick High Schools as an entrance scholarship (or scholarships) for one year only.

The Alexa McCormick Sutherland Memorial. The sum of $5,000 has been willed to the Board of Governors of the University of King's College by the late Annie M. Smith of Granville Ferry, Nova Scotia, for the purpose of founding a memorial to her mother from the net annual income. The award is open to the Anglican student, including any post-graduate student, in the Divinity School, now a partner in Atlantic School of Theology, considered worthy in terms of scholarship, financial need and devotion to his or her vocation, nominated by the Anglican Faculty Group of Atlantic School to the above named Board of Governors.

Greta L. Scott Memorial Fund—Financial assistance for Divinity students for board, lodging and tuition.

The Ernest H. MacDonald Fund. The annual interest of a bequest of $13,878.60 to the Board of Governors of the University of King's College, willed by the late Miriam MacDonald of Bourne, Mass., U.S.A., and administered by the University in the same manner as other endowment funds, is to be used for aid to Divinity students (including post-graduate students) from New Brunswick in the Divinity School, now a partner in Atlantic School of Theology, considered worthy and recommended by the Anglican Group of Atlantic School to the above named Board of Governors.

William Cogswell Scholarship. Open to students intending to work in the Diocese of Nova Scotia.

Scholarship (A): Under the direction of the Trustees of the William Cogswell Scholarship, to be awarded to the student who passes a satisfactory examination and who takes his Divinity course at any recognized Divinity College of the Anglican Church in Canada best fitted, in the opinion of the Trustees, to serve the terms of the Trust.

Scholarship (B): Under the direction of the Faculty of Divinity of the University of King's College, Halifax, Nova Scotia, an entrance scholarship of $200 or $300 depending on quality of work submitted, will be awarded to the properly accredited student entering the Divinity course for the first time and who stands highest in a special examination to be held in the month of admission provided he reaches a satisfactory standard. The recipient will be required to sign a statement promising to serve in the Diocese of Nova Scotia for a period of at least as long as the period during which he holds the scholarship.

This examination will consist of two papers:

(a) A paper on the content of the Old and New Testaments; and

(b) A paper on A.H. McNeile's Introduction to the New Testament (revised edition by C.S.C. Williams) Oxford, 1953.

Awards will not be made every year.

The Daniel Hodgson Scholarship–$240. Founded in 1883 by Edward J. Hodgson and the Reverend G.W. Hodgson in memory of their father Daniel Hodgson, who died about that time. This scholarship of an annual value of $60, tenable for four years, is for the purpose of encouraging students to take an Arts Degree before entering upon the study prescribed for Holy Orders. Candidates, who must be residents of Prince Edward Island, shall file their applications and certificates of having passed the full Arts matriculation requirements before August 15, and must not be over 24 years of age at that time. They must also satisfy the Diocese Committee for Holy Orders as to their aptitude for the Ministry of the Church. At the end of each academic year the scholar shall file with the Trustees, a certificate from the President or Secretary of the University "that during the past year he has resided in College (or has been excused from such residence) and has attended the full Arts course in the College", together with a certificate that his moral conduct, his attention to his studies and his general conduct have been satisfactory to the Board of Governors.

Scholars who fail to comply with the foregoing conditions automatically forfeit the scholarship, but in special cases the Bishop, on the representations of the Trustees, may restore a terminated scholarship in whole or in part.

The Mabel Rudolf Messias Divinity Bursary–$120. The interest on an endowment of $2,000, the gift of Mrs. M.R. Messias of Wolfville, Nova Scotia, is to be used to provide an annual bursary for a needy and deserving Divinity student.

The H. Terry Creighton Scholarship–$150 approximately. The annual income from an endowment of $2,000 established by the family and friends to honour the memory of H. Terry Creighton of Halifax, Nova Scotia, who was an active Lay Reader and prominent Layman of the Diocese of Nova Scotia for many years.

The Scholarship is to be made to an outstanding and deserving Anglican Divinity student at the conclusion of his final year of training and who is intending to enter the ministry of the Diocese of Nova Scotia. Should there be no suitable candidate for the scholarship training in Nova Scotia, the award may be made, in consultation with the Bishop of Nova Scotia, to one studying elsewhere, provided that the student intends to return to Nova Scotia for ministry in that Diocese.

The George M. Ambrose Proficiency Prize–$300. approximately. The income from a trust fund set up in memory of Canon G.M.Ambrose, M.A., an alumnus of King's, provides an annual award to the Divinity student who receives the highest aggregate of marks at the end of his first year, provided that during that year such student takes the regular full course in theology.

Anderson Scholarships–$450. Two scholarships of the value of $450 each, established under the will of Maple B. Anderson of Lunenburg, Nova Scotia, in loving memory of her brothers, Roseville W. & George M. Anderson, to be used for scholarship purposes for qualified applicants wishing to study theology at the Atlantic School of Theology.

The scholarships are to be awarded annually on the recommendations of the Anglican Divinity professors at the Atlantic School of Theology with the approval of the President of the University of King's College.

A student may apply for renewable tenure of the scholarship.

The Margaret Draper Gabriel Bursary–$450. A fund has been established in memory of Margaret Draper Gabriel by her son, Rev. A.E. Gabriel, M.A., an alumnus of King's, the yield from which is to be used to give financial aid to a Nova Scotian Divinity student in preparation for the Ministry of the Church. The recipient must be nominated or recommended by the Bishop of Nova Scotia. If in any year there is no candidate for this assistance the yearly yield is to be used to augment the fund. Should King's College Divinity School cease to exist as such, the fund is to be transferred to the Diocese of Nova Scotia and the income used as aforesaid.

The Reverend Canon H. Douglas Smith Bursary Fund. A fund of $4,000 has been established by Mrs. Ethel May Smith in memory of her son and King's graduate, the Reverend Canon H. Douglas Smith. The income of the fund is disbursed in the form of bursaries (one or more) to needy and deserving persons from the Diocese of Nova Scotia or the Diocese of Fredericton who are theological students at the Atlantic School of Theology and who intend to enter the Ministry in one of these Dioceses.

Jack Clark Wilson Memorial Bursaries–$100 each. Established in 1947 by Miss Catherine R. Kaiser, in memory of John Clark Wilson. Two bursaries of $100 each, tenable for one year. Awarded to Divinity students deemed worthy of financial help.

Moody Exhibition–$100. The "Catherine L. Moody" Exhibition of $50 a year for two years is awarded every two years to the student entering the second year preparing for Holy Orders, whose scholarship and exemplary conduct shall, in the opinion of the Faculty, merit it.

The George Sherman Richards Proficiency Prize–$120. In Memory of the Reverend Robert Norwood, D.D. The income from a fund of $2,000 to be awarded annually to the Divinity student who gains the highest aggregate of marks at the end of his penultimate year, provided that in that year he takes the regular full course in Theology.

The Countess of Catanzaro Exhibition–$100. The income from a fund of $2,000 to be awarded by the Faculty to a Divinity student during his second year in college. The award will be made on the basis of character and need.

The McCawley Hebrew Prize–$25. Open to all members of the University who are below the standing of M.A.

The prize is given out of the interest of a Trust Fund, the gift of the Reverend George McCawley, D.D., in the hands of the Society for the Propagation of the Gospel in Foreign Parts.

This prize will be awarded to the student who leads the class in Hebrew 2 and receives a recommendation from the professor of Hebrew.

Junior McCawley Hebrew Prize–$25. With the accumulated unexpended income from the McCawley Hebrew Prize a fund has been set up establishing a second prize, to be awarded to the student standing highest in first year Hebrew.

Archdeacon Forsyth Prize–$50. The Ven. Archdeacon D. Forsyth, D.C.L., of Chatham, N.B. who died in 1933, left to King's College $1,000 to provide an annual prize or scholarship, to be awarded to a Divinity student for proficiency in the study and knowledge of the original Greek Scripture. To be awarded on the combined results of Greek Testament 1 and 2.

Prince Prize in Apologetics–$60. Established by a bequest of the late Dr. S.H. Prince. Awarded every alternate year, at the discretion of the Faculty. (Next award 1989-90).

Wiswell Missionary Bursary–$200. Founded by Dr. A.B. Wiswell for help to a Divinity student who believes he has a call to the Mission Field either Overseas or in the Canadian West.

Preference will be given to a student who has given promise of the needed qualities and has taken his degree or is within a year of completing his Arts course. If there is no student meeting the above requirements the award will be left to the discretion of the Divinity Faculty.

Clara E. Hyson Prize–$5. Founded by Miss Clara E. Hyson and awarded each year on vote of the Faculty.

ohnson Family Memorial Bursary–$60. Founded by the Misses elen and Marguerite Johnson in memory of their parents. This ursary is to be awarded annually at the discretion of the President nd Divinity Faculty to the Divinity student considered most worthy n grounds not only of scholarship, but also, of financial need and devotion to his vocation. Preference will be given to a student om the Parish of St. Mark's, Halifax.

ivinity Grants. Grants to aid students in Divinity who require assisnce are made by the Bishop of Nova Scotia, and by the Bishop of edericton. The holders of these must fulfill such conditions as the shops lay down and in every case attend a personal interview. For rther particulars, apply to the Divinity Faculty.

ne Wallace Greek Testament Prize–$50. A Book Prize established / the late Canon C.H. Wallace of Bristol, England, in memory of his ther Charles Hill Wallace, barrister, of Lincoln's Inn, who gradued at King's College in 1823, and died in England in 1845. ubject: Epistle to the Hebrews. Application to be made to the ivinity Secretary by March 1.

gnes W. Randall Bursary. Two bursaries of $15 each will be given ach year to the students in Theology who show the greatest ligence in their studies. A n award will not be made twice to the ame student.

ennett-Cliff Memorial Prize. A prize of $10 each year. Award to be the discretion of the President.

enelm Eaton Memorial Scholarship–$60. This scholarship is prooded by the Synod of Nova Scotia as a memorial to The Hon. aptain Kenelm Edwin Eaton, B.Sc., L.Th.,who made the supreme acrifice while serving as a Chaplain in Italy, August 31, 1944. For articulars, apply to the Divinity Secretary.

r. C. Pennyman Worsley Prize–$100. A memorial to the late Dr. orsley. To be used in alternative years for a prize in Church story. Next award 1989-90.

enwick Vroom Exhibition —$100. To be awarded to a Divinity udent at the direction of the Faculty. Application should be made the Divinity Faculty by November 1 of each year.

ne Florence Hickson Forrester Memorial Prize–$60. The prize, esented in memory of the late Mrs. Forrester, by her husband, is be awarded on Encaenia Day to the Divinity student in his penultiate or final year who passes the best examination on the exegesis the Greek text of St. Matthew, Chapter V-VII provided always that e standard is sufficiently high.

bliography:

W. Manson: *The Sayings of Jesus* (SCM)
Jeremias: *The Sermon on the Mount* (Athlone Press)
W. Beare: *The Earliest Records of Jesus* (Blackwell), pp. 52-69 nd 95-98.
.K. MacArthur: *Understanding the Sermon on the Mount* (Epworth)

ne Bullock Bursary–$225. Established by C.A.B. Bullock of Halifax r the purpose of defraying the cost of maintenance and education Divinity students who were, before being enrolled, residents of alifax and members of a Parish Church there, and who are unable pay the cost of such maintenance and education.

ne Harris Brothers Memorial–$150. To be awarded at the beginng of each college year as a bursary to a student of Divinity. The udent shall be selected annually by the Divinity Faculty, preference being given to a needy student from Prince Edward Island, iling that, a needy student from the Parish of Parrsboro, and failing at, to any deserving student of Divinity.

ne Carter Bursaries–$200. Two bursaries of a value of $160 each, stablished under the will of Beatrice B. Carter of Amherst, Nova cotia, to be used to assist young men studying for Ministry.

oyal Canadian Air Force Protestant Chapel Bursary–$150. This ursary, established in 1959 by endowment from collections taken in R.C.A.F. chapels, is awarded annually at the discretion of the Divinity Faculty to a bona fide ordinand, preference where possible being given to (a) ex-R.C.A.F. personnel, (b) children of R.C.A.F.

The Reverend Dr. W.E. Jefferson Memorial Bursary–$400. This bursary, the gift of the Parish of Granville, N.S., is established in memory of Reverend W.E. Jefferson, D.Eng., an alumnus of King's and a graduate engineer, who was ordained late in life and yet was able to give nearly twenty years of devoted service to the ordained Ministry. Preference will be given to older men pursuing post-graduate studies or to older men preparing for ordination. The award is to be made by the Divinity Faculty.

The Archdeacon Harrison Memorial Bursary–$20. Established by Miss Elaine Harrison in memory of her father. To be awarded to a deserving and needy Divinity student, at the discretion of the Faculty.

St. Paul's Garrison Chapel Memorial Prize–$20. To be awarded to the Divinity student chosen by the Faculty to attend a Christmas Conference.

The Clarke Exhibition. An endowment was established by the late Reverend Canon W..J. Clarke of Kingston, New Brunswick, the first charge upon which shall be the provision of copies of *The Imitation of Christ* to members of each year's graduating Class in Divinity. The balance of the income each year to be awarded by decision of the Divinity Faculty to a deserving Divinity Student for the coming year.

Northumbria Region Bursary–$150. Offered annually by the Brotherhood of Anglican Churchmen in the Northumbria Region.

It is awarded to a needy and worthy student from the Amherst region. If no candidate is available from this region, in any one year, then any needy and worthy Anglican student would be eligible.

Convocation 1987

Graduating Class

Honorary President
Joan Burgwin

President
Jennifer Anne Inglis

Vice-President
Gregory Aurthur Guy

Secretary-Treasurer
Beverley Lynne Ware

DOCTOR OF CIVIL LAW (honoris causa)

Richard John Gwyn ..... London, England
G. Wallace F. McCain ..... Florenceville, N.B.

DOCTOR OF CANON LAW (honoris causa)

Marie Beatrice Elwood ..... Halifax, N.S.
Mr. Justice Ronald Charles Stevenson ..... Fredericton, N.B.

DOCTOR OF DIVINITY (honoris causa)

The Rev. Robert Ray Parks ..... New York, N.Y.
The Very Rev. John van Nostrand Wright ..... Fredericton, N.B.

BACHELOR OF ARTS DEGREE:

AMOS, David Andrew ..... Mader's Cove, N.S.
ANDREWS, Mark William ..... Toronto, Ont.
ANTHONY, Melanie Joan ..... Kennetcook, N.S.
BEATON, Gail Cecilia ..... Waltham, Mass., U.S.A.
BEST, Gladys Heather ..... Annapolis Royal, N.S.
BLACK, Vicki Lynn Ruth ..... Bedford, N.S.
BRIGGS, James David ..... Sydney Mines, N.S.
BRITNEY, Marc Edwin ..... Greenwood, N.S.

BURTON, Twila Dorothy M. Lynne ..... Shubenacadie, N.S.
CALLOW, Pamela Inge ..... Halifax, N.S.
CAMPBELL, Catherine Mary (Honours in Philosophy) ..... Sydney, N.S.
CAMPBELL, Christine Alexandra ..... Truro, N.S.
CAMPBELL, Roy Alexander ..... Munster, Ont.
CAVANAUGH, Maureen Lynn ..... Antigonish, N.S.
CHAISSON, Catherine Louise Ann ..... Antigonish, N.S.
CHRISTIE, Kimberly Dawn ..... Kentville, N.S.
CLARKE, Michelle Anne ..... Halifax, N.S.
CORCORAN, Donna Marlene ..... Summerside, P.E.I.
CUSHING, Nancy Eileen (First Class Honours in History and a University Medal) ..... Dartmouth, N.S.
DODD, Susan Marie ..... Berwick, N.S.
DOUCET, Julianne Elva ..... Falmouth, N.S.
DUDAR, Jill Terese ..... Bedford, N.S.
EDWARDS, Anne Frances ..... Saint John, N.B.
ERICKSON, Anna Kristine (Honours in Classics) Morro Bay, Cal., U.S.A.
FERGUSON, Alexander Calvin ..... Sydney, N.S.
FLINN, Robert Stuart ..... Halifax, N.S.
FRASER, Rebecca Peace ..... Garden of Eden, N.S.
GALLANT, E. Richard (Honours in Biology and Economics combined) ..... Dartmouth, N.S.
GOLDRING, Victoria May ..... Halifax, N.S.
GREEN, Adam Julien ..... New York, N.Y., U.S.A.
HALIBURTON, Rachael Frances Christine (Honours in Philosophy) ..... Wolfville, N.S.
HALLETT, Kimberley Kathryn ..... Hartland, N.B.
HEWEY, Tammy Nadene ..... Lower Sackville, N.S.
HINES, Terrance William ..... Windsor, N.S.
HOLLAND, Sara Aileen ..... Halifax, N.S.
INGLIS, Jennifer Anne ..... Liverpool, N.S.
JEFFERSON, Philip Richard Frank (Distinction) ..... Halifax, N.S.
KRAWCHUK, Catherine Elizabeth ..... Sydney, N.S.
LAING, Kara Jean ..... Kingston, N.S.
** LANE, Kathryn Alicia ..... Halifax, N.S.
LANGILLE, Lynn Adrienne ..... Bridgewater, N.S.
LEBLANC, Linda Marie ..... Moncton, N.B.
MacCORMICK, Liam Kennedy ..... Sydney, N.S.
* MacDOUGALL, Andrew Stewart (Honours in Biology and Philosophy combined) ..... Halifax, N.S.
MacKEEN, Rowena Margaret ..... Charlottetown, P.E.I.
MacKENZIE, Patrick Niven ..... Toronto, Ont.
McCAIN, Gillian Marion ..... Florenceville, N.B.
McDOUGALL, Rosalie Patricia ..... Halifax, N.S.
** McGILLION, Terence Gerard ..... St. Catharines, Ont.
McKAY, Susan Christine ..... Fall River, N.S.
McNEIL, Mark William ..... Lower Sackville, N.S.
MONTGOMERY, Maureen Ann (Honours in English) ..... Rothesay, N.B.
MOORE, Stewart Hugh ..... Dartmouth, N.S.
MOSSMAN, Steven John ..... Greenfield, N.S.
PEMBROKE, Johneen Marie ..... Dartmouth, N.S.
PETERS, Charlotte Ann ..... Halifax, N.S.
PHILLIPS, Heather Virginia ..... Halifax, N.S.
POLLITT, Carolyn Elizabeth ..... Toronto, Ont.
* PRIME, Lynn Victoria ..... Weymouth, N.S.
RHYMES, Fulton Williams ..... Coxheath, N.S.
RHYMES, Thomas John (Honours in History) ..... Sydney, N.S.
SANDERSON, Heather Gail (First Class Honours in English) ..... Sydney, N.S.
SINDEN, Joan Elizabeth ..... Amherst, N.S.
SIRCOM, Katharine Mary (First Class Honours in Biology and Philosophy combined) ..... Hantsport, N.S.
SMITH, Katharine Tracey ..... Halifax, N.S.
STUMBORG, Cara Marie ..... Toronto, Ont.
WALSH, Barry Francis ..... Dartmouth, N.S.
** WILSON, Steven Kerr ..... Truro, N.S.
WOOD, James Douglas Henry ..... Toronto, Ont.
WRIGHT, Elaine Mary ..... Toronto, Ont.
YAZBEK, Angela Maria ..... Halifax, N.S.

BACHELOR OF ARTS DEGREE—HONOURS CERTIFICATE:

MURRAY, Stephen Lawrence M. (Honours in Classics) ..... Carroll's Corner, N.S.
** FOWKE, John Frederick (Honours in Political Science) ..... Bridgewater, N.S.

BACHELOR OF SCIENCE DEGREE:

ANDREWS, Cynthia Lindsay (Honours in Biology) .. Wolfville, N.S.
BAKER, Michael William (Honours in Psycology) .... Wolfville, N.S.
CHRISTIE, Iain Atherton (First Class Honours in Physics) ..... Medicine Hat, Alta.
DALEY, Dorothy Marie ..... Sydney, N.S.
ELLIOT, Deborah Lee ..... Goose Bay, Nfld.
ESTOK, David Michael (Honours in Biology) ..... Weymouth, N.S.
GALEY, Kathryn Ann ..... Florenceville, N.B.
HAMM, John Cameron (Honours in Psycology) .... Stellarton, N.S.
HOLLETT, Mildred Suzette ..... Truro, N.S.
JACKSON, Nichola Claire ..... Sydney River, N.S.
MacLEAN, Stephen William (Honours in Biochemistry) ..... Moncton, N.B.
McLELLAN, Catherine Dawne ..... Springhill, N.S.
PITTMAN, Angela Michelle ..... Sydney, N.S.
RUGGLES, David James MacLeod (Honours in Biochemistry) Liverpool, N.S.
SIM, Ellen Jane (Honours in Marine Biology) .... Quispamsis, N.B.
TREMBLAY, Marlene Ellen ..... Dartmouth, N.S.
VAIL, Stephen Douglas ..... Yarmouth, N.S.

BACHELOR OF JOURNALISM (HONOURS) DEGREE:

BENJAMIN, Craig Scott ..... Halifax, N.S.
BREWER, Jonna Marie ..... Sydney Mines, N.S.
CAMPBELL, Mary Patricia ..... Sydney, N.S.
CHUTE, Robert Charles ..... Middleton, N.S.
CRAIN, Kevin Dale ..... Riverview, N.B.
FOREST, Stephen Paul ..... Halifax, N.S.
FREEMAN, Brian Keith ..... Caledonia, N.S.
GUY, Gregory Arthur ..... North Sydney, N.S.
HENLEY, Melanie Joy ..... Head Chezzetcook, N.S.
LANDRY, Janice Marie ..... Halifax, N.S.
LITTLE, Jessica Jill G. ..... Fredericton, N.B.
PARTRIDGE, Kenneth Merlin ..... Halifax, N.S.
RICHARDSON, Christopher Douglas ..... St. John's Newfoundland
WARE, Beverley Lynne ..... O'Leary, P.E.I.
WELLS, Lynne Marie ..... Armdale, Halifax Co., N.S.
WENTZELL, Karen Lee ..... Bridgewater, N.S.

BACHELOR OF JOURNALISM DEGREE:

ALBERSTAT, Mark Joseph ..... Halifax, N.S.
ANDERSON, Sandra Lynn ..... Halifax, N.S.
ANDERSON, Scott Martin ..... Scarborough, Ont.
BRUCE, Annabel ..... Halifax, N.S.
CHISHOLM, Michael McGarry ..... Antigonish, N.S.
DOOLEY, Catherine Elizabeth ..... Mahone Bay, N.S.
EYTON, Susannah Margaret ..... Caledon, Ont.
FISHER, Randy Shawn ..... Montreal, P.Q.
GRAHAM, Mary Elizabeth ..... Saint John, N.B.
HOUSTON, James McKay ..... Ottawa, Ont.
KOPUN, Charles Drago ..... Stoney Creek, Ont.
NICHOLSON, Scott Alexander ..... North Sydney, , N.S.
O'BRIEN, John Leslie ..... St. John's, Newfoundland
O'BRIEN, Katharine Mary ..... Halifax, N.S.
ROBB, Margaret Joan ..... Halifax, N.S.
ROGERS, Alison Mae ..... Hamilton, Ont.
SADOWAY, John Paul ..... Saskatoon, Sask.

CURA, Tomas ..... Downsview, Ont.
TRAUTMAN, William Alan ..... Speers, Sask.
INKE, Karen Jo-Anne ..... Scarborough, Ont.
/ILLIAMS, Gordon Kirk ..... Halifax, N.S.
/INHAM, Nina Gail ..... Bedford, N.S.
/RIGHT, Ashley Melinda ..... Winnipeg, Man.

n Absentia
Conferred during the session

:NCAENIA AWARDS

he Governor General's Medal	Nancy Cushing
ing's Medal	Iain Christie
he Lawson Prize	Karim Mahmud
he Junior McCawley Hebrew Prize	Kay Bradbrook
he McCawley Hebrew Prize	Particia Lotz
he H. Terry Creighton Scholarship	Barbara Minard
eorge Sherman Richards Proficiency Prize	Janet Hatt
eorge M. Ambrose Proficiency Prize	Robert Richmond
rchdeacon Forsyth Prize	Robert Richmond
he Shatford Pastoral Theology Prize	Janet Hatt
he Clara E. Hyson Scholarship	Claude Miller
he Bennet-Cliff Memorial Prize	Dawn Davis
he Kenelm Eaton Memorial Scholarship	Howard Cunningham
r. M.A.B. Smith Prize	Ian Crystal
he Bishop Binney Prize	Ian Crystal
he Zaidee Horsfall Prize	Heather Smith
he Norah F.W. Bate Prize	Meena Malik
he George B. Pickett Prize	Karen Colwell
	Linda Kelly
he Hazen Trust Scholarship	Claude Miller
	Kevin Stockall
he James Fear Scholarship	David Carter
he Major Cecil C.R. Thompson Prize	Jonathan Kay
Margaret and Wallace Towers Bursary	Pamela Halstead
King's College Naval Bursary	Steven Power

ENTRANCE SCHOLARSHIPS AND BURSARIES

Arts and Science

The Dr. Bruce W. Almon Scholarship	Robert Hillier
Alumni Association Scholarship	Anna Bogaard
	Paul Charlebois
	Cheryl MacDonald
	Stephen McGrath
	Rizwan Mian
	Kathryn Wood
Henry S. Cousins Scholarship	Alexander Grover
	Soonya Quon
	Hellen Waller
James Fear Scholarship	Michael Melski
The Dr. Norman H. Gosse Scholarship	Conrad Fox
The George David Harris Memorial Scholarship	Jean Cameron
The Reverend J. Lloyd Keating Scholarship	Anju Virick
Charles Frederick William Moseley Scholarship	Lisette Kwindt
The Margaret Rice Scholarship	Johanna Smith
	Patrick Vandermeulen
Susanna Weston Arrow Almon Scholarship	Sheri-Lynn Vigneau
Mrs. W.A. Winfield Scholarship	Marie Lumsden
University Scholarship	Christopher Davison
	Clare Goulet
	Cindy Yazbek

School of Journalism

Aetna Casualty/Excelsior Life Scholarship	Michelle Hebert
Alexandra Society Scholarship	Natalie Greer
National Bank of Canada Scholarship	Andrew Hartlen
Canadian Tire Scholarship	Leanne Penney
Arthur L. Chase Scholarship	Krista Blair
	Shelley MacInnis
	Nancy Rankin
The W. Garfield Weston Foundation Scholarship	Erin Dwyer
	Paul Fraser

IN-COURSE SCHOLARSHIPS

Arts and Science

Alexandra Society Scholarship	Jennifer Balfour
	Deirdre McKay
	Jennifer Scott
Arthur L. Chase Scholarship	Karim Mahmud
The Honourable Ray Lawson Scholarship	Meena Malik
	Kristen Zakariasen
Archbishop Robert Runcie Scholarship	Nicholas Lolordo
Stevenson Scholarship	Dawn Henwood
Frank Sobey Scholarship	Ian Crystal
	Heather Smith
Holy Trinity (Yarmouth) Scholarship	John Mowatt
Clare Strickland Vair Scholarship	Sara Holland
Susanna Weston Arrow Almon Scholarship	Douglas Brown
University Scholarship	Elizabeth Beattie
	Andrew Calkins
	Gregory Cameron
	Christina Coleman
	John Curry
	Carmelle D'Entremont
	Sara Devanney
	Craig Dodge
	James Hubbard
	Sarah MacDonald
	Jacquelyn MacEachern
	Patrick MacKenzie
	Donna Moignard
	Peter O'Brien
	Sandra Rogers
	Johanna Steffen
	Jonas Steffen
	Arthur Thompson
	Suzanne Vaughan
	Troy Wagner
	Yee-Shing Hardy Yau

School of Journalism

Alexandra Society Scholarship	Kimberlea Covert
	Sandra Goodwin
Arthur L. Chase Scholarship	Jennifer Latham
University Scholarship	Sara Fraser
	Donna Gabriel
	Malcolm Kirk

Student Organizations

The University of King's College Students' Union

The University of King's College Student's Union is the organization in which the students enjoy their right of self government. The Constitution, revised in 1974, provides for a democratic government in which the participation of every student is expected. The students endeavour to play a determining role in every aspect of university life. The Union's main organs are the Student Assembly, the Executive of the Students' Union, the Students' Council. The power of self discipline is exercised through the Union's Male and Female Residence Councils.

The union operates through a number of permanent committees, e.g., the Academic Committee, the Social Committee, committees on the constitution, elections, finances, Dalhousie relations, awards, etc.

King's College Women's Athletic Association

Executive officers of this association are: President, Vice-President, Secretary Treasurer and Inter-Wing Manager. ilts objective is the organization, administration Its objective is the organization, administration, and promotion of women's athletics at the College. Women's varsity teams compete in soccer, rowing, volleyball and basketball within the Women's Division of the N.S. College Conference, and the volleyball team is a member of Volleyball, N.S. with the full playing privileges of that organization. A strong Inter-Wing programme operates two nights per week, and the swimming pool is available for recreational swimming every evening. The Women's Athletic Association in conjunction with the Men's Athletic Association is also responsible for the organization and administration of the University's annual Awards Banquet and Dance.

King's College Men's Athletic Association

The executive of this association (President, Vice-President, Secretary Treasurer and Inter-Bay Manager) is responsible for the organization, administration and promotion of the men's athletic programme at the University. Varsity athletics include soccer, rugby, rowing, volleyball, and basketball. The Inter-Bay League features spirited and sometimes hilarious competition between the various men's residences on the campus. Competition in road racing, volleyball and basketball, are available to inter-bay competitors, and all bay members are encouraged to participate. In addition, weightlifting is available and the swimming pool is open daily for student use. The Men's Athletic Association in conjunction with the Women's Athletic Association is also responsible for the organization and administration of the University's annual Awards and Banquet and Dance.

King's College Dramatic Society

This society was fonded in 1931 to further interest in drama.

The King's College Record

The Record (founded in 1878) is published by the undergraduates of the College during the academic year. It contains a summation of the year's activities and awards.

The Quintilian Debating Society

The Quintilian Society, founded in 1845, is the oldest surviving debating association in British North America. The activities of the organization include an annual crossing of swords with the King's Alumni Association, even more regular drubbings of the Dalhousie Debating Union, and by the grace of Students' Union financing, participation in tournaments at Upper Canadian and American colleges and universities.

The Haliburton

The Haliburton was founded and incorporated by Act of Legislature in 1884, and is the oldest literary society on a college campus in North America. Its object is the cultivation of a Canadian Literature and the collecting of Canadian books, manuscripts, as well as books bearing on Canadian History and Literature. College students and interested residents of the metropolitan area meet to listen to papers which are given by literary figures and by the students.

The Ancient Commoner

"The Ancient Commoner" is the student newsletter, scandal sheet and gossip column.

The Monitor

"The Monitor" is the university newspaper. It is edited and produced by students in the School of Journalism.

The Students' Missionary Society

The society was founded in 1890. Its object is to promote interest in missionary work and to further the gospel of Christ especially in the Maritime Provinces, and particularly on the University campus. The annual meeting is held on St. Andrew's Day, or as near to it as possible. The society seeks to direct its energies to the development of the spiritual life open to university students at King's and promotes a strong and lively witness to the Christian faith on the university campus. On the larger scale it addresses itself to the concerns of the faithful of the Diocese of Nova Scotia and Fredericton.

The King's College Chapel Choir

Under the direction of Mr. David Buley, the Choir has grown to about 35 members, sings three services each week and has developed a considerable range of liturgical music. A small number of Choral Scholarships are available to choir members. Applications for Choral Scholarships are to be made to the Choir Director.

Musica Regalis (The King's Madrigal Society)

The King's Madrigallers sing unaccompanied secular songs of the sixteenth and seventeenth centuries. Membership in the society is open to all members of the College, presuming, of course, that they are interested, able and not prone to tone-deafness. Madrigallers go madrigalling for the sheer enjoyment of the activity itself; they occasionally perform publicly too.

The Aquinas Society

This group is concerned with the maintenance of the liturgical life of the College.

Other Societies

Each year a number of groups develop for the purpose of promoting various activities.

Awards

The Student Body of the University of King's College awards an overall "K" to participants in King's activities. Under this system, begun during the 1956-1957 term, a student may receive a silver "K" upon amassing 160 points and a gold "K" upon amassing 250 points.

In addition several awards are presented to students for outstanding achievements in extra-curricular activities.

The Bob Walter Award. Awarded to the graduating male student who best exemplifies the qualities of manhood, gentlemanliness, and learning, and has contributed to the life at King's.

The Warrena Power Award. Awarded annually to the graduating female student who best exemplifies the qualities of womanhood, gentleness,and learning and has contributed to the life at King's.

The Sandra MacLeod Memorial Award. This award commemorates the life of Sandra MacLeod, a University of King's College student who died in 1973, and may be given to any undergraduate member of King's, whether in residence or a day student. The award is made to a student with a good scholastic record, who by the fullest use of his or her qualities of character and mind, makes a contribution to the University of King's College. The award may be given to a student in any year of his or her degree but will be given only if there is a deserving recipient. The award is made at the annual Alumni dinner in May.

The Michael Elliott Memorial Award. This award, made possible through donations from Michael's family and friends, is to be awarded to a student beyond the first year returning to the Univer-

sity of King's College with a good academic standing. It is to be made to a student who, as Michael did, displays integrity of character and a spirited concern for the lives of others, and who has made an all-round contribution to university life. The award will be given only if there is a deserving recipient. For further details on nomination of candidates, see the Registrar.

The Michael Saunders Award Given by Michael Saunders, '52, in memory of his years at King's, this award is for a student from New Brunswick, with satisfactory academic standing, who shows financial need and who has made a positive commitment and contribution to University of King's College life. Preference may be given to a student entering Holy Orders of the Anglican Church of Canada.

The R.L. Nixon Award. This award is given annually to the resident male student who, in the opinion of his fellows, contributes most to residence life in King's.

The Margaret J. Marriner Award. This award is the women's counterpart of the R.L. Nixon Award. It is presented to the woman who contributes the most to the life at King's.

The John F. Godfrey Journalism Book Award. Established by the Alumni Association in 1987 to honour former King's President John F. Godfrey and his contribution to the School of Journalism, this award will be given to a Journalism student who has made a significant contribution to life at King's.

The H.L. Puxley Award. Awarded annually to the best all-round women athlete.

The Bissett Award. This award is given annually to the best all-round male athlete.

The Arthur L. Chase Memorial Trophy. This is presented annually to the student who has contributed most to debating in the College.

The Ron Buckley Award. Awarded annually to the most valuable player on the Men's Varsity Soccer Team.

The G.H. McConnell Award. Presented annually to the men's varsity basketball player who best combines ability and sportsmanship.

Student Services

Student Employment

The Department of Manpower and Immigration, Manpower Division, in co-operation with the University, maintains a year-round Canada Manpower Centre on campus (Student Union Building, Dalhousie). This is done to assist students in obtaining employment.

All students wishing assistance in obtaining part-time and summer work, or graduates seeking permanent employment, are urged to contact the Canada Manpower Centre early in the academic year.

There are opportunities for students to earn part of their College expenses by working in the Library, Gymnasium, Dining Hall, or as Campus Police.

Student Services

Located in Room 124 of the Dalhousie Arts and Administration Building, this office provides a point of referral for any student problems. The Dean co-ordinates the administration of Awards, Chaplaincy, Counselling and Psychological Services, University Health, the **Writing Workshop,** the Ombud Office, and is the International Student Advisor. Through the Council of Student Life, the Dean acts as liaison with the Deans of Residences, and the Student Union. Active participation exists among the various divisions and the officials of Housing, Recreation, and the Federal Manpower Office located on campus.

The Dean can assist students with any University related problem, and can offer direction in class or programme selection to ensure compliance with the degree requirements of Dalhousie University. A special programme has been developed for students requiring academic assistance. All divisions of Student Services co-operate in the program together with a number of departmental faculty advisers. Students who may experience difficulties are encouraged to consult with the Dean who reviews their situation and advises them of the various services available.

Many students, particularly those in their first year, experience difficulty in organizing and presenting written work. In an attempt to respond to this problem, the University provides a **Writing Workshop.** Attendance is on a voluntary basis. For further information, call 424-2404.

Non-Canadian students should look to this office for assistance in matters related to immigration status, medical insurance or any matter of special concern to visa students.

Dalhousie has a CUSO co-ordinator who may be reached through the Dean's office. General CUSO information is available to students at all times.

Student Counselling Service

The Student Counselling and Psychological Services Centre offers programmes for personal development as well as assistance with personal, interpersonal and educational concerns. Counselling is offered by professionally trained counsellors and psychologists. Strict confidentiality is assured, individual counselling is available for any personal or social problem which a student may encounter. Some of the programmes offered regularly are: **Career Planning for Mature Students; Study Skills; Thesis Writing; Examination Anxiety Reduction; "Speak Easy",** and the **Career Information Centre.**

Counselling Centre offices are on the 4th floor of the Dalhousie Student Union Building. Enquire or make appointments by coming in or calling 424-2081.

Tutors

The student body has an academic committee which arranges tutorial services for students.

University Health Service

Dalhousie University operates an out-patient service, and an in-patient infirmary in Howe Hall, at Coburg Road and LeMarchant Street staffed by general practitioners and psychiatrists.

Further specialist's services are available in fully-accredited medical centres when indicated.

All information gained about a student by the Health Service is confidential and may not be released to anyone without signed permission by the student.

Emergency Treatment

In the event of emergency, students should telephone the University Health Service at 424-2171 or appear at the clinic in person. The university maintains health services on a 24 hour basis.

Medical Care-Hospital Insurance

All students should have medical and hospital coverage approved by the Health Service.

All Nova Scotia students will be covered by the Nova Scotia Medical Services Insurance. All other Canadian students should maintain coverage from their home provinces, and this is especially important for residents of Saskatchewan and Ontario and any other province requiring payment of premiums.

All non-Canadian students should be covered by medical and hospital insurance. Details of suitable insurances may be obtained from the University Health Services and all students are advised to make these arrangements prior to their arrival in Canada. Failure to do so may entail them in significant medical expenses.

Any student who has had a serious illness within the last 12 months, or who has any chronic medical condition, is advised to contact and advise the Health Service, preferably with a statement from their doctor.

Medications prescribed by any physician, or consultant may be paid by a prepaid drug plan.

Athletics Programmes

The Department of Athletics is an integral part of campus life at King's. The University is a member of both the Nova Scotia College Conference and the Canadian Colleges Athletic Association. Women's varsity teams compete in soccer, cross country, basketball, volleyball and rowing, while men compete in soccer, basketball, cross country, volleyball,rowing and rugby.

The Director of Athletics works in co-operation with the elected representatives of the King's Amateur Athletics Association (A3 or CUBE) to provide an intramural program which is characterized by spirited co-ed competition among the student body. We feel safe in saying that King's Interbay/Wing competition is unique among college intramural programs in Canada in its ability to combine whimsical digression with the release of physical aggression. In short, the intramural program at King's offers generous portions of fun to its participants, in the guise of events such as road racing, volleyball, basketball, backgammon, chess, Trivial Pursuit, and snow football.

The College also offers weight training, aerobics classes, swimming and other related services for those students who are interested in achieving or maintaining a more balanced level of personal fitness. Possibly the most inviting feature of the King's intramural and recreational programs is the degree to which they are demand-responsive. At King's, you truly have the opportunity to have your opinions heard and your interests met (within reason, of course) through intramural activities.

For the Varsity athlete, King's offers one of Nova Scotia's best opportunities for those who wish to combine the pursuit of academic excellence with an equal commitment to excelling in their chosen sport. King's affords the true student-athlete a unique environment in which to enjoy a close-knit, highly personal community atmosphere coupled with challenging athletic competition leading to National Championships.

Since joining the C.C.A.A. in 1981, King's has been represented at National Championships in Badminton, Soccer, and Basketball. Rugby and Rowing have been raised only recently to varsity status, but our teams' rapid ascent in competitiveness in these sports gives cause for considerable optimism.

In summary, the King's Athletic Department offers a dynamic opportunity for the student who wishes to remain involved in athletics after completing high school. For the serious athlete, there are varsity programmes which are characterized by a commitment to excellence. For those whose aims are more recreational in nature, the College offers a surprisingly wide range of exciting and enjoyable activities from which to choose. We urge every prospective student to join us at their chosen level of involvement.

Canadian Armed Forces

The Regular Officer Training Plan (ROTP), Medical Officer Training Plan (MOTP) and the Dental Officer Training Plan (DOTP) are completely subsidized university plans covering tuition, books, medical services, monthly pay and summer employment for up to four years of undergraduate study. Successful applicants serve as commissioned officers in the Canadian Armed Forces for varying compulscry periods after graduation.

For further information on above plans, students should contact the

Canadian Forces Recruiting Centre
Sir John Thompson Building
1256 Barrington Street
Halifax, Nova Scotia
Phone 422-5956 or 423-6945

Children of War Dead (Education Assistance)

Children of War Dead (Education Assistance Act) provides fees and monthly allowances for children of veterans whose death was attributable to military service. Enquiries should be directed to the nearest District Office of the Department of Veterans' Affairs.

Canada Student Loans

1. All Canadian students are eligible to be considered for Canada Student Loans which, in most provinces, are administered in conjunction with provincial bursary plans.

2. Students should apply as early as possible by requesting application forms from the provincial authority in order to have the money available for registration.

Societies Connected with the College

Alumni Association of King's College

This Association, incorporated in 1847 by Act of the Legislature, consists of graduates and others whose object is the furtherance of the welfare of the University.

The Association maintains annual scholarships, and supports alumni, student and university activities.

The annual meeting of the Association is held the day before Encaenia.

The Officers of the Association:

President, (1987-89)
Mr. J. Mark DeWolf
2130 Blink Bonnie Terrace
Halifax, N.S. B3L 2E9

Vice-Presidents
Mrs. Elizabeth Gruchy
221 Pleasant Street
Truro, N.S. B2N 3S8

Ms Colleen McNamara
75 Hardisty Court
Dartmouth, N.S. B2V 1K8

Treasurer
Mrs. Linda Fraser
908 Greenwood Avenue
Halifax, N.S. B3H 3K9

Executive Secretary
Beverly W. Miller
University of King's College
Halifax, N.S. B3H 2A1

The Alexandra Society of King's College

This Society, which has branches all over the Maritime Provinces, was formed in Halifax in 1902 as the Women's Auxiliary to the College. It maintains an annual scholarship and bursary and a number of entrance scholarships.

Officers 1987-88

Honorary President
Mrs. Arthur G. Peters, 1370 Tower Rd., Halifax, N.S. B3H 2Z1

Honorary Vice-President
Mrs. H.L. Nutter, 701 Brunswick St., Fredericton, N.B. E3B 1H8

Honorary Vice-President
Mrs. G.R. Hatton, 5720 College St., Halifax, N.S. B3H 1X3

Immediate Past-President
Mrs. H.D. Smith, 1606 Oxford St., Halifax, N.S. B3H 3Z4

President
Mrs. J.A. Munroe. 1350 Tower Rd., Halifax, N.S. B3H 2X1

First Vice-President
Mrs. C.F. Whynacht, 1820-1333 South Park St., Halifax, N.S. B3J 2K9

Second Vice President
Mrs. F.E. Christiansen, 94 Gibbon Rd., East Riverside, King's Co., N.B. E2H 1R2

Third Vice-President
Mrs. A. MacKeigan, 68 Reserve St., Glace Bay, N.S. B1A 4W1

Fourth Vice-President
Miss Mary Beth Harris, 45 Admiral St., Charlottetown, P.E.I. C1A 2C5

Treasurer
Mrs. A.G. MacIntosh, 39 Clifton Court, Box 1542, Truro, N.S. B2N 6A4

Recording Secretary
Mrs. A.G.H. Fordham, Apt. 1103, 1074 Wellington St., Halifax, N.S. B3H 2Z8

Corresponding Secretary and Publicity
Mrs. E. Sheward, P.O. Box 655, Lower Sackville, Halifax Co., N.S. B4C 3J1

Conveners:

Friends of King's
Mrs. Edith Baxter, St. Stephen's Rectory, R.R. 1, Lake Charlotte, N.S. B0J 1Y0

Hasti-notes
Miss Janet Hunt, 1585 Oxford St., Apt. 406, Halifax, N.S. B3H 3Z3

Scrapbook Custodians
Mrs. C.W. Bennett, Northwood Manor, Halifax, N.S.

Miss Doris Harding, 1030 South Park St., Apt. 615, Halifax, N.S. B3H 2W3

Hospitality
Mrs. Margaret Banfield, 5643 Duffus St., Halifax, N.S. B3K 2M7

Dean of Women, King's College
Mrs. Margaret Kirby, Dean's Suite, Alexandra Hall, King's College, 6350 Coburg Rd., Halifax, N.S. B3H 2A1

Editor, Tidings
Susan Williams, P.O. Box 79, Seabright, N.S. B0J 3J0

Branch Presidents:

Halifax Branch
Mrs. M. Cooper, 14 Redbank Dr., Bedford, N.S. B4A 2V2

Dartmouth Branch
Mrs. Jean Fairn, 55 Lynn Dr., Dartmouth, N.S. B2Y 3V8

Sydney Branch
Mrs. A. MacKeigan, 68 Reserve St., Glace Bay, N.S. B1A 4W1

Saint John Branch
Mrs. E.R. Puddington, 14 King's Square South, Apt. 703, Saint John, N.B. E2L 1E5

Prince Edward Island Branch
Miss Mary Beth Harris, 45 Admiral St., Charlottetown, P.E.I. C1A 2C5

Divinity

Director of Parish field Work and Divinity Secretary

Theodore S. deBruyn, B.A. (Calvin College), M.T.S. (Calvin Theological Seminary), Ph.D. (U. of St. Michael's College)

With the establishment of the Atlantic School of Theology during 1974, the work of the Faculty of Divinity of the University of King's College was transferred to that School and the Faculty dissolved as a teaching component of King's College.

Divinity scholarships awarded by King's College are tenable at the Atlantic School of Theology.

Details of the basic requirements and offerings of the Atlantic School of Theology are given in a bulletin published separately, and available from the School on request.

Master of Sacred Theology (M.S.T.)

In conjunction with the Institute of Pastoral Training, the University of King's College offers the degree of Master of Sacred Theology in the field of pastoral care. Particulars concerning regulations for this degree may be obtained from the Executive Director of the Institute of Pastoral Training at the University of King's College. A degree in Divinity is a prerequisite.

Institute of Pastoral Training

The organization and incorporation by the Nova Scotia Legislature of the Institute in 1958 by collaboration of the University of King's College, Pine Hill Divinity Hall, the Divinity School of Acadia University, Presbyterian College (Montreal), and representatives of the Medical Faculty of Dalhousie University, pioneered this modern development in theological education on the Canadian scene. It is the objective of the Institute to bring pastors and theological students face to face with human misery as it exists both in and out of institutions, principally through courses in Clinical Pastoral Education, usually commencing late April at the Nova Scotia Hospital, Dartmouth, (mental); the Victoria General Hospital, Halifax; Waterford Hospital, St. John's, Nfld.; Western Memorial Hospital, Corner Brook, Nfld.; and Springhill Medium Correctional Centre, Springhill.

While the above mentioned courses aim primarily at increasing the pastoral competence of the parish minister or church worker, students of particular aptitude and interest can be guided in further theological training to become qualified teachers of these subjects in theological courses, directors of clinical training courses, and institutional chaplains; also, in certain cases, to become experts in particular specified fields, such as ministering to the mentally ill or alcoholics, where the church may have a significant role to play in partnership with other helping professions.

A recent development in this field was the formal constitution in December 1965 of "The Canadian Council for Supervised Pastoral Education". In 1974, the Canadian Council for Supervised Pastoral Education officially adopted the shorter and now more appropriate title of Canadian Association for Pastoral Education (C.A.P.E.) which seeks to coordinate training across Canada, establishing and maintaining high standards, accrediting training courses, and certifying supervisors. The Institute of Pastoral Training has links with the Association, usually having one or more members on its Board and on its Accreditation and Certification Committee.

Other goals of the Institute include the production of teaching materials, the promotion of workshops, and the establishment of a library and reference centre at the Institute Office.

One- to four-day workshops have been sponsored in various localities in the Maritimes, and information as to what is involved in setting one of these up may be obtained from the Secretary of the Institute.

All enquiries concerning courses offered should be addressed to the Executive Secretary of the Institute of Pastoral Training, 1300 Oxford Street, Halifax, Nova Scotia,, B3H 3Y8. Board and lodging can usually be arranged, and some bursary assistance is forthcoming. Academic credit is given by certain Canadian and American colleges (including the Atlantic School of Theology, Acadia Divinity College and Queen's College, Newfoundland) for satisfactory completion of Clinical Pastoral Training.

African Studies

Director
Timothy M. Shaw, BA, MA, PhD

Emeritus Professors
K.A. Heard, PhD (Political Science)
Z.A. Konczacki, PhD (Economics)

Professors
J.H. Barkow, PhD (Sociology & Social Anthropology)*
E.M. Borgese, PhD (Political Science)
J.E. Flint, PhD (History)*
E. Gold, LLB, PhD (Law)*
R.I. McAllister, MA (Economics)*
L. Osberg, PhD (Economics)
T.M. Shaw, PhD (Political Science, Dir., African Studies)*
D. Shires, MD, MPH (Family Medicine)
R.J. Smith, PhD (English)
J.B. Webster, PhD (History)*

Associate Professors
D.C. Cherry, MBA, CMA (Business)*
B. Lesser, PhD (Economics)
J.L. Parpart, PhD (History)*

Assistant Professors
D.F. Luke, PhD (Political Science)*
B. Jamieson, PhD (Economics & Public Administration)
M. Welton, PhD (Education)*

** denotes member of Executive Committee*

This Centre, established in 1975, co-ordinates teaching, seminar, research and publications programs in African Studies. Its staff holds primary appointments in departments in the social sciences and the humanities and in several professional schools. It encourages interdisciplinary interaction at all levels on African subjects and concepts and organises occasional workshops on topical African issues. In recent years the latter have focused on the African crisis: development strategies, alternative futures, and women and development.

The undergraduate program in African Studies offers an opportunity to integrate classes from a number of disciplines. The major focus is Africa; the minor focus is development. Five classes beyond the first year deal with African cultures, economics, history, literature and politics; the remaining classes are concerned with development and change.

Students wishing to read towards a BA with a concentration on African Studies should note the following recommendations and regulations:

1. It is strongly recommended that in the first year students should read three of: Economics 1100 or 1120. English 1000. History 1400, Political Science 1100, 1101 or 1103. Sociology 1000 or 1100, or Spanish 1110A/B.
2. In the second and third years at least seven of the ten required for a degree must be chosen according to the following regulations:

(a) African Studies 2000A/2001B (compulsory)
(b) Four classes to be chosen from List I below (Direct focus on Africa)
(c) A further two classes must be chosen from List I or List II, the latter list being classes concerned with the problems of development and underdevelopment.
(d) Two of the ten classes must be at the 3000 level.

2000A Pre-independence Inheritances: This class provides an overview of Africa's pre-colonial and colonial legacies: the culture, history, sociology and technology of pre-independence changes, constraints and contradictions up to 1960.

2001B Post-independence Issues: This seminar constitutes an introduction to Africa's post-colonial development: the economics, environment, literature, politics and prospects of independence. The continent's experience over the last 25 years is mixed. Informed analyses of Africa's political economy suggest some explanations and alternative projections.

List I

(See respective disciplinary sections of the calendar for class descriptions. Note that not every class is offered each year).
Economics 2250, Applied Development Economics
English 2211, Commonwealth Literature
History 2410, Tropical Africa before 1800
History 2421A, Colonial Africa
History 2422B, Independent Africa
History 3440, African History from Oral Tradition
History 3450A/B, Southern Africa
History 3461A/B Women and Development in Africa
History 3462A/B, African Economic History
Political Science 3315A/B, African Politics
Political Science 3345A, South Africa: The Dynamics of Political Groups and Group Domination
Political Science 3540A/B, Foreign Policies of African States
Political Science 3544A/B, Conflict and Cooperation in Southern Africa
Political Science 3590, Politics of the Sea

List II

Comparative Religion 2002A/B, Christianity
Comparative Religion 2003A/B, Islam
Comparative Religion 2012A/B, Chinese Religions
Comparative Religion 2013A/B, Buddhisim
Comparative Religion 3011, Religion and Culture in India
Comparative Religion 3012, Comparative Study of Christianity and other Religions
Development Studies 2000A/2001B, Introduction to Development Studies
Development Studies 2100A/2101B, Special Topics in Development Studies
Development Studies 3010A/3011B, Seminar in Development Studies
Development Studies 3100A/3101B, Special Topics in Development Studies
Development Studies 4010, Honours Essay Practicum
Development Studies 4001A/4002B, Special Topics in Development Studies
Economics 3317B, Poverty and Inequality
Economics 3300A/B, International Trade
Economics 3333A/B, Theories of Economic Development
Economics 3334A/B, Economic Development: Recent Debates, Controversies and Conflicts
Economics 3341A, Urban Economics: Growth and Development of Urban Areas
Economics 3355R Marxian Economics
Economics 4431A/B, International Payments
History 2130, British Empire and Commonwealth
History 2370, Age of Imperialism, 1870-1970
History 2380, Latin America: independence and after
History 2501A/B, Middle East before/after WW1
History 2600, Modern East Asia
History 3075A/B History of Tropical Medicine
History 3360, Enslavement and Emancipation: Afro-Americans in the U.S. South up to 1900
History 3390A/B, Empire and Revolution in the Caribbean
History 3612A/B, Women in Socialist Countries
Political Science 2300, Comparative Politics
Political Science 2500, World Politics
Political Science 2505, International Politics in the Post-War World
Political Science 3301B, Comparative Development Administration
Political Science 3303A/B, Human Rights and Politics
Political Science 3340A, Problems of Development
Political Science 3360B, Politics of Latin America
Political Science 3531A, United Nations in World Politics
Political Science 3535B, Towards a New World Order
Political Science 3585B, Politics of the Environment

Sociology 2020, Comparative Sociology and Social Anthropology
Sociology 2370/2380, Peoples and Cultures of the World I/II
Sociology 2400, Medicine and Health Across Cultures
Sociology 3060B, Modernisation and Development
Spanish 2070A/B, Area Studies on Mexico and Central America
Spanish 2090A/B, Women in Latin America
Spanish 2110A/B, The Cuban Cultural Revolution
Spanish 2130A/B, Latin American Dictators
Spanish 2230A/B, Contemporary Latin American Prose
Spanish 3070A/B, Contemporary Latin American History

Ancient History

See under Classics

Anthropology

See under Sociology and Anthropology

Architecture

1000 Introduction to Architecture: lecture seminar 1 hour, practical 2 hours, staff. An introductory class showing architecture as a bridge between the Arts and Science providing an insight into professional architectural studies. In the first term discussion centres around some components of architectural design; in the second term, architecture in present day life. Available as an elective in the general degree programs in Arts and Science.

Biochemistry

Head of Department
R.W. Chambers

Professors
A.H. Blair, BA, MSc (UBC), PhD (Calif.)
W.C. Breckenridge, BSc (Queen's), MSc, PhD (Tor.)
R.W. Chambers, BA, PhD (Calif.)
P.J. Dolphin, BSc, PhD (Southampton)
W.F. Doolittle, AB (Harv.), PhD (Stan.)
M.W. Gray, BSc, PhD (Alta.)
C.W. Helleiner, BA, PhD (Tor.)
C.B. Lazier, BA (Tor.), MSc (UBC), PhD (Dal)
C. Mezei, MSc, PhD (UBC)
F.B.St.C. Palmer, BSc, PhD (W.Ont)
D.W. Russell, BPharm, PhD, DSc (Lond.), BEd (Dal)
M.W. Spence, MD (Alta.), PhD (McG.)
J.A. Verpoorte, BSc, Drs (Utrecht), DSc (Pretoria)
S.D. Wainwright, BA (Cantab.), PhD (Lond.)

Associate Professors
R.G. Fenwick, BA (Miami), PhD (Tennessee)
F.I. Maclean, BA, MA (Tor.), DPhil (Oxon.)
R.A. Singer, AB (Princeton), PhD (Harv.)

Assistant Professor
M.H. Tan, BSc, MD (Dal)

Lecturers
D.M. Byers, BSc, MSc (Dal), PhD (Alta.)
D.E.C. Cole, BSc, MD (Tor.), PhD (McG.)
H.W. Cook, BSc, MSc (McG.), PhD (Dal)

Biochemistry is the study of biological function at the molecular level. Although biochemical processes follow the basic laws of physics and chemistry, living organisms, because of their complexity, operate on a set of distinct principles that are not found in simple isolated chemical systems. The goal of biochemistry is to elucidate these principles. The department offers an integrated series of classes that will provide students with an up-to-date view of modern biochemistry ranging from structure-function relationships in macromolecules to the dynamic aspects of metabolism and genetic information transfer, including the exciting new biological and biochemical vistas opened up by recombinant DNA technology.

Degree Programs

Note: Students interested in a Biochemistry degree should obtain from the department a special booklet which is kept up-to-date and which describes all of the programs available and the special requirements relating to them. Degree programs should be planned in consultation with the undergraduate coordinator (Dr. D.W. Russell), or another faculty advisor (Dr. F.B. Palmer, Dr. J.A. Verpoorte).

There is no three-year program with a Biochemistry major. Students wishing to include Biochemistry in other three-year programs are welcomed. They should take Biochemistry 2000 and 2600 (Biology 2015 and 2012), or Biology 2020 and 2110, in their second year. Note that all Biochemistry classes have prerequisites.

BSc Advanced Major in Biochemistry

The department offers a four-year program of study leading to an Advanced Major Degree. The program, while not designed as a preparation for graduate study in Biochemistry, nevertheless introduces students to all main aspects of the subject. As well as meeting the general degree requirements of the faculty (Section 11) students must complete the following classes with a grade of C- or better: Chemistry 1100 (or equivalent), 2200 and, 2400; Biology 1000; Biochemistry 2000, 2600, 3200, 3300, 3400, and at least three full credits in Biochemistry at the fourth-year level. Students who have not passed Nova Scotia grade 12 Physics or its equivalent must include a 1000-level Physics class among their first ten credits.

BSc with Honours in Biochemistry

This is a special concentrated Honours Program. Because Biochemistry and Chemistry are closely interwoven both conceptually and experimentally, the list of major classes required (see Section 11) includes both subjects to a total of 10½ credits. Additional chemistry classes may be taken as electives, or by choosing Chemistry as a minor subject. Students are strongly urged to include Mathematics 1060 or 2070 and Biology 2030 and 2100 in their programs, and should consider also Biology 3070 and (for students interested in molecular biology) Microbiology 3033. Honours students must meet the general degree requirements of the faculty (Section 11).

Year I: Chemistry 1100 or equivalent; Biology 1000; Physics 1100; Mathematics 1000 & 1010, or 1050; a "Writing Class" (see Section 11).

Year II: Biochemistry 2000 and 2600; Chemistry 2200, 2310, 2320, & 2400; and one full credit in the minor subject.

Year III: Biochemistry 3200, 3300, & 3400; Chemistry 3410 & 3430; one half-credit elective (any subject); one full credit elective (not Biochemistry nor minor); and one full credit in the minor subject.

Year IV: Biochemistry 4602; three more full credits in Biochemistry, including at least one half-credit in each of the following areas: Metabolism (43xx), Molecular Biology (44xx), and Physical Biochemistry (47xx); one full credit elective (not Biochemistry nor minor).

A minor subject (see Section 11) should be chosen in consultation with the department's Academic Advisor. Elective and minor classes need not be taken in the order stated.

BSc with Combined Honours in Biochemistry and another science

Biochemistry may be chosen along with one of Biology, Chemistry, Microbiology (see Section 11), Physics, or possibly another subject, for a Combined Honours Program. Consult the Department for details.

Classes Offered

The Department also teaches students in Dental Hygiene, Dentistry, Medicine, and Nursing; these classes are described in the appropriate sections of the Calendar.

Classes marked * are not offered every year; please consult the current timetable.

142B Introductory Biochemistry: lecture 3 hours, lab 2 hours, F.I. Maclean. Prerequisite: Chemistry 1410A or consent of instructor. This class cannot be used as a prerequisite for any other Biochemistry class. This class also serves as part of Chemistry/Biochemistry 143R of the School of Nursing. Topics discussed are structure, biosynthesis, and function of carbohydrates, lipids, proteins and nucleic acids; enzyme kinetics; genetic engineering; nutrition. Medical aspects are stressed.

2000 (Biology 2015) Cell Biology and Biochemistry: lecture 3 hours, tutorial 1 hour, Biology and Biochemistry faculty members. Prerequisites: Biology 1000 and Chemistry 1100 or its equivalent. Described under Biology 2015.

2600 A or B (Biology 2012 A or B) Laboratory Techniques for Cell and Molecular Biology: lecture 1 hour, tutorial 1 hour, lab 3 hours, Biology Department members. Prerequisites: Biology 1000 and Chemistry 1100 or its equivalent. Described under Biology 2012.

3100 Biochemistry for Students of Pharmacy: lecture 3 hours, lab 3 hours, D.W. Russell. For pharmacy students in their third year, this class provides a basic knowledge and understanding of the three main areas of modern biochemistry: the chemistry of cell constituents, metabolism, and biological information.

Biochemistry 3200, 3300, and 3400 are half-credit classes, each of which deals with one important aspect of biochemistry. The level of instruction is such that adequate preparation is essential. Common Prerequisites: Chemistry 2400, plus either (a) Biochemistry 2000 and 2600 (Biology 2015 and 2012) or (b) Biology 2020 and 2110.

3200A (Biology 3012A) Introduction to Biological Chemistry: lecture 3 hours, A.H. Blair, J.A. Verpoorte; lab 3 hours, C. Mezei. Prerequisites: see above. This class deals with chemical principles governing biochemical systems. We discuss the factors that determine how readily a given metabolic reaction proceeds and describe how these factors may be expressed quantitatively. This is followed by a discussion of basic principles governing the structure of carbohydrates, lipids, and proteins. We also deal with the ways in which proteins bind other molecules, often with high affinity and specificity. A discussion of enzyme catalysis emphasizes relationships between macromolecular structure and biochemical function, enabling us to explain the striking effectiveness and high specificity with which these catalytic proteins carry out their functions.

3300B (Biology 3013B) Intermediary Metabolism: lecture 3 hours, W. Kimmins, C. Mezei; lab 3 hours, P.J. Dolphin. Prerequisites: see above. Emphasis is chiefly on metabolic pathways common to all organisms, notably the reductive synthesis and oxidative catabolism of carbohydrates, lipids, and some nitrogen compounds. Other pathways, significant in certain tissues or organisms, are included. Metabolic regulation is surveyed, and factors influencing the rate at which compounds flow through selected pathways are examined. Students learn how pathways are compartmentalized, interrelated, and affected by abiotic chemical changes in the environment. Laboratory exercises demonstrate the strategies and techniques used to study metabolic pathways.

3400B (Biology 3014B) Nucleic Acid Biochemistry and Molecular Biology: lecture 2 hours, tutorial 1 hour, C.W. Helleiner, J.M. Wright, lab 3 hours, M.J. O'Halloran. Prerequisites: see above. This class focuses on the relationship of structure to function in RNA and DNA. Methods for studying the primary, secondary, and tertiary structures of nucleic acids are explored in lectures and in the laboratory. Enzymic mechanisms for biosynthesis, rearrangement, degradation, and repair of nucleic acid molecules are studied, as are the processes of replication and transcription. In this context, nucleic acid biochemistry is emphasized as a basis for understanding storage and transfer of biological information.

4300 Series: Intermediary Metabolism and Control: These half-credit classes continue the study of metabolism begun in Biochemistry 3300, and introduce also some specialized topics of particular interest. Emphasis is on how metabolic systems are related and how the systems and their relations are controlled. Appraisal of experimental evidence and interpretation of data are stressed.

4300B Metabolic Organization and Regulation: lecture 2 hours, W.C. Breckenridge and F.B. St.C. Palmer. Prerequisites: Biochemistry 3200 and 3300 (Biology 3012 and 3013) or equivalent. A functioning organism must control and integrate its metabolism. In this class, topics include enzyme localization, mitochondrial permeability, modified oxidative cycles, and a detailed consideration of the ways in which flux through metabolic pathways is directed and regulated. Emphasis is placed on interpretation of experimental data and on problem-solving.

4301B Biochemical Communication: Membranes, Neurotransmitters, and Hormones: lecture 2 hours, C. Lazier, C. Mezei. Prerequisites: Biochemistry 3200, 3300, and 3400 (Biology 3012, 3013, 3014) or equivalent, or special permission of the instructors. First, the class examines evidence for current concepts of membrane structure and assembly. Then several membrane-related phenomena are studied. These include ways for transporting solutes across membranes, and effects, such as neurotransmission and peptide hormone action, that depend on membrane-associated receptors. Regulation that does not depend on membranes, such as steroid hormone action, is considered in detail.

4302A Biochemistry of Lipids: lecture 2 hours, F.B. St.C. Palmer and H.W. Cook. Prerequisites: Biochemistry 3200 and 3300 (Biology 3012 and 3013). The chemistry and physics of insoluble lipids in an aqueous environment are explored. Current evidence for the physical state of lipids in organisms is examined, and problems in the interaction of insoluble lipids with soluble and insoluble enzymes are considered. Metabolism of a variety of lipids is studied, especially of those, such as glycolipids, eicosanoids, steroids, phospholipids, etc, that may have specialized physiological functions.

4303A Biochemical Energetics: lecture 2 hours, F.I. Maclean. Prerequisites: Biochemistry 3200 and 3300 (Biology 3012 and 3013).

Approximately equal time is given to the following topics: thermodynamic principles of special importance to biochemistry; fermentations; autotrophy and photosynthesis; oxidative phosphorylation; energy metabolism of protozoa and invertebrates.

***4400 Protein Synthesis and Control Mechanisms:** lecture 2 hours, S.D. Wainwright. Prerequisite: permission of the instructor. The class deals with the cell components and reactions involved in the biosynthesis of proteins, with special reference to mechanisms controlling the rate of synthesis and the spectrum of proteins made. Students' individual study of research reports is emphasized.

4403A & 4404B Molecular Biology of the Gene: These half-credit classes consider the duplication, transfer, and expression of genetic material. The experimental evidence for current concepts of gene structure and function is stressed. Students study the language of molecular biology and learn about the experimental techniques peculiar to it. Lectures adopt a historical perspective so that students come to appreciate how the discipline of molecular biology has developed.

4403A (Microbiology 4403A) Structure, Organization, and Replication of Genes: lecture 2 hours, R.G. Fenwick. Prerequisite: Biochemistry 3400 (Biology 3014). Topics include basic molecular genetics; evaluation of genetic complexity and gene arrangement; chromosome structure; identification and enumeration of specific genes; mechanisms of replication, recombination, and repair; and manipulation of genes *in vivo* and *in vitro* ("genetic engineering").

4404B (Microbiology 4404B) Gene Expression: lecture 2 hours, R.A. Singer. Prerequisite: ordinarily, Biochemistry 4403A (Microbiology 4403A). The different mechanisms for regulation of gene expression in bacterial and eukaryotic cells, and their viruses, are emphasized. Particular topics include genomic, transcriptional, and post-transcriptional modes of regulation.

4602 Honours Project & Thesis: lab 6 hours, J.A. Verpoorte. Before receiving approval for this class, students must secure the agreement of a faculty member in the Biochemistry Department to act as a supervisor. The class requires laboratory research and a written final report. If the research is to be done outside the department, prior approval must be obtained from the class coordinator.

4700A Proteins: lecture 2 hours, tutorial 1 hour, J.A. Verpoorte. Prerequisites: Biochemistry 3200 (Biology 3012) plus a basic class in physical chemistry or permission of the instructor. Selected aspects of the chemistry of proteins are considered. Topics include relationships of structure to bioactivity, the forces that stabilize protein structure, and chemical and physical methods used to isolate and study proteins and other macromolecules.

4701B Enzymes: lecture 2 hours, tutorial 1 hour, A.H. Blair. Prerequisite: Biochemistry 3200 (Biology 3012). Our current understanding of enzymic catalysis and its experimental basis are examined. The relationship between structures of catalytic and regulatory sites and their functions is considered for selected enzymes. The kinetics of enzyme-catalysed reactions are studied, as is the way in which binding of regulatory molecules influences kinetic behaviour and thereby regulates cellular metabolism.

***4800 (Pathology 501) Clinical Medical Biochemistry:** lecture 2 hours, lab 3 hours, Pathology faculty members. Prerequisite: Biochemistry 3200 (Biology 3012). Examines the application of chemical concepts and techniques to the prevention, detection, diagnosis, understanding, and treatment of diseases.

4801 (Biology 4401) Introduction to Pharmacology: lecture 2 hours, lab 3 hours, M. Karmazyn (Pharmacology). Prerequisite: permission of co-ordinator. Described under Biology 4401.

***4802 (Pathology 503) Principles of Instrumentation:** lecture 3 hours, lab 4 projects, Pathology faculty members. Prerequisite: Biochemistry 3200 (Biology 3012). Examines the theory and practice of a wide range of modern instrumental techniques for clinical biochemical analysis.

8880 Honours Qualifying Examination: Honours students must fulfil the requirements of this class (see Section 11) by presenting two additional reports on their work in Biochemistry 4602. The first is a Progress Report, and the second an oral presentation at a special year-end Departmental Seminar.

Biology

Chair
W.C. Kimmins

Emeritus Professor
D. Pelluet, MA (Toronto), PhD (Bryn Mawr), LLD (Hon. Dal)

Professors
R.G. Brown, MSc (McG), PhD (Rutgers)
M.L. Cameron, MSc (Dal), PhD (Cantab.)
A.R.O. Chapman, PhD (Liv.)
R.W. Doyle, MSc (Dal), PhD (Yale)
J. Farley, MSc (W.Ont.), PhD (Man.)
J.C. Fentress, PhD (Cantab.) — (Psychology)
E.T. Garside, MA, PhD (Tor.)
L.E. Haley, MSA (Tor.), PhD (Calif.)
B.K. Hall, PhD, DSc (UNE), FRSC
O.P. Kamra, MS (N.Car.State), PhD (Wash. State)
W.C. Kimmins, PhD (Lond.)
P.A. Lane MSc (SUNY Binghampton), PhD (SUNY Albany)
K.E. von Maltzahn, MS, PhD, (Yale) — Carnegie Professor, King's
I.A. McLaren, MSc, (McG), PhD (Yale) — George S. Campbell Professor
E.L. Mills, MS, PhD (Yale) — (Oceanography)
R.K. O'Dor, PhD (UBC)
J.G. Ogden, III, MA (Tenn.), PhD (Yale)
L.C. Vining, MSc (Auck.), PhD (Cantab.), FRSC, Killam Research Professor
E. Zouros, MSc PhD (Agri. Coll. Athens), PhD (Chic.)

Associate Professors
E.W. Angelopoulos, MS, PhD (Minn.)
B. Freedman, MSc, PhD (Tor)
A.J. Hanson, MSc (UBC), PhD (U. Mich.) IES
M.J. Harvey, PhD (Dunelm)
G.S. Hicks, MSc (Carl.), PhD (Sask.)
R.W. Lee, MA (Mass.), PhD (SUNY Stony Brook)
T.H. MacRae, MSc, PhD (Windsor)
R.P. McBride, MSc (UBC), PhD (Edin.)
J.A. Novitsky, PhD (Ore. S.U.)
D.G. Patriquin, MSc, PhD (McG)
M.R. Rose, MSc (Queens), PhD (Sussex), University Research Fellow
R.E. Scheibling, PhD (McG)
J.H.M. Willison, PhD (Nottingham)

Associate Professor (Research)
G.F. Newkirk, PhD (Duke)

Assistant Professors
R.G. Boutilier, MSc (Acadia), PhD (East Anglia), University Research Fellow
W .Pohajdak, MSc, PhD (Manitoba)
H. Whitehead, PhD (Cantab), University Research Fellow
J.M. Wright, PhD (MUN)

Adjunct Professors
R.G.S. Bidwell, MA, PhD (Queens), FRSC, Director, Atl. Inst. Biotech.
J.D. Castell, MSc (Dal), PhD (Oregon St.), Fish. & Mar. Serv.
J.S. Craigie, MSc, PhD (Queens), Atl. Reg. Lab, NRC
K.H. Mann, PhD (Reading), DSc (Lond.), FRSC Mar. Ecol. Lab, BIO
J.L. McLachlan, MA, PhD (Oregon State College), Atl. Reg. Lab, NRC
M. Schrempf, PhD (Stuttgart-Hohenheim)
M. Silver, PhD (Syracuse)

Honorary Research Associates
D.E. Aiken, PhD (Alberta), D.F.O., St. Andrews
J. Bubar, MS (Penn St.), PhD (McG), N.S. Agric. Coll.
W.D. Bowen, PhD (UBC), Fisheries & Oceans
S.E. Campana, PhD (UBC), BIO
C.D. Caldwell, OhD (East Angia), BIO
D.K. Cone, MSc (Guelph), PhD (UNB), St. Mary's Univ.
M.L. Connor, PhD (U. of Man.), N.S. Agric Coll.
R. Conover, PhD (Yale), Mar. Ecol. Lab, BIO
D.C. Crober, PhD (UBC), N.S. Agric. Coll.
K.T. Frank, PhD (Toledo), BIO
J. Fraser, MSc (Aberdeen), PhD (Lincoln College, Univ. of Canterbury), N.S. Agric. Coll.
A.H. Freeden, PhD (McGill), NSAC
B.T. Hargrave, MSc (Dal), PhD (UBC), Mar. Ecol. Lab, Fisheries and Environment
F.H. Harrington, PhD (New York at Stony Brook), Mount Saint Vincent University
W.G. Harrison, PhD (North Carolina, Raleigh), Mar. Ecol. Lab, BIO
Haw-Yoon Ju, PhD (McGill), NSAC
J.J. Kerekes, MSc (Alberta), PhD (Dal), Canadian Wildlife Environment Canada
S.R. Kerr, MSc (Queens), PhD (Cal.), Mar. Ecol. Lab, BIO.
J.P. LeBlanc, PhD (McG), N.S. Agric. Coll.
C.A. Lessman, PhD (Minnesota), St. FXU
J. McGlade, PhD (Guelph), Bedford Inst. Oceanography
I.A. Meinertzhagen, PhD (St. Andrews), Psychology Dept., Dalhousie
P.V. Mladenov, PhD (Alberta), Mt. Allision University
J. Nowak, PhD (Olsztyn), PhD Habil. (Olsztyn) N.S. Agric. Coll.
A.R. Olson, PhD (Alberta) N.S. Agric. Coll.
T.C. Platt, MA (Tor.), PhD (Dal), Mar. Ecol. Lab, BIO
R.K. Prange, MSc (UBC), PhD (Guelph), Ag. Canada Res. Sta., Kentville.
J.D. Pringle, MSc (Victoria), PhD (Dal), Fisheries and Oceans.
S. Shaw, PhD (St. Andrews), Dept. of Psychology, Dalhousie
M. Sinclair, PhD (U. of Cal.), Fisheries & Oceans
D.B. Stoltz, PhD (McM), Dept. of Microbiology, Dalhousie
G.W. Stratton, MSc, PhD (Guelph), N.S. Agric. Coll.
T. Tennessen, PhD (U. of Alta.), N.S. Agric Coll.
J.P. van der Meer, PhD (Cornell), Atl. Res. Lab, NRC
J. van der Meulen, PhD (U. of Cal.), BIO
P.R. Warman, PhD (Guelph), N.S. Agric. Coll.
R.J. Wassersug, PhD (Chic.), Dept. of Anatomy, Dalhousie.
J.L.C. Wright, PhD (Glasgow), Atl. Reg. Lab, NRC

Cross-listed Faculty
J.C. Fentress, BA (Amherst), PhD (Cantab)
I.A. Meinertzhagen, BSc (Aberdeen), PhD (St. Andrews)
E.L. Mills, BSc (Carl), MS, PhD (Yale), FLS

Senior Instructors
C. Beauchamp BSc., MSc (Memorial)
J. Breckenridge, BSc (Queen's)
P. Collins, BSc, MSc (Dal)
P. Gerdes, BSc (McG), MSc (UWO)
P. Harding, BA (Tor.), MSc (Dal)
A. Mills
M.J. O'Halloran, BSc (South), BEd, MSc (Dal)

Instructors
C.Corkett, PhD (London)
D. Gill, MSc (Dal)
B. Hill, BSc (Carleton)
E. Staples, BSc (Dal), BEd (Mt. St. Vincent)

Postdoctoral Fellows
J. Doull, PhD (Dal)
T. Kantomaa, PhD (Oulo), DDS (Turku)
R. Lowell, PhD (U of A)
S. Shapiro, PhD (WFEB)
M. Snyder, PhD (Colorado)
C. Taggart, PhD (McG)
B. Tufts, PhD (UBC)

The program offered by the department gives a basic training in the biological sciences which may serve as a preparation for graduate and professional work in biology, medicine, dentistry, pharmacy, the health professions, bio-engineering and education, agriculture, marine sciences, fisheries, aquaculture, forestry and environmental architecture and engineering.

Degree Programs

The department offers classes leading to the BA and BSc degrees, to concentrated or combined Honours BSc and BA programs and a BSc Honours in Marine Biology program. A student intending to study biology as his main subject should consult the department early in his course so that a proper program can be worked out.

Areas of Specialization — Major and Honours

Many classes are available to students wishing to concentrate their studies in particular areas of biology. In some cases, the order in which classes are taken is important, but cannot be rigidly specified here because students may vary widely in their interests and requirements. For this reason, students are strongly urged to consult with an adviser in the biology department, whether they are planning a 3-year, 2-year or only 1-year program in biology. Faculty advisers are available in the following fields (among others): Molecular Biology, W.C. Kimmins, L.C. Vining; Microbiology, R.G. Brown, J. Novitsky; Genetics, R.W. Doyle, R.W. Lee, O.P. Kamra, E. Zouros; Ecology/Environmental Studies, R.W. Doyle, B. Freedman, P. Lane, I. McLaren, J.G. Ogden; Physiological/Cell Biology, M.L. Cameron, T. MacRae, R.K. O'Dor, D. Patriquin, M. Willison; Developmental Biology, B.K. Hall, G.S. Hicks; General Studies, J. Farley, R.P. McBride, K.E. von Maltzahn; Plant Biology, M.J. Harvey, A.R.O. Chapman, M. Willison; Animal Biology, E.T. Garside; Entomology & Parasitology, E. Angelopoulos.

Honours in Biology

Advisors: W. Kimmins, R.P. McBride, R. Scheibling
For entrance to graduate school an honours degree or equivalent four-year background is required. Some graduate schools require a reading knowledge of French, German or Russian. A thorough grounding in mathematics and physical sciences is as important as advanced undergraduate training in biology.

Students reading for Bachelors degrees with honours in biology must satisfy the general requirements for honours degrees (see general faculty regulations, referring to academic programs) and should register for their honours program before signing up for the second year classes. In the fourth year students will write a thesis and enrol in Biology 4900. Normally all honours students in Biology must complete Biology 2015, 2046, 2030 and 2050 or their equivalents by the end of the third year. Students must attain a B grade average in these classes, with no mark lower than a B-.

Selecting an Honours Program

The basic Biology Honours Program provides a broad background in the biological sciences and enough flexibility to allow some degree of specialization in a variety of sub-disciplines. A suitable program of this kind (e.g. cellular and developmental biology, cellular biology and genetics, ecology and evolution, environmental biology, molecular biology, human biology, etc.) worked out with an adviser and leading to a thesis in that area is excellent preparation for advanced studies.

Some students may wish to choose a Combined Honours Program with Biochemistry, Chemistry, Economics, Geology, Mathematics, Microbiology, Psychology or Physics. These programs must be worked out with the two departments. Special combined programs exist with some departments. A program with Economics is particularly applicable to students with an interest in ecology. Students interested in such a program should take Biology 1000 and Economics 1100 in their first year.

The departments of Biology and Microbiology offer both an Honours and a 2-year coordinated program in Microbiology. These programs are designed for students entering their second year of study. Students

interested in these programs are advised to consult either of the departments concerned at their earliest opportunity. Faculty advisors are R.G. Brown (Biology) and D.B. Stoltz (Microbiology). Note that classes which are cross listed between these two departments can be taken for either Microbiology or Biology credits.

Students may be interested in programs that are not oriented toward a traditional discipline but rather emphasize a broad knowledge. For them, an Unconcentrated Honours Program may offer the best preparation. Advice on these matters may be obtained in the department.

Honours in Marine Biology

Advisor: A.R.O. Chapman

The Biology Department recognizes the special needs of the rapidly expanding marine field and offers a BSc Honours Degree in Marine Biology.

Details of the program will be found under a separate listing for Marine Biology on page 100

Classes Offered

Please note that Biology 1000 with a minimum grade of C is the prerequisite for all other classes in the biology department.

A class number that is suffixed by one of the letters A, B, or C is a half-credit class. See comments on these classes under the heading Numbering of Classes under General Undergraduate Information and Regulations.

Biology classes may be grouped into four general types:

1. Introductory Biology Principles: Biology 1000. This class is designed as an introductory university-level class in biology for the student who has no previous training in the subject as well as for those who have taken high school biology. **This class, with a minimum grade of C, is required for entrance to all other classes in the department.**

2. Intermediate Classes-2000-Level Classes. The study of life (Biology) occurs on several levels. Our everday experience with life is with units called organisms which come in an amazing variety of forms including dogs and trees and even ourselves. All of these forms are composed of cooperating cells, and many of the activities of cells are now understood at a molecular level. The diversity of life results from interactions among organisms and populations of organisms as well as interactions with the environment. Understanding any problem in Biology requires knowledge of all of these levels of interaction. *The class requirements in the Department are designed to insure that every Biology student takes at least one intermediate class at each level of organization.* Some of the major themes of Biology transcend all three levels, and it is also important that each student be exposed to at least one of these integrative themes, thus these makeup the fourth category, Biological Processes. *All students registered in Biology are required to take at least one-half credit class in each of the four categories below.*

The full credit equivalent classes may be required as prerequisites for advanced classes in a particular area. Students should be aware of such prerequisites and discuss their programs with their faculty advisor to insure that the classes they take are appropriate to their goals. Good performance in a half-credit equivalent is usually acceptable as a prerequisite for an advanced class with the instructor's permission.

Category I: **Cells and Molecules;** Biology 2015R, 2110B, 2020A.
Category II: **Organisms;** Biology 2001A, 2002B, 2100A/B
Category III: **Populations and Ecosystems;** Biology 2046R, 2060A/B, 2066A/B.
Category IV: **Biological Processes;** Biology 2030, 2035R, 2050A/B.

Students may not take more than one full credit in Categories I and III. Biology 2012A or B is a half-credit class which is not a member of the core thus cannot be counted toward fulfilling the core requirement but can be used as a credit toward a major or honours.

3. 3000-Level Classes. These classes are mainly for second and third year students. No biology major will be allowed to register in any 3000 or 4000-level class without having completed, or being registered in 2000-level classes in biology totalling at least two full credits.

4. 4000-Level Classes. These classes are primarily for honours and graduate students. They are open to others with the permission of the instructor. Where biology classes are identified as being given in another department (e.g. Anatomy), that department should be consulted for details.

1000-Level

1000 Principles of General Biology: Study centre 3 hours, (for lab and problems), tutorial 1 hour/2 weeks, lecture 1 hour, I.A. McLaren, L.C. Vining, Hicks and others. Instructors, C. Corkett, A.H. Mills, P. Harding. The subject matter of Biology 1000 puts emphasis on those features common to all organisms. The class starts by considering the cell: structures, chemistry, energy needs, the coding system and protein synthesis. This leads to the topics of genetics, organization and control of the individual, evolution, ecology, development and systematics. Biology 1000 is the basic introductory class in biology suitable for students who may have had no previous training in biology. *If you are a biology major, Biology 1000 is the prerequisite for all other classes in the biology department,* regardless of previous background in biology. Under exceptional circumstances, students may apply to be exempted from taking Biology 1000.

1984 A Citizens Guide to the Biological Issues of our Times: lecture 2 hours, tutorial 1 hour, R.P. McBride. For BA students only and cannot be used as a prerequisite for other biology classes. An awareness and comprehension of major developments in biology sufficient for citizen involvement in science-society controversies. Studying topics with major social impact such as genetic engineering, environmental health hazards and modern agriculture, students acquire a scientific vocabulary, insight into the strengths and limitations of science, and an understanding of basic biological concepts.

2000-Level

2001A Marine Diversity: lecture 2 hours, tutorial 1 hour, lab 3 hours, R.E. Scheibling, A.R.O. Chapman. Instructor, C. Corkett and staff (Category II). The sea was the cradle of life and the origin of most phyla. This class explores the enormous variety of living and fossil organisms from the sea and looks at the special problems and adaptations of benthic, planktonic and nektonic species. It examines functional and taxonomic relationships using lectures, laboratories with living organisms, field trips and computer.

2002B Terrestrial Diversity: lecture 2 hours, tutorial 1 hour, lab 3 hours, D.G. Patriquin, R. Scheibling, Instructor, A.H.Mills (Category II). A survey of the terrestrial organisms. The class emphasizes the restrictions imposed on terrestrial adaptations by the aquatic origins of the colonizers, discusses the physiology of living in a terrestrial environment, and finally looks at the domestication of plants and animals by man and speculates on the future diversification of the earth environment and its inhabitants.

2012A/B Laboratory Techniques for Cell and Molecular Biology: lecture 1 hour, tutorial 1 hour, lab 3 hours, W.C. Kimmins, J.M. Wright Instructors, P. Gerdes and B. Hill. An introduction to techniques, equipment and the experimental approach to solving biological problems in the laboratory. Lectures present the theoretical background to laboratory experimentation. Tutorials aim mainly at developing an appreciation of experimental design and data analysis. Students intending to take more advanced biochemistry/molecular biology classes next year need this class and Biology 2015 as prerequisites. Biology 2012A/B can be used as a credit toward a major or honours but does not meet the requirement of a class in Category I.

2015R Cell Biology and Biochemsitry: lecture 3 hours, tutorial 1 hour, W.C. Kimmins, T.H. MacRae, (co-ordinator), J.H.M. Willison (Biology); C.W. Helleiner, R.A. Singer (Biochemistry) and staff. Instructors, P. Gerdes and B. Hill (Category I). Members of the Biochemistry and Biology Department join in offering this introductory class which explores the full range of contemporary ideas in cell and molecular biology. The class deals with topics such as the transmission of genetic information, gene expression, growth, adaptation, cell division and differentiation at a mechanistic level and provides a broad perspective of metabolic processes associated with energy production, biosynthesis, transport and communication. It also seeks to explain the integration of these and other forms of biological activity through regulation of gene expression and the diverse cellular and metabolic control systems. Students who intend to take more advanced biochemistry and molecular biology classes next year need this class and Biology 2012A/B as prerequisites. Biology 2015R and 2012A/B may be substituted for Biology 2020 and/or 2110 as prerequisites, but credit may not be given for both 2015 and either 2110 or 2020.

2020A Cell Biology: Structure and Function: lecture 3 hours, lab 3 hours, T.H. MacRae, Instructor, P. Gerdes (Category 1). An introduction to the eukaryotic cell through lectures and laboratories. Major cell components and activities are described at ultrastructural and molecular levels. The concept of the cell as an integrated structural/functional unit is developed. Credit will not be given for both Biology 2020 and 2015.

2030A Genetics: lecture 3 hours; tutorial 1 hour, open lab; O.P. Kamra. Instructor, E. Staples (Category IV). Credit will not be given for both 2030 and 2035. This class examines a broad range of topics from the rapidly expanding field of genetics. Major organizational sections include: Chemical and structural features of genes and chromosomes, gene transmission, gene function and gene variation in populations and through time. Tutorials deal mainly with problem solving. All students must do a laboratory project involving *Drosophila* crosses.

2035R Principles of Genetics: lecture 2 hours, tutorial 1 hour, open lab, R.W. Lee, O.P. Kamra and E. Zouros. Instructors, Edna Staples, Christine Beauchamp (Category IV). Credit will not be given for both 2035 and either 2030 or 2040. The great power of modern genetics and its prominence in biology have grown from a blend of classical and molecular techniques. This full class is designed to provide students with a comprehensive exposure to these approaches while considering a broad collection of topics from the field of genetics. The major topics to be considered include nucleic acids and chromosomes, transmission genetics, gene function, population genetics, and molecular evolution. The application and relevance of recombinant DNA technology to these topics will be emphasized. A strong evolutionary perspective will be maintained throughout. This class is the prerequisite for most higher level classes in genetics. All students must do a time-flexible laboratory project.

2046R General Evolution and Ecology: lecture 2 hours, lab/tutorial 3 hours, R.W. Doyle. Instructor, C. Beauchamp (Category III). Credit will not be given for both 2046 and either 2060 or 2066. The growth and regulation of population size, the genetic structure of populations and the ecological structure of plant and animal communities. Principles which apply on a short (ecological) time scale will be developed in parallel with the analogous principles which apply over much longer stretches of evolutionary time. Much of the laboratory and about one-quarter of the lectures are concerned with applied ecology; in particular, with the biological basis of fisheries and environmental management. This full year class provides a good foundation for further work in ecology and marine biology.

2050A Developmental Biology: lecture/discussion 3 hours, lab 3 hours, G.S. Hicks, B.K. Hall, P. Collins (Category IV). The lectures describe development as a sequence of programmed events, in which 'simple' structures such as the fertilized egg are progressively transformed into complex organisms. These events are governed by a set of developmental 'rules'. Our knowledge of these rules comes from experimental study of a variety of developing systems such as sea urchins, frogs, peas, carrots, chick embryos and humans. Laboratories stress the use of live material and give students practice with such techniques as test tube fertilization in echinoderms.

2060 Introductory Ecology: lecture 3 hours, lab 3 hours) I. McLaren, J.G. Ogden. Instructor, D.Gill (Category III). Ecology is the **study of the interrelationships of organisms and their environments. The broad subject of ecology focuses upon the interactions of plants and animals** with each other and with their non-living world. Three levels of ecology are studied: (1) Individuals, (2) Populations, and (3) Communities and Ecosystems. Labs and tutorials enlarge upon concepts presented in lecture. Students are instructed in elementary computer techniques and use the computer for some laboratories. This class provides a good foundation for further work in ecology and marine biology. Credit will not be given for both Biology 2060 and either 2046 or 2066.

2066B Human Ecology: lecture 2 hours, lab 2 hours, tutorial 1 hour, alternate weeks, P.A. Lane. Instructor, D. Gill (Category III). This class examines the principles of ecology with a focus on humans as a part of nature. Lectures will begin with an examination of how individuals are morphologically, physiologically and genetically adapted to their environment. Sociobiology and its ramifications for human behaviour will also be discussed. From the ecology of individuals, the topics will advance to an appreciation of population ecology. The importance of agricultural crops and renewable resources to the growth and regulation of human populations will be examined to develop an understanding of worldwide demography. Pests are major competitors while disease pathogens are the main predators of humans. These types of species interactions will be studied. Communities and ecosystems form a higher level of ecological organization and these levels will be studied in the second part of the class. How humans have polluted their environment will conclude the class. In the laboratory, students will begin from basic principles to learn how mathematical/statistical techniques and the computer can be useful to ecologists. Variability among individuals, population growth, and modelling of whole ecosystems are examples of exercises that will be presented in the laboratory. Students will attend a tutorial alternate weeks. The tutorial will relate the applied laboratory exercises to the lecture topics by discussing current papers in the ecological literature. These may include areas such as climatic adaptation, IQ testing, epidemiology, the dilemma of world population growth, building models of human ecosystems, resource management and pollution control. Credit will not be given for both Biology 2066 and either 2046 or 2060. This course is especially designed for pre-medical students.

2100A/B Introductory Microbiology: lecture 2 hours, lab 3 hours, D.B. Stoltz (course co-ordinator), R.G. Brown, G.C. Johnston, J. Novitsky. Instructor, J. Beckenridge (Category II). An introduction to the basic concepts of microbiology through lectures, laboratory sessions, demonstrations and films. Subjects include the uniqueness of microorganisms, their structure, growth and genetic regulation as well as their involvement in other fields such as medicine, industry and ecology.

2110B (Microbiology 2110B) Biochemistry and Physiology of Microorganisms: lecture 3 hours, lab 3 hours, B. Pohajdak, Instructor, B. Hill (Category I). An introduction to the organization and function of microorganisms. This class complements Biology 2100 in dealing with broad aspects of growth and metabolism, energy transfer, transmission and expression of genetic information, and cell structure in microorganisms at a biochemical level. It aims to develop an integrated understanding of biological activity in the microbial world and its relationship to other life processes. The class is orientated towards students interested in microbiology and offers a suitable preparation for 3000-level classes in that subject. However, if taken with Biology 2020A it also satisfies the prerequisites for 3000-level biochemistry/molecular biology classes. Students taking Biology 2110 may not also take Biology 2015 or Biology 2012.

Advanced Classes

These classes are for second, third and fourth-year students. They may be taken before completion of the intermediate classes described above. Please notice, however, prerequisites for the classes listed below. Students registering for these classes will have completed, or be registered in, a minimum of two full credits at the 2000-level.

Classes marked with an asterisk (*) are offered in alternate years. Consult timetable for current year.

3000-Level

3012A (Biochemistry 3200A). Introduction to Biological Chemistry:

lecture 3 hours, lab 3 hours; A.H. Blair, J.A. Verpoorte, C. Mezei, L.C. Stewart. Prerequisites: Biology 2015 (Biochemistry 2000), Biology 2012A/B (Biochemistry 2600A/B) and Chemistry 2400 or their equivalent(s). This class is described under Biochemistry 3200A. Major and honours biology students do not require this class as compulsory prerequisite to Biology 3013B or 3014B.

3013B (Biochemistry 3300B). Intermediary Metabolism: lecture 2 hours, tutorial 1 hour, W. Kimmins, F.B. Palmer; lab 3 hours, P. Dolphin. This class is described under Biochemistry 3300B.

3014B (Biochemistry 3400B). Nucleic Acid Biochemistry and Molecular Biology; lecture 2 hours, tutorial 1 hour, C.W. Helleiner and J. Wright; lab 3 hours, D. M.J. O'Halloran. This class is described under Biochemistry 3400B.

3020A Advanced Cell Biology I: lecture 3 hours, T.H. MacRae. Prerequisite: 2020A or 2015R or permission of the instructor. Molecular and organellar aspects of cytoplasmic organization in eukaryotic cells are examined. A number of interrelated topics are discussed providing an opportunity to study new concepts in cell biology and to evaluate established ideas in the context of recent findings. Students must supplement lectures with assigned readings and discuss selected subjects in essays.

3021B, Advanced Cell Biology II (Plant Cell Biology): 3 lecture 2 hours,, lab 3 hours. Prerequisites: 2020A or 2015R. Biology 3020A is recommended. The class examines plant cell structure, relating structure to physiological function in diverse systems. Emphasis is placed upon structures visible in the electron microscopes, and upon structural aspects of the integration of activities within plant cells, and between cells in tissues. Laboratory sessions will be held irregularly and are concerned with interpretation of microscopic images.

3031A Molecular Genetics of Eukaryotes: lecture 3 hours, R.W. Lee. Prerequisites: Biology 2030A/B or 2035R, 2110A/B or 2015R. One or more topics from the broad and rapidly expanding field of eukaryotic molecular genetics will be chosen for comprehensive review. The topic(s) may change from year to year. This year the class will focus on the genetics and molecular biology of chloroplasts and mitochondria. Emphasis will be placed on the application of modern molecular genetic approaches, especially those involving recombinant DNA technology. Grades will be based mainly on the critical evaluation (oral and written) of journal articles.

***3032B Cytogenetics:** lecture 2 hours, lab 3 hours, O.P. Kamra. Prerequisites: 2030 or 2035R. Detailed consideration of certain genetical and cytological mechanisms in relation to chromosomal modifications, gene mutations and evolution.

3033A Microbial Genetics, (Microbiology Dept.)

***3034B Biological Effects of Radiation:** lecture 2 hours, lab 3 hours, O.P. Kamra. A survey of current knowledge of the effects of ionizing radiation on biological material on three levels: physical, chemical and biological. In addition, methods of dosimetry, autoradiography, somatic and genetic effects, radiomimetic chemicals and biolasers are discussed.

***3035B Population and Evolutionary Genetics:** lecture 2 hours, tutorial 1 hour. E. Zouros. Prerequisites: Biology 2030 or 2035R or Biology 2040 or Biology 2046. The following topics are covered: amounts and kinds of genetic variation in populations, genetic properties and differentiation of populations, causes of evolution with emphasis on natural selection, molecular and intragenomic evolution, applications of molecular techniques to population biology. Data from actual research provide material for exercises. Students doing research in genetics are encouraged to bring in the class the results of their own research.

3039A Human Genetics: lecture 3 hours, lab 3 hours, O.P. Kamra, P.J. Welch, L. Zouros and staff. Prerequisite: Biology 2030A/B or 2035R. For students of Biology and Medicine with special interest in human genetics. Topics include human cytogenetics and abnormalities, inborn errors, genetic risk induced by environmental factors; prediction and detection of genetic risk, genetic counselling; genetic and non-genetic factors in behavioural characters and multifactorial diseases; genetic variability; selection and genetic load in human populations; ethical and social issues associated with manipulation of human genetic pools. A background in basic genetics is assumed.

3050B Advanced Animal Development: lecture 2 hours, lab/discussions 3 hours, B.K. Hall, P. Collins. Prerequisite: Biology 2050A/B (with a minimum grade of B), Biology 2020A or Biology 2015R (completed or concurrent registration). This class is the follow-up to Biology 2050A and deals with the mechanisms and controls which regulate the development of vertebrate and invertebrate embryos. Topics covered include cell determination and differentiation, morphogenesis, mechanisms of organ formation, inductive tissue interactions, growth, regeneration and wound healing. The laboratory project (60% of lab time) involves grafting tissues from one embryo to another in experiments designed to explore aspects of cell differentiation and morphogenesis; preparation of a lab report, and introduces the student to microdissection, sterile techniquies, tissue recombinations and whole-embryo staining. Discussions and presentations (40% of lab time) will relate to the lecture and lab topics.

3060B Environmental Ecology: lecture 2 hours, lab/tutorial 3 hours, B. Freedman. Prerequisites: Biology 2046 or 2060. Various topics within the field of Environmental Ecology are discussed. Emphasis is on the organism/ecosystem effects of forestry practices and other types of land management, including recreation. The effects of various types of pollutants, including acid precipitation, oil spills, heavy metals, sulphur dioxide, and chemical pesticides are considered.

3061A Communities and Ecosystems: lecture 2 hours, tutorial 1 hour, lab 3 hours, P.A. Lane. Prerequisite: Biology 2046, 2066 or 2060A. Major concepts and recent advances in community-ecosystem ecology are stressed; size-spectrum theory, evolutionary strategies of organisms and a delineation of contemporary ecosystem problems, especially those pertinent to the area of environmental impact assessment. The focus is on aquatic ecosystems — both freshwater and marine — and their major features are compared. The evolutionary strategies of plankton, fish predation models, and community descriptions are discussed in the first half of the term. Students also are given practical laboratory experience in associated methodologies. In the second part of the term, three major approaches to ecosystem analysis are compared. The laboratory parallels the lectures and gives experience in analyzing ecosystem data and applying theoretical techniques. In the tutorials, broader issues of environmental ecology will be presented by the students.

3062B Behavioural Ecology: lecture 2 hours, tutorial 1 hour, M.R. Rose. Prerequisites: Biology 2046 or 2060/2040 (Biology majors); Psychology 2000 (Psychology majors). The class is divided into three sections: (A) Background-selection and behaviour: natural selection, group selection, kin selection; (B) Methods-general methodological problems, ultimate, mediate, and proximate causation, the comparative method, optimality theory, strategy polymorphism; (C) Modes of behaviour — gathering food, living in groups, intraspecific conflict, sex, parental care and development, co-operation, communication, coevolution, sapience.

3066A Plant Ecology: lecture 2 hours, lab 3 hours, one/two field trips on weekends, B. Freedman. Prerequisite: Biology 2046 or 2060. Various topics within the field of Plant Ecology are discussed. At the ecosystem level, we deal in depth with the cycling of energy and significant nutrients, and with successional changes in these processes. At the autecological level we deal with plant population biology and demography, resource allocation, and physiological ecology. The plant environment is also described in terms of energy budgets, soils, and water availability.

3067B A Survey of Fish Biology: lecture 2 hours, seminar 1 hour, R.G. Boutilier, R.W. Doyle, R.K. O'Dor. Prerequisites: Biology 2046 or 2060, Biology 2015 or 2020. The topics covered include fish systematics, physiology, behaviour and ecology. The primary purpose is to prepare students for Honours research projects in fish biology and to provide the background necessary for entry to 4th-year courses such as Fisheries Population Biology, and Fisheries Oceanography. Although no laboratory is scheduled, practical and library research projects are required.

3069A Animal Population Ecology: lecture/tutorial 2 hours, lab 3 hours, H. Whitehead. Prerequisites: Biology 2046 or 2060, Math 1000, 1010, 1060. Population ecology of a representative species is used to exemplify various demographic tactics and situations: a marine copepod for links with physiological ecology; an "out-break" insect for density-independence and questions of control; a passerine bird for density-independence and the adaptedness of demographic parameters; lemmings for cycles and "self-regulation" hypotheses; eastern Canadian seals for problems of management and control of long-lived species; cranes and condors for the demography of threatened species. The demography of "model" species is explored in the (open) lab sessions.

3070R Principles of Animal Physiology: lecture 2 hours, discussion 1 hour, lab 3 hours, R.G. Boutilier, R.K. O'Dor; Instructor M.J. O'Halloran. Prerequisites: Biology 2001 and 2020 or 2015 (in which a minimum C grade is required). A discussion of the mechanisms which coordinate the activities of cells within multi-cellular organisms and permit such organisms to maintain a stable internal environment in a changing external environment. The emphasis is on the mechanisms most widely distributed through the animal kingdom. The laboratories are designed to illustrate these "principles of physiology" in a variety of organisms and to demonstrate the experimental approaches used to study physiology.

3071R Physiology of Marine Animals: lecture 2 hours, discussion 1 hour, lab 3 hours, R.K. O'Dor, R.G. Boutilier, Instructor, M.J. O'Halloran. Prerequisites: Biology 3321 and 2020 or 2015. Credit may not be given for both 3070 and 3071. The problems of animals in a marine environment are quite different from those found in air or fresh water, but the "physiological principles" are similar. This class deals with the same principles as 3070, but emphasizes the special characteristics of marine animals in the laboratory and the techniques necessary to study them.

***3073B Plant Physiology:** lecture 2 hours, lab 3 hours, D.G. Patriquin. Prerequisites: Biology 2002 and 2110 or 2015 or 2020 or permission of instructor. Topics include water relations, photosynthesis, respiration, nitrogen, metabolism, transport, translocation, and some aspects of plant development, crop physiology and productivity.

***3075B Plant-Soil Relationships:** lecture 2 hours, lab 3 hours, D.G. Patriquin. This class deals with processes that are involved in the exchange of materials between plants and soils, and that limit plant growth under field conditions. The emphasis is on cultivated plants, but the material is relevant to natural systems, and reference is made to aquatic angiosperms and sediments. Topics include soil formation, soil aeration and root metabolism, water relationships, mineralization and humification of organic matter, plant mineral nutrition and ion uptake, fertilizers, saline soils and halophytic angiosperms, and plant-microbe interactions. Laboratory sessions deal with the design of field and greenhouse experiments and with the methodology of measuring the various properties and processes discussed in class.

3100B Aquatic Microbiology: lecture 2 hours, lab 3 hours, R.G. Brown, J. Novitsky. Previous knowledge of microbiology is not necessary for this class; however, enrolment is limited to students in the Marine Biology Honours Program. The main emphasis of this class is on the interactions of microbes and aquatic plants and animals including nutrition, disease, and immunization. The latter part of the class considers the role of microorganisms in nutrient availability and productivity in aquatic environments.

3111B Microbial Activities in Nature: lecture 2 hours, lab 3 hours, R. Brown. Prerequisites: Biology 2100A/B and Chemistry 240 or Biology 2110 or 2015. The format is lectures and laboratory exercises. Microorganisms play a far more important role in nature than their small size would suggest. To illustrate this, the following topics are considered at the cellular and molecular levels: epiphytic microorganisms of plants and animals. Koch's postulates, protective mechanisms of plants and animals, the function of microbes in ruminants and the rhizospere, nitrogen fixation and the mineralization of organic matter including petroleum.

3114A Introduction to Virology: (Microbiology Dept.).

3115A Introduction to Immunology: (Microbiology Dept.).

***3116 Mycology: D. Brewer.** Prerequisite: Biology 2100A or B. An introduction to the morphology and taxonomy of the fungi.

3117A Yeasts and Fungi: R. Brown. Prerequisite: Biology 2100A or B. An introduction to the biology of yeasts and fungi with emphasis on the structure and function of the cell wall and membrane, control of cell metabolism, and the cell cycle.

3118B Medical Bacteriology: (Microbiology Dept.).

3120A Advanced General Microbiology: lecture 2 hours, lab 4 hours, J. Novitsky. Prerequisite: Grade B or better in Biology 2100A/B. For students interested in increasing their knowledge and skills in microbiology beyond the introductory level. This class provides excellent background for students continuing in microbiology or entering employment where skills in handling microbes are required. Topics include microbial metabolism, growth, structure, genetics, taxonomy, symbioses, pathogenesis, the environmental effects on microbial activity, and an introduction to soil, food, aquatic, applied, and industrial microbiology. The laboratory stresses basic techniques in microbiology with a strong emphasis on individual students' skills.

3150A Applied Microbiology: lecture 2 hours, lab/tutorials 3 hours, staff. Prerequisite: Biology (Microbiology) 2100A/B and 2110B. For students who wish to broaden their interests in microbiology as well as for those with a particular interest in the applications of microbiology as a career. It deals with the role of microorganisms in processes such as cheese making, brewing and the production of vitamins, food additives, antibiotics and other economically important substances. It also includes topics such as sewage and waste treatment, conversion of biomass to fuels and the applications of biotechnology. The laboratory component consists of student projects with tutorial, seminar and group discussion of ideas and results.

3211B Systematic Survey of the Algae: lecture 2 hours, lab 3 hours, A.R.O. Chapman. Prerequisite: Grade B or better in Biology 2001. An examination of the taxonomic and evolutionary relationships of the algae. Considerable emphasis is placed on practical work (field and laboratory) where students become familiar with the algal components of the local flora.

3212A Biology of the Algae: lecture 2 hours, lab 3 hours, A.R.O. Chapman. Prerequisite: Grade B or better in Biology 2001. A non-systematic examination of the cellular, organismic, population and community organizations of benthic and planktonic algae.

3214A Plant Design: lecture 2 hours, lab or tutorials 1-3 hours, K.E. von Maltzahn. The structural design of plants in terms of the functional performance of their parts and their integration at different levels of organization. Types of design are established on the basis of comparative studies of life forms seeking to find homologies between the elements of design. Design in relation to climate and habitat is examined and integrated at the level of the landscape.

3215A Systematics of Higher Plants: lecture 2 hours, lab 3 hours, M.J. Harvey. Prerequisites: Biology 2002 or permission of instructor. This class has two main aims; first, to give consideration to current speculation on the evolution of the flowering plants, connecting this with the attempts over the years to produce a phylogenetic classification of the existing species; second, to go into some of the newer concepts of classification arising out of the 'computer revolution.' A plant collection is one requirement; consult the instructor as early as possible about this.

3216B Adaptation and Speciation in Higher Plants; lecture 2 hours, lab/seminar 2 hours, M.J. Harvey. Prerequisites: Biology 2002 or 2020 or 2030 or 2040. The discipline known as biosystematics or, alternatively experimental taxonomy. The approach taken is analytic, considering particular examples and trying to deduce which peculiarities of their biology have contributed to their relative success. In this way the mechanisms which have caused particular species pairs to diverge are studied. Examples considered are many and range from evening primroses and

irises, through bananas and maize, down to the humble, but complex, dandelion.

3218B Plant Anatomy: lecture 2 hours, lab 3 hours, G.S. Hicks. Lectures will explore the internal organization of the leaves, stems, and roots of both the flowering plants and the cone bearing plants, emphasizing the common plan that is found at the tissue system level of organization. All major cell and tissue types will be reviewed in the light of modern evidence which correlates structure with function. These surveys will embrace both the primary and the secondary plant bodies. Laboratory exercises will illustrate these concepts, focussing on the study of a variety of economically important woody and herbaceous crop plants. Students will be introduced to techniques of free hand sectioning, the rotary microtome, staining protocols, and camera lucida recording.

3321R Invertebrates: lecture 3 hours, lab 3 hours, J. Farley. Prerequisite: Biology 1000. How different groups of invertebrate animals live — what modifications they have incorporated that allow them to survive in environments or to assume a manner of life unlike that of their evolutionary predecessors. Because there are so many kinds of invertebrate animals, certain morphological and functional changes are considered in those animals where they are most pronounced or where they first occur. The course progresses chronologically through the phylogenetic series; the characteristics of the animals in a group are considered and new physiological systems and morphological peculiarities are emphasized. A laboratory session each week gives students an opportunity to examine the morphology and life traits of live invertebrate animals.

***3322B Parasitology:** lecture 2 hours, lab 3 hours, E. Angelopoulos. Prerequisites: Biology 2001 and 2002, 3321 is desirable. The lectures emphasize the parasite-host relationships, evolution of the parasites and adaptations to the host, modifications of physiology, structure and life cycle for a parasitic existence. Examples are taken from all major animal groups where a parasitic mode of existence has developed beginning with the protozoa. Since the most extensive research pertains to parasites of man, the emphasis is on human parasites. Recommended for Ecologists and Pre-Meds. The laboratory stresses recognition and identification of parasites.

3323R Vertebrates: lecture 2 hours, tutorial 1 hour, lab 3 hours, E.T. Garside. Prerequisites: Biology 2001, 2002. A survey of the current state of knowledge and speculation concerning the evolution of vertebrate animals. Those vertebrates which have survived form a series of stages or steps, each characterized by several pronounced alterations in various organ-systems and in the general form of the body. Approximately three-quarters of the program is given to an analysis, by procedures of comparison and contrast, of these changes and their relevance in the synthesis of the evolutionary pathway. An appreciation of the classification, structure and evolution of vertebrates is essential to considerations of their development and functional capacities and of their relations with their surroundings and with each other. The laboratory study of a broad array of vertebrates provides the core and familiarizes the student with the gross anatomic features of these animals while giving instruction in the traditional approach to comparison and contrast.

3324R Entomology: lecture 2 hours, lab 3 hours, E. Angelopoulos. Entomology is an important branch of academic biology and also one of the largest divisions of applied biology. The class is an introduction to the study of insects dealing with: (1) The classification and evolutionary diversity of insects. (2) The biology, ecology and behaviour of insects. (3) Applied aspects —medical, agricultural and forest entomology, harmful and beneficial insects; biological control of insects.

3402A The Rise of Modern Science (History 3072A, Physics 3402A, Comparative Religion 3502A): lecture 3 hours, J. Farley, R. Ravindra. This class, *designed for students in the arts and the science,* will deal with the origins of modern science. We shall stress the new physics, associated with the names of Copernicus, Kepler, Galileo and Newton, that arose during the Scientific Revolution of the 16th and 17th Centuries. In addition, we shall go beyond that period to examine the populatization of science in the 18th century, the appearance of the "scientist" in the 19th century and the rise of the scientific-industrial complex.

***3403B The History of Biology:** lecture 2 hours. Prerequisite: Biology 3402A. J. Farley. A class for biology and geology majors, dealing with the history of post-Newtonian biological sciences.

3410B Man in Nature: lecture 2 hours, tutorials 1 hour, K.E. von Maltzahn. An introduction to the science of nature which deals with structural order within organic nature, i.e. the relationships of different beings to each other including man within nature as a whole. The ideal of man's self-realization through his emancipation from nature is discussed. The class is concerned with man's biological and aesthetic and rational requirements and how these different needs affect one another. It inquires into the consequences which these needs may have upon man's judgements *and* actions and the well-being of nature as a whole. For students in the arts and sciences. There are no special prerequisites, but students must deal seriously with questions raised. The class is also useful for students in biology who wish to obtain a broader framework of knowledge. General degree students may not include this class in the 4 required for a Biology major. Honours students may count it towards their Biology requirements.

***3421B Comparative Vertebrate Histology:** I.G. Mobbs (Anatomy Dept.). Prerequisites: Biology 3430A. An advanced histology class surveying the whole range of vertebrate tissues and organs.

3430A Introduction to Human Histology: lecture 2 hours, lab 2 hours, D.H. Dickson (Anatomy Dept.) Prerequisites: Biol 2020A, or 2015 or permission of instructor. Histology is the study of the structure of cells, tissues and organ systems, and utilizes information derived from both light and electron microscopy. It complements studies in anatomy, cell biology, physiology and biochemistry, broadening the understanding of how organisms function.

3435R Anatomy: R.W. Currie (Anatomy Dept.) Prerequisites: Biology 2020A, or 2015R and permission of instructor. A comprehensive review of the gross anatomy of the human body with special emphasis on musculoskeletal, cardiovascular and respiratory systems.

3440B Neuroanatomy: lecture or lab 3 hours, D.A. Hopkins (Anatomy Dept.) Prerequisites: Biology 2020 or 2015 or permission of instructor. A survey of the histology, development and organization of the central nervous system, with emphasis on the developmental and structural relationships between spinal cord and brainstem. The organization of cranial nerves and microanatomy of the brain stem is discussed. The organization of sensory and motor systems is presented in detail. The cerebral cortex, cerebellum, basal ganglia, and limbic system are also covered.

3450A Comparative Vertebrate Neuroanatomy: Sensory Systems: J.A. Matsubara (Anatomy Dept.) Prerequisistes: Biology 3440B, Psychology 2070R or consent of instructor. A survey of sensory modalities of vertebrates with emphasis on central brain structures associated with each sense.

***3614C Field Ecology:** 5 projects involving 7 days of field work in September, lab or lecture first term only. R. Scheibling. Prerequisites: Biology 2060 or 2046, Mathematics 1060, 1070 or equivalent. The course provides practical experience in techniques of quantitative field ecology, including design of field sampling programs and manipulative experiments. Students examine specific ecological questions and hypotheses by collecting, analyzing and interpreting field data and writing scientific reports. Projects focus on intertidal and subtidal systems but involve concepts and techniques that have broad application in ecology. Lectures provide the theoretical background to projects and the rationale for methodology and statistical analysis. Topics include: spatial pattern, zonation, animal movement, disturbance and succession, and herbivore-plant interaction.

4000-Level

The following classes are primarily for honours and graduate students. They are open to others with permission of the instructor.

4024A Microscopy: lecture 2 hours, lab 3 hours, J.H.M. Willison, D.B. Stoltz, K.B. Easterbrook, G. Faulkner. Prerequisite: A grade of B- or better in 3020A,or 3021B, or 3114A. The class deals with some of the principal methods involved in the study of cell structure. Both light and electron microscopy, including ancillary techniques, are considered in depth. The importance of a proper understanding of the physical and/or chemical principles governing technical procedures is emphasized. During laboratory periods students practise, or watch demonstrations of, some of the techniques covered in the lectures.

4026A The Mammalian Cell (Microbiology Department.).

4027B The Cancer Cell (Microbiology Department.)

4030A Advanced Topics in Genetics: R.W. Lee and staff. Prerequisite: Permission of the instructor. A general topic from the current literature in genetics is examined in seminar format. The nature of the topic and the instructor in charge of the class vary from year to year. Students present at least one seminar during the term.

4033B Advanced Microbial Genetics (Microbiology Department.)

4039B Topics in Human and Medical Genetics; lecture/seminar 2 hours, O.P. Kamra (Coordinator), R.S. Tonks, J.P. Welch, E. Windsor, E. Zouros and others. Prerequisites: Biology 3039A or 1st year Medicine. An advanced level seminar open to Biology and Medical students. Students present reports based on a research project (experimental or literature search) conducted under the supervision of faculty members in Biology or one of the medical departments. Lectures from the faculty supplement class work and emphasize integration of student seminars into a self-contained unit.

***4046B Quantitative and Ecological Genetics:** lecture 2 hours, tutorial 1 hour, R.W. Doyle and E. Zouros. Prerequisites: one full year of mathematics, a second-year genetics class or half class, a third-year ecology class (may be concurrent). Recent research in ecology has turned to quantitative genetics for experimental and theoretical tools to deal with population variables such as survival and fertility. Evolutionary biologists have been turning to ecology for a deeper understanding of the forces of natural selection that influence the evolutionary process. The course will include an introduction to the fundamentals of quantitative genetics and selection theory, and a review of recent research at the intersection of ecology, quantitative genetics and evolutionary biology.

4064C Pleistocene Biogeography: lab 3 hours, J.G. Ogden, III. Prerequisites: At least two credits in Biology or Geology. Permission of the instructors. May be counted as Biology or Geology half-credit. Lecture, discussion, and laboratory experience in the reconstruction of environmental change during the Pleistocene epoch. Laboratory and field experience pay particular attention to the environmental history of the Maritime region, including environmental changes caused by man. Techniques of pollen and diatom analysis, plant and animal macrofossil study, dendochronology, geochemical and isotopic dating methods are explored. Field and laboratory work include a class problem in an area in the Halifax region.

4067B Fisheries Population Biology: seminar 2 hours, R.W. Doyle. Prerequisites: Biology 2060 or 2046 (the course is intended for Honours and graduate students only). Familiarity with elementary calculus and statistics is required. Prior experience with computers is not required. Enrolment limited to 8. An introduction to fisheries stock assessment and the biological aspects of fisheries management. Emphasis on the relationships between management techniques and the general principles of population biology. The class includes several weeks of introductory lectures followed by exercise in applied population dynamics lasting the remainder of the term. The exercise consists of a computer simulation of the growth and relation of a fish populaton of the student's choosing, coupled with computer-based investigations of the usefulness of various management models.

4068A Limnology: lecture 3 hours, lab/tutorial 3 hours, J.G. Ogden. Prerequisites: 2046, 2066 or 2060. The class is divided into four sections: (A) Physical Limnology-geology, morphometry, thermal properties, system hydrology & budgets, optical properties, vegetational interactions, history of limnology in N.S.; (B) Chemical limnology-oxygen, acidity/alkalinity, physical/chemical interactions, major/minor ions and heavy metals, organic molecules, atmospheric geochemistry, ionic budgets and mass balances; (C) Biological limnology, palaeolimnology, microbiology/phytoplankton, quantitative geochemistry, zooplankton/invertebrates, vertebrates, sampling technology; (D) Cultural limnology-eutrophication, BOD/COD, phosphorus loading, environmental impact assessments, acid rain, future shock.

4070C Advanced Topics in Animal Physiology: lecture 2 hours, open lab, R.K. O'Dor, R.G. Boutilier. Instructor M.J. O'Halloran. Prerequisites: Biology 3070 or 3071. Whereas the introductory animal physiology classes emphasize common principles, this class emphasizes the diversity of physiological solutions to common problems among animals. A different problem is chosen each year and each student presents a seminar reviewing the literature on the solution of a particular animal and applies advanced techniques in an experimental study of the animal. Students choose the animal and the technique.

***4072R Animal Nutrition: J. Castell,** lecture and seminar, 2 hours. Prerequisites: Biology 2110A/B or equivalent and permission of instructor. Biology 3013A and 3071 are recommended. General principles and techniques of animal nutrition are reviewed and used to examine current literature. Emphasis is on the assessment of nutrition requirements of aquatic and marine species.

4101B Industrial Microbiology and Biochemistry: lecture and seminar 2 hours, staff. Prerequisites: Third-year class in biochemistry or microbiology. A class in organic chemistry is recommended. For students who have taken classes at the third-year level in microbiology or biochemistry and are interested in the practical applications of this knowledge. It deals through lectures with basic aspects of industrial fermentation processes and, through student seminars, explores topics in genetic engineering, antibiotic production and other current and projected uses of microorganisms in the manufacturing sphere.

4113A Bacterial Physiology: lecture 2 hours, lab 3 hours, R. Brown. Prerequisites: Biology 2100A/B and Chemistry 240 or Biology 2110 or 2015. Although the class concentrates on the structure and function of the bacterial cell envelope, that is, the capsule, cell wall and cell membrane, other topics such as the physiology of obligate anaerobiosis, sporulation, motility etc. are also covered.

4114B Topics in Basic and Medical Virology: (Microbiology Dept.).

4115B Immunology: (Microbiology Dept.) Prerequisite: Biology 3115A.

***4214B Physiology of Marine Algae:** lecture 2 hours, J.S. Craigie. Prerequisites: Biology 2110 or 2015 and permission of instructor. A comparative study of the physiology and biochemistry of the various algae classes is conducted, including studies of carbohydrates, proteins, fats, pigments and nutrition.

4369A Fisheries Oceanography: lecture 3 hours, J.A. Koslow. Prerequisite: Biology 2060 or 2046. Familiarity with calculus and statistical concepts helpful but not required. Permission of instructor is required. The ecology of fisheries with emphasis on the factors affecting their production and recruitment variability. Topics covered include physiology of fish production; classic management models; larval fish ecology; the effects of fishing and changing stock size, of climate, and of community interactions upon year-class variability.

4379A Ichthyology: lecture 3 hours, E.T. Garside. Prerequisite: Biology 3323. Evolution, systematics, structure, embryology, life history and distribution of fishes.

4401R Introduction to Pharmacology: lecture 2 hours, lab 2 ½ hours, M.Karmazyn (Co-ordinator for Dept. of Pharmacology.) Prerequisites: Permission of co-ordinator. This introductory class is designed to acquaint students with the actions of drugs on physiological and biochemical functions in mammals including man. Interactions of drugs with central and peripheral nervous systems and with the physiologically active chemicals (e.g. prostglandins, peptides) are stressed. Factors affecting blood levels of drugs (absorption, distribution, metabolism and elimination) are considered, and potential uses. The laboratory consists of prescribed exercises followed

by a project of several weeks duration carried out in the research laboratories of the Dept.

4403R Human Physiology: lecture 3 hours, J. Dudar (Physiology/Biophysics Dept.). Prerequisites: Introductory classes in Biology, Chemistry and Physics. Permission of the instructor is required. A class dealing with the physio-chemical basis of the physiological processes in man.

***4616B Ecosystem Analysis:** lecture/discussion 3 hours, P.A. Lane. Prerequisites: Biology 2060, 2066 or 2046, 3061; Math 1000, 1010. This class involves critical discussions of recent developments in the theory and practice of ecosystem analysis. The research literature is the text. The term is divided into four sections: *quantitative techniques:* (1) general systems theory, (2) ecosystem description methodologies, (3) systems analysis-computer simulation; and *qualitative techniques:* (4) loop analysis and time averaging. Each student must lead at least one discussion and present a short position paper on the theory underlying some of the important problems in ecosystem analysis. In addition, a term paper is required demonstrating a creative application of these methodologies to an environmental problem at the ecosystem level. Students complete program sets and exercises in data analysis to gain experience using various techniques. Aquatic ecosystems are emphasized.

4617A Theoretical Population Dynamics: individual tutorial 3 hours, M.R. Rose. Prerequisites: Biology 2046 or 2060, Math 1000, 1010. The class is divided into six sections: (A) Single species population growth — including discrete and continuous time models, (B) Prey-predator interactions — including continuous and discrete time models, (C) Competition — including Lotka-Volterra models, higher-order competition models and symbiosis models, (D) Simple ecosystems — including food chains, one predator and several prey; (E) Complex ecosystems.

4650/5650A Resource Systems and Economic Development: lecture/seminar 3 hours, A.J. Hanson. Major theories of natural resource management, have evolved rather separately through economic, behavioural and ecological disciplines. The interphase of ecology with these other disciplines and the criteria which may be used to weigh ecological inputs in economic development planning processes are the major topics to be covered. Current approaches and analytical techniques are described. These illustrate adaptive strategies for long-term resource use, pest and disease control. The course may focus on specialized topics such as fisheries or tropical resource management, as announced in advance. The class includes an introduction to practical problems of project cycles, of defining objectives and of budget analysis. It is open to students from any faculty by permission of the instructor.

4652A Advanced Ecology Seminar, consult Department.

4653B Advanced Ecology Seminar, consult Department.

4660A Introduction to Biological Oceanography: lecture 2 hours, lab 1 plus hours, M.R. Lewis. Prerequisite: Biology 2060 or 2046 or equivalent Math 1000, 1010 and permission of the instructor. Quantitative descriptions of biological oceanographic processes are used to explore interactions with physical and chemical processes in various oceanic ecosystems. Topics discussed range from factors affecting rates of microalgal photosynthesis to expected response of the ocean ecosystem to global variation in carbon dioxide and climate. Laboratory emphasizes independent, original research.

4662B Biology of Phytoplankton: lecture 3 hours, some labs, M. Lewis. Prerequisite: Permission of instructor.The role of phytoplankton as primary producers of organic material in the sea, and as agents of biogeochemical transformations, is explored in the context of interactions with physical and chemical oceanographic processes. Emphasis is on the current literature.

***4664B History of Oceanography:** lecture and seminar, E.L. Mills (Oceanography Dept.) Permission of instructor required. This class describes the development of Oceanography from biological, chemical, physical and geological knowledge going back to the 18th century in scientific, political and social contexts. Includes: plankton dynamics, deep sea biology, ocean circulation and plate tectonics.

***4666B Benthic Ecology:** E.L. Mills. Permission of instructor required (Oceanography Dept). An advanced level undergraduate class concentrating on the major problems of benthic ecology, such as how food is supplied to benthic animals, what factors control the structure of biological communities and how the benthos is related to processes in the sediments. Year-to-year the course content changes, keeping up with current problems of research workers in this discipline.

4800 Special Topics

4806A/4807B/4808C Special Projects, staff.

4900 Honours Research and Thesis.

Canadian Studies Programs

Who are eligible

Dalhousie students who are planning to do, or are at present doing, major programs in any of the following six departments, are eligible:

Economics,
English,
French,
History,
Political Science and
Sociology & Social Anthropology.

Aim

The purpose of the program is to allow such students to concentrate part of their work on Canadian studies both within their major field, and outside of it. For example, a student who is planning to major in Political Science would take at least 3 of his political science classes in classes designated as Canadian. He would in addition take four classes outside his major field in Canadian Economics, Canadian History, Canadian Literature (either English or French), or Canadian Sociology.

In other words, the Canadian Studies Program does not attempt to establish a new major field. It seeks to use any one of six present departments in the Faculty of Arts and Science as a base around which a student may effectively cluster a number of classes in Canadian subjects.

How to arrange it

Students wishing to discuss a Canadian Studies Program, or wishing to take it, should get in touch with any of the following:

Professor B. Lesser, Economics Department
Professor M.G. Parks, English Department
Professor Hans Runte, French Department
Professor P.G. Clark, Sociology & Social Anthropology Department
Professor D.S. Stairs, Political Science Department
Professor P.B. Waite, History Department

Chemistry

Chairperson of Department
J.C.T. Kwak, BSc, MSc, PhD (Amsterdam)

Emeritus Professors
W.J. Chute, BSc (Acad.), MA, PhD (Tor.)
D.E. Ryan, BSc (UNB), MA (Tor.), PhD, DSc (Lond.), DIC

Professors
D.R. Arnold, BS (Bethany College), PhD (Roch.)
W.A. Aue, PhD (Vienna)
R.J. Boyd, BSc (UBC),PhD (McG)
T.S. Cameron, BA, MA, DPhil (Oxon.), *Associate Dean of Faculty of Arts and Science*
A. Chatt, BSc (Calcutta), MSc (Roorkee), MSc (Wat.), PhD (Tor.)
H.C. Clark, BSc, MSc, PhD (Auckland), PhD, ScD (Cambridge), *President, Dalhousie University*
J.A. Coxon, MA (Cantab.), MSc, PhD (East Anglia)
T.P. Forrest, BSc (MtA), MSc (Dal), PhD (UNB)
K.E. Hayes, BSc (Lond.), PhD (Ore.)
W.E. Jones, BSc, MSc (MtA), PhD (McG), *Chairman of Senate*
O. Knop, DSc (Laval), *Harry Shirreff Professor of Chemical Research*
J.C.T. Kwak, BSc, MSc, PhD (Amsterdam)
K.T. Leffek, BSc, PhD (Lond.), *Dean of Faculty of Graduate Studies*
P.D. Pacey, BSc (McG), PhD (Toronto)
R. Stephens, MA (Cantab.), MSc (Bristol), PhD (London), DIC
R.E. Wasylishen, BSc (Wat.), MSc, PhD (Man.), *Senior Killiam Fellow*

Associate Professors
T.B. Grindley, BSc, MSc, PhD (Queen's)
J.S. Grossert, BSc, MSc, PhD (Natal)
K.R. Grundy, BSc, MSc, PhD (Aukland)
R.D. Guy, BSc (SFU), PhD (Carl.)
D.L. Hooper, BSc, MSc, PhD (UNB)
J.A. Pincock, BSc, MSc (Man.), PhD (Tor.)
L. Ramaley, BA (Col.), MA, PhD (Prin.)
C.H. Warren, BSc (UWO), PhD (McM)
M.A. White, BSc (UWO), PhD (McM)

Assistant Professor
N. Burford, BSc (Wales), PhD (Calgary)

Visiting Scientists (1987)
K.Sakai, Tokai University, Japan
Xi Feng, Chinese Academy of Sciences
T.Z. Guo, Qinghai Geology Bureau, China
Shi-Lian Jing, Inst. Environmental Chem., Beijing, China
Yong Chong Luo, Sichuan Teachers Coll.,Sichuan, China
Jesus M. Ugalde, Basque Country University, Spain
Caiying Wu, Wuhan University, China
K. Hayakawa, Kagoshima University, Japan
Liang Chen Wang, E. China Univ. of Chem. Tech., Shanghai, China

Instructors
C.D. Burkholder, BSc (Wat.)
C.M.Byers, BSc Honors (Dal)
J. Gabor, MSc (Budapest)
S.A. Sawler, BSc, (MSVU)
D.J. Silvert, MSc (CWRU)
W.D. Tacreiter, MSc (Krakow)
K.E. Thompson, BSc (Acad.)
M.E. Warren, BSc (Western)

Postdoctoral Fellows and Research Associates (1987)
D. Adhikesavalu, PhD (IISc. Bangalore)
V.M. Allen, BSc (Dal)
J.F. Britten, PhD (McMaster)
K.S. Chandrasekhar, PhD (Bhabha ARC, Univ. Bombay)
S.C. Choi, MSc (Dal)
R. Cordes, PhD (UBC)
H. Dang, PhD (IIT, Bombay)
K.V. Darvesh, PhD (UNB)
R. Dharmaratne, PhD (Peradeniya)
H. Furue, PhD (Queen's)
J. Kralovec, PhD (Inst. Chem. Tech., Prague)
S.W. Kim, PhD (Wayne State)
A. Linden, PhD (Melbourne)
B.J. MacDonald, MSc (Guelph)
M.S. MacKinnon, PhD (Guelph)
A.M. de P. Nicholas, PhD (Dal)
D.L. Pegg, PhD (UBC)
P. Pruszynski, PhD (A. Mickiewicz, Poznan)
Ravinutha R. Rao, PhD (IIT, Bombay)
K. Robertson, BSc (Dal)
U.K. Roychowdhury, PhD (IIT, Kanpur)
H. Tan, PhD (Queen's)
S. Vempati, PhD (IIT, Kanpur)
F. Yamashita, PhD (Hokkaido)

Chemistry is one of the fundamental sciences. It explores the interactions among different forms of matter and energy. Its main purpose is to gain a basic - but also a very useful - understanding of how compounds react and when and why they form particular products. Chemical knowledge helps us influence the world in which we live; chemical principles and procedures are found everywhere in the groundwork of the natural and medical sciences.

A student considering an honours program in chemistry should be competent in mathematics as well as chemistry. The honours BSc is the expected professional requirement for a chemist. Chemists with honours degrees are employed in widely differing areas in industry and government. A degree in chemistry will provide a background for further graduate work in chemistry or in such diverse areas as medicine, law, business administration, biochemistry, oceanography and geology. A postgraduate degree is essential for independent original research in an industrial career or in university teaching.

Chemistry 1100 (or 1110 or 1120 or 1200) is an introduction to the discipline. All students intending to take classes in chemistry beyond the first-year level should include classes in mathematics and physics in their first year. Final grades in these classes should not be less than C; if they are, the student is bound to find advanced classes in chemistry difficult and frustrating.

At the second-year level the student is exposed to the four traditional areas of specialization in chemistry. Inorganic chemistry deals with all the chemical elements except carbon, and the compounds which these elements form. Organic chemistry is devoted to the study of the almost limitless number of compounds containing carbon. Analytical chemistry is concerned with the determination of the composition of substances, and with the detection of elements in quantities however minute. Physical chemistry is concerned with both macroscopic phenomena, including why and at what rates chemical reactions occur, and with molecular phenomena through the application of spectroscopic techniques. Beyond the second-year level, a student's studies in chemistry become increasingly concentrated in one of these four areas. The student may also be introduced to biochemistry or the chemistry of living organisms, as well as such specialties as structural chemistry, radiochemistry, electrochemistry and theoretical chemistry.

Degree Programs

Major in Chemistry

In order to obtain as general a chemical background as possible, the student, after taking Chemistry 1100, or 1110, or 1120, or 1200, must include in his/her program the classes 2110A/B, 2200A/B, 2310A, 2320B and 2400, which give exposure to the four areas of specialization in chemistry. The remaining requirements in chemistry may be chosen from third and fourth-year classes depending on the student's major interests. Each student who plans to major in chemistry should consult with a Chemistry Counsellor each year regarding a program of study. The

student's program should also include Mathematics 1000 and 1010 and Physics 1100.

The Chemistry Counsellors this year are N. Burford, D. Burkholder, A. Chatt, P.D. Pacey, J.A. Pincock and L. Ramaley. All students are encouraged to meet with one of these faculty members to discuss any problems that may arise.

All chemistry classes to be counted towards the major in chemistry must be passed with a grade of C- or better.

Honours in Chemistry

This program is intended to provide a broad training in chemistry while at the same time making provision for the individual interests of students. All honours students must consult annually with an Honours Student Advisor (P.D. Pacey or J.A. Pincock), and obtain approval of their course selection.

All required chemistry classes must be passed with a grade of at least C.

Year I will normally consist of:
Chemistry 1100 or preferably Chemistry 1200; Mathematics 1000 and 1010; a foreign language at the 1000 level; one of Biology 1000, Geology 1000 or Physics 1100; plus an elective.

Years II, III and IV must include:

1. Chemistry 2110A/B, 2200A/B, 2310A, 2320B, and 2400

2. Six full classes from Chemistry 3000 and 4000 levels. Chemistry 3000A, 3110A, 3120B, 3210A, 3220B, 3350R, 3410A, and 3420B are required classes. In addition the non-credit classes 3880, 4880 and 8880 must be taken.

3. Mathematics 2000 or 2500; a prerequisite for Chemistry 3000A and 3350R.

4. Five other classes. These must be chosen as follows:

a) If Physics 1100 was not taken in Year I, it must be taken in Years II-IV.

b) Two classes beyond the 1000-level must be taken in a minor subject. Minor subjects allowed for this degree are biochemistry, biology, computing science, geology, mathematics or physics.

These five other classes should be chosen according to the future plans of the student.

Combined Honours Program

The department has designed a number of programs which allow a student to obtain a Combined Honours Degree in Chemistry with one of Biochemistry, Biology, Computing Science, Geology, Mathematics or Physics. To obtain an introduction into all the basic areas of chemistry, Chemistry 2110A/B, 2200A/B, 2310A, 2320B and 2400R must be part of all combined honours programs involving Chemistry, and must be passed with a grade of at least C.

In addition to the above second-year chemistry classes, the following programs are suggested for guidance to the student.

Combined with Biochemistry
Chemistry 3410A, 3420B, 3430A/B, 4330A/B, 4400A/B, 4410A/B, 4420A/B and 8880, together with Biochemistry 2000R, 2600A/B, 3200A, 3300B, 3400B and 1 ½ other full credits in Biochemistry and Chemistry of which one must be in Biochemistry.

Combined with Biology
Chemistry 2130A, 3410A, 3420B, 3430A/B, 4400A/B, 4410A/B, 4420A/B and 8880 with Biology 2000, 2010A/B, 2020A/B and 2-½ other full credits in Biology and Chemistry of which at least two must be in Biology.

Combined with Computing Science
Chemistry 3000A, 3360B, 4000A/B, 4300A/B, 4350A/B and 8880 with Computing Science 2270B, 2450A, 2610A/B, 3690A, 3700A/B and 3 other credits in Chemistry and Computing Science of which at least 1-½ must be in Computing Science. Students are reminded that Math 1000A/B, 1010A/B, 2030A, Computing Science 1400A/B and 1410A/B are prerequisites to the Computing Science classes.

Combined with Geology
Chemistry 3110A, 3120B, 3210A, 3220B, 4100A, 4120B and 8880 with Geology 2100, 2200 and three other full credits in Chemistry and Geology of which at least two must be in Geology.

Combined with Mathematics
Chemistry 3000A, 3350R, 3360B, 4000B, 4300A/B and 8880 with Mathematics 2130, 2500, 3030, 3500 and four more half-classes of 3000 and 4000 level Mathematics, of which at least two must be at the 4000 level.

Combined with Physics
Chemistry 3000A, 3350R, 3360B, 4000B and 8880 with Physics 2110, 2120, 2200A, 2210B, 3140A, 3150B, 3210A/B, 3200A/B and one other chemistry or physics credit.

The above are only guidelines and students must consult an Honours Student Advisor of the Department of Chemistry (P.D. Pacey or J.A. Pincock) and the Chairman of the other area of study *before* registering in the combined program. Interested students should also consult the Department's Handbook "Undergraduate Studies in Chemistry" for more information.

Classes Offered

A or B indicates that the class is a half credit and is offered in either the A or B term or in exceptional circumstances in both terms. Consult the timetable for up-to-date details.

Early registration for classes is strongly encouraged. In recent years certain classes, particularly Chemistry 1100, 1200, 2110, 2200, and 2400, have reached maximum possible enrollment long before completion of the final registration period in September.

Students who have passed a first-year Chemistry class with a grade of D should consider themselves inadequately prepared for advanced studies in this subject. Such students will not be allowed to register directly for second-year Chemistry classes but may request that their names be put on a waiting list. Consult the Department for details. Duly registered students, who do not show up during the first week of classes, may lose their place to students on the waiting list.

Students, who voluntarily withdraw from any Chemistry class, may be placed on a waiting list if they want to register again for this class within 12 months after their initial withdrawal. (Students who duly register with the Department for a particular course but do not show up for classes, are considered to have "withdrawn" for purpose of this rule).

Chemistry Resource Centres

First Year and Advanced Resource Centres are located in Rooms 167 and 166. The former is staffed with people who can help with Chemistry problems. Facilities include study areas, computer terminals with special programs designed for Chemistry students, molecular models, audio-visual aids and a small library.

The professor most likely to teach the classes are listed following the class titles in the next section.

1000R The Chemical World: lecture 2 hours, lab/tutorial 2 hours, T.S. Cameron. This class is intended for students who want to take only a first-year credit in science, and who wish to understand some of the chemical aspects of the world around us. The class does not use a mathematical approach to science, and can be taken by students with no or limited previous chemistry experience. The class will cover the development of chemical knowledge from early times to the present. By means of lectures, frequent (and sometimes spectacular!) demonstrations, and laboratory or reading projects, students will be introduced to the world of chemistry and to chemicals and chemical ideas in everyday use. Students contemplating careers, e.g., in law, business, or government could profit from the material studied in this class. Students will be required to do extensive written assignments, which will be marked both on content and writing style. Chemistry 1000R is an approved "writing class" in the Faculty of Arts and Science. Chemistry 1000R does not serve as a prerequisite for second-year chemistry classes. It cannot be taken concurrently with Chemistry 1100, 1110, 1120 or 1200 but for students with no previous chemistry

experience, it will be an excellent preparation for these classes. Enrollment is limited.

1100R General Chemistry: lecture 3 hours, lab/tutorial 3 hours, N. Burford, T.P. Forrest, K. Grundy, R.D. Guy, W.E. Jones, J.C.T. Kwak, P.D. Pacey, L. Ramaley, R. Stephens. A study of the fundamental principles of chemistry with particular reference to stoichiometry, atomic and molecular structure, gases, liquids and solids, solutions, thermochemistry, equilibria, chemical properties of common substances, acid-base and oxidation-reduction reactions and chemical kinetics. Students enrolling in this class should have a background in chemistry equivalent to the Nova Scotia XII level. Mature students should consult the Department. It is important that students be familiar with exponents and logarithms, proportionality and variation, and graphical methods, and be able to solve quadratic and simultaneous equations.

1110R General Chemistry for Engineering Students: lecture 3 hours, lab/tutorial 3 hours, K.E. Hayes. Similar to Chemistry 110, but with a greater emphasis on the mathematical approach to chemistry. Basic chemical thermodynamics is presented in an exact algebraic manner, and includes a study of isothermal and adiabatic transformations for ideal gas systems as well as isothermal equilibria between liquids and vapors. All of the other topics, such as gas phase equilibria, the Gibbs-Helmholtz equation, electrochemistry and reaction kinetics are treated mathematically. Wherever possible examples and problems are selected from the real world. This class is open only to students enrolled in the Engineering program.

1120R General Chemistry for Health Professions Students: lecture 3 hours, lab/tutorial 3 hours, W.A. Aue. This class is intended in particular for Pharmacy students and for other students in the Faculty of Health Professions. Its content is essentially the same as that of Chemistry 1100, and it does serve as prerequisite for all second-year Chemistry classes. Some emphasis is given to topics of importance to students in Pharmacy and other health sciences. Space for students other than Pharmacy students may be limited.

1200R Principles of Chemistry: lecture 3 hours, lab/tutorial 3 hours, M.A. White. Similar to Chemistry 1100 but with more emphasis on atomic and molecular structure, thermodynamics, equilibria and kinetics. This class is intended for prospective science students and for students wishing to gain a more thorough introduction to the principles of chemistry. Students enrolling in this class must have attained high standing in high school chemistry and are advised to contact the lecturer(s) prior to registering for this class. Concurrent enrollment in Mathematics 1000 and 1010, or in Mathematics 1500 is advised.

Any of Chemistry 1100, 1110, 1120 or 1200 may serve as a prerequisite for any 2000 level class in chemistry, and as a credit in the Faculty of Arts and Science. However, credit will only be given for one of 1100, 1110, 1120 or 1200.

1410A Introductory Chemistry: lecture 3 hours, tutorial 2 hours, J.S. Grossert. A descriptive introduction to chemistry with emphasis on materials related to the life and health sciences. This class will cover the properties of gases; acid/base equilibria; chemical bonding; Lewis structures; organic functional groups; chirality; carbohydrates, amino acids and other biologically important chemicals; as well as a brief discussion of NMR and other spectroscopic techniques of current interest.

This class is considered terminal; it does not count as a prerequisite for any other Chemistry class.

1430R Introductory Chemistry and Biochemistry.
This class combines Chemistry 1410A and Biochemistry 142B for use by Nursing students and cannot be used for credit in Arts and Science.

2110A/B Introductory Inorganic Chemistry: lecture 3 hours, lab 3 hours, N. Burford, K.R. Grundy. Prerequisite: Chemistry 1100 (1110, 1120, 1200). The fundamentals of inorganic chemistry are covered. Specific topics include: ionic bonding and the nature of solids, the structure of atoms and simple molecular orbital theory, coordination chemistry of the transition metals and a certain amount of systematic chemistry of inorganic compounds. The preparation, analysis and observation of inorganic compounds are the laboratory assignments.

2130A (or B) Inorganic Chemistry of Life: lecture 2 hours, lab 3 hours, subject to availability of professor. Prerequisite: A good understanding of the principles studied in Chemistry 1100. This class may not be included in nine chemistry credits required for an honours chemistry degree, see Academic Programs, page 26; it may however be taken by honours chemistry students in addition to these nine. Inorganic elements and their compounds in living systems, their special properties, structures and reactivities are studied. The laboratory illustrates class work with experiments on compounds isolated from living systems and on inorganic compounds that are used as models for these systems.

2200A/B Introductory Analytical Chemistry: lecture 3 hours, lab 3 hours, L. Ramaley, R. Stephens. Prerequisite: Chemistry 1100 (1110, 1120, 1200). An introduction to modern analytical techniques most often encountered in the laboratory. Topics include: theory of acid-base and redox titrations; molecular and atomic spectrometry in the visible and ultraviolet regions; potentiometry and use of ion selective electrodes; and gas and liquid chromatography. Laboratory experiments will be based on topics selected from the lectures and will introduce the student to a variety of methods.

2310A Introduction to Physical Chemistry — Energetics: lecture 3 hours, lab 3 hours, R.E. Wasylishen. Prerequisites: Chemistry 1100 (1110, 1120, 1200), Mathematics 1000, 1010. This class together with 2320B introduces students to the fundamental principles of physical chemistry. The class stresses the energies of both molecular systems, where quantum mechanical results are introduced, and macroscopic systems, which are treated using the laws and basic concepts of classical thermodynamics. The molecular basis of the ideal gas laws is also discussed. The laboratory sessions illustrate many aspects of the material presented in lectures.

2320B Introduction to Physical Chemistry — Dynamics: lecture 3 hours, lab/tutorial 3 hours, J.A. Coxon. Prerequisites: Chemistry 2310A or equivalent. This class introduces the fundamentals of molecular spectroscopy, statistical thermodynamics and reaction kinetics. Initial topics include the nature of electromagnetic radiation and the experimental determination of molecular properties through microwave, infrared and optical spectroscopies. Statistical thermodynamics provides the student with an insight on the relationship between the thermodynamic properties of bulk matter and molecular energy. The class concludes with a treatment of the basic concepts of chemical kinetics - rate laws, elementary and composite reactions, the Arrhenius law, chain reactions, catalysis, photochemistry, collision theory and transition state theory.

2330B (or A) Physical Chemistry for the Life Sciences: lecture 3 hours, lab/tutorial 3 hours, R.J. Boyd. Prerequisite: Chemistry 1100 (1110, 1120, 1200). Chemistry majors may not apply credit for Chemistry 2330 towards the major requirements for a degree in Chemistry. Credit will *not* be given for both of Chemistry 2310 and Chemistry 2330 or for both of Chemistry 2320 and Chemistry 2330. Those who do not plan a career in chemistry, but who can use the principles and concepts of physical chemistry in related areas, are introduced to the basic ideas of physical chemistry with the necessary mathematical concepts in simple terms. Previous knowledge of calculus is not necessary. The principal topics, thermodynamics, rates of enzyme catalyzed reactions, chemical equilibrium and spectroscopy are treated by application to examples of biological and environmental interest.

2400R Introductory Organic Chemistry: lecture 3 hours, lab 3 hours, D.L. Hooper, T.B. Grindley, J.S. Grossert, J.A. Pincock. Prerequisite: A good comprehension of the principles studied in Chemistry 1100. A broad introduction to the chemistry of carbon compounds, including molecular shapes and bonding, characteristic reactions of functional groups and the way in which they take place, and the application of spectroscopy to organic chemistry. Laboratory work is designed to teach a broad range of fundamental operations and techniques used in modern organic chemistry laboratories.

3000A Introductory Theoretical Chemistry: lecture 3 hours, C.H. Warren.

Prerequisites: Mathematics 2000 or 2200 and Chemistry 2110A/B or 2310A or 2320B. An introduction to quantum mechanics and its application to spectroscopy and the electronic structure of atoms. The postulates of quantum mechanics are presented and applied to some simple physical systems, followed by a discussion of the rotations and vibrations of molecules, and the electronic structure of atoms, concluding with an introduction to the simple Hückel molecular orbital method.

3110A(orB) Chemistry of the Main Group Elements: lecture 2 hours, lab 3 hours, T.S. Cameron. Prerequisite: Chemistry 2110A/B. A systematic study of the chemistry of the main group elements, with particular emphasis on the nonmetals of the first and second row elements. Use is made of modern bonding concepts. The laboratory introduces synthetic procedures for the preparation of inorganic compounds including study of their reactions. Some of these experiments involve special handling techniques, such as controlled atmosphere, high temperature or vacuum line manipulation.

3120B(or A) Chemistry of the Transition Metals: lecture 2 hours, lab 3 hours, O. Knop. Prerequisites: Chemistry 2110A/B, Mathematics 1000 and 1010. Modern bonding theories are used to unify the discussion of the chemical and physical properties of compounds of the transition elements. The laboratory experiments introduce procedures for the preparation and characterization of compounds of the transition elements.

3210A Solution Equilibria and Analytical Spectroscopy: lecture 3 hours, lab 3 hours, A. Chatt. Prerequisite: Chemistry 2200A/B. Chemistry 3210A is organized into three units. 1. Introduction to Statistics; 2. Chemical equilibria and their analytical applications; and 3. Spectrochemical methods of analysis. Laboratory experiments illustrate the above techniques with practical examples.

32200B Analytical Electrochemistry and Separations: lecture 3 hours, lab 3 hours, R.D.Guy. Prerequisites: Chemistry 2200A/B and 3210A or permission of the instructor. Chemistry 3220B deals with the application of electrochemical and separation techniques to chemical analysis. The basic chemical and physical principles are explained, applications to analytical problems are examined and instrumentation is described. The laboratory work is concerned with practical examples of the above techniques in both qualitative and quantitative analysis.

3300A Chemical Thermodynamics No longer offered.

3310B Chemical Kinetics No longer offered.

3350R Intermediate Physical Chemistry — Properties of Matter: lecture 3 hours, lab 3 hours, alternate weeks, J.A. Coxon, P.D. Pacey, R.E. Wasylishen, M.A. White. Prerequisites: Chemistry 2310A, 2320B and 3000A and Mathematics 2000 or 2200 or equivalents. Chemistry 3000A should normally be taken concurrently. Credit will not be given for both Chemistry 3350R and Chemistry 3370A/B, or for Chemistry 3350R and Chemistry 3300A, or for Chemistry 3350R and Chemistry 3310B. This class begins with a discussion of the thermodynamics of real systems, including activities, chemical potentials and phase diagrams for pure and mixed gases, liquids, and solids. Approaches to understanding the rates and mechanisms of chemical changes will be described. The course will conclude with a study of microwave, infrared, Raman, electronic, laser, photoelectron and magnetic resonance spectroscopy.

3360B Numerical Methods in Chemistry: lecture 3 hours, C.H. Warren. Prerequisites: Chemistry 2310A, 2320B and Mathematics 2000 or 2200 or permission from the instructor. This class provides an introduction to numerical methods that can be applied to various problems in chemistry. Students will utilize these techniques on microcomputers, and Dalhousie's mainframe computer. Topics to be covered include the treatment of experimental data by least squares methods; by curve fitting, smoothing, and interpolation techniques; and by numerical integration. Matrices, determinants, and eigenvalue equations will be studied and applied to problems in quantum chemistry and spectroscopy. Complex equilibria will be examined through the numerical solution of simultaneous equations. Computer graphics will be introduced and applied to topics such as wavefunctions, gas laws, potential energy contours, coordinate transformations and molecular geometries. Computer simulation of experiments will also be examined.

3370B (or A) Applied Physical Chemistry: lecture 2 hours, tutorial 1 hour, lab 3 hours (alternate weeks), staff. Prerequisites: Chemistry 2310A and 2320B or 2330 with permission of the instructor. Credit will not be given for both Chemistry 3350R and Chemistry 3370, or for Chemistry 3370 and Chemistry 3300A, or for Chemistry 3370 and Chemistry 3310B. This is an intermediate level class in applications of physical chemistry concepts, intended for students other than honours chemistry students. Topics covered will include the theory and experimental methods of determining the following: the phases of matter, the non-ideality of matter, molecular weights, molecular structure, rates of chemical reactions. The class will give an introduction to and draw examples from solution chemistry, electrochemistry , colloid chemistry, metallurgy and polymer chemistry.

3410B (or A) Identification of Organic Compounds: lecture 3 hours, lab 3 hours, T.B. Grindley, Prerequisites: Chemistry 2400 (or equivalent). The techniques necessary for the identification of organic compounds are introduced. Some presentation of the classical analysis methods is given, but the main emphasis is on modern spectroscopic techniques. The class builds on the framework of the functional group classification developed in introductory organic chemistry classes. Students work independently in the laboratory to identify unknown substances and to separate and identify components of mixtures using a variety of techniques.

3420A (or B) Synthesis in Organic Chemistry: lecture 3 hours, lab 3 hours, J.A. Pincock. Prerequisites: Chemistry 2400 (or equivalent). The reactions of a variety of functional groups and their applications to multi-step organic syntheses are surveyed. Examples chosen include syntheses of compounds which are important to the chemical and pharmaceutical industries. Students work independently in the laboratory and carry out a variety of syntheses. Experiments are designed so that students learn to monitor the purity of their products by the use of spectroscopic and other techniques. Some library work is required.

3430A (or B) Bioorganic Chemistry: lecture 3 hours, T.P. Forrest. Prerequisites: Chemistry 2400 (or equivalent). This class may *not* be included in the nine chemistry credits required for an honours chemistry degree (Academic Programs Section 11). It may however be taken by honours chemistry students in addition to these nine. Since molecules in nature operate under the same rules as those in an organic laboratory, one can apply the principles elucidated in the organic laboratory to the study of the behavior of organic compounds in nature. To cause a reaction to occur in the laboratory it might be necessary to alter functional groups and provide other conditions necessary to induce a particular reactivity. An analysis of the requirements for reactivity, methods by which these can be achieved and the influence of various factors on the outcome of reactions serve as the basis for the consideration of selected naturally occuring reaction pathways.

3880 General Topics in Chemistry. A non-credit class to be given by invited speakers which must be taken by all 3rd year honours Chemistry students.

***4000B Theoretical Chemistry:** lecture 3 hours; R.J. Boyd. Prerequisites: Chemistry 3000A. A continuation of 3000A. Molecular orbital theory and its applications are examined in greater detail. Group theory is introduced and applied to spectroscopy and molecular orbital theory.

***4100A(or B) Inorganic and Organometallic Reaction Mechanisms in Synthesis:** lecture 2 hours, lab 3 hours, K.R. Grundy. Prerequisites: Chemistry 3110 and 3120 or permission of the instructor. This class examines the fundamental aspects of inorganic reaction mechanisms such as substitution, isomerisation, oxidative addition, insertion, etc., together with their applications to inorganic synthesis. The laboratory is project oriented with each project illustrating the various mechanistic paths discussed in class. The experiments incorporate modern inorganic synthetic techniques and characterization by instrumental methods where appropriate.

***4120B Solid State Chemistry:** lecture 2 hours, lab 3 hours, O. Knop. Prerequisites: Chemistry 2110A/B, 3350R, and 4350A (or equivalents) or consent of instructor. All chemical elements and compounds can exist as crystalline solids, and most of them normally do. The arrangements of atoms and molecules in such solids, known as crystal structures, closely reflect the bonding properties and constituent elements. They can be studied by methods that do not destroy or modify the crystal structure. The methods most frequently employed for this purpose are covered together with the principles of solid state chemistry in general.

4210A(or B) Instrumentation: lecture 2 hours, lab arranged, L. Ramaley. Prerequisites: Chemistry 3210A and 3220B or permission of instructor. This class presents a detailed discussion of one particular area of Analytical Chemistry. The areas covered include Radiochemistry, Electronics or Atomic Spectroscopy. This class may be given in conjunction with a graduate class.

4200B(or A) Topics in Instrumental Analysis: lecture 2 hours, lab 3 hours, R.D. Guy. Prerequisites: Chemistry 3210A and 3220B or permission of instructor. This is a survey class of instruments and methodologies found in modern analytical laboratories. It may include atomic spectroscopy, chromatography, nuclear methods, surface analysis, laboratory automation, electrochemistry and some instruments of interest to the life sciences. The laboratory will consist of demonstrations and experiments on instruments at Dalhousie or at cooperating institutions in the Metro area.

***4300B Introductory Statistical Thermodynamics:** lecture 3 hours, M.A. White. Prerequisites: Chemistry 3300A or Chemistry 3350R (concurrently) or permission of the instructor. An introduction to the principles of statistical thermodynamics and quantum statistical mechanics. Wherever possible the application of statistical thermodynamics to chemical systems as well as physical and biological processes is emphasized.

4330B (or A) Biophysical Chemistry: lecture 2 hours, lab 3 hours, alternate weeks, R.E. Wasylishen. Prerequisites: Chemistry 2310A, 2320B and either Chemistry 3300A and 3310B, or 3350 or 3370, or permission of the instructor. A theoretical and practical introduction necessary for the application of physical chemistry in life sciences and medicine. Topics include the structure and conformation of biological macromolecules, techniques for the study of biological structure and function, transport processes and biochemical spectroscopy. The laboratory is on an open basis with at least four experiments completed during the term.

4350A Symmetry and Group Theory: lecture 2 hours, compulsory tutorial 3 hours, O. Knop. Prerequisites: Chemistry 2110A/B and Mathematics 2000 or 2200 or consent of instructor. The theory of abstract groups and their representations, crystallographic and non-crystallographic point groups, and an introduction to the theory of space groups are presented. Examples from stereochemistry, crystallography, and spectroscopy illustrate the theory.

4400C Organic Spectroscopy: lecture 1 hour, lab 3 hours (as required), for two terms, D.L. Hooper. Prerequisites: Chemistry 3410A or equivalent, or permission of instructor. Nuclear Magnetic Resonance experiments and their interpretation. Application of NMR and other spectroscopic methods to the structure determination of organic molecules.

4410B Stereochemistry and Synthesis in Organic Chemistry: No longer offered.

4420B(or A) Organic Reaction Mechanisms: lecture 2 hours, lab 3 hours, D.R. Arnold, K.T. Leffek. Prerequisites: Chemistry 3410A, 3420B or equivalents, or permission of the instructor. Methods for determining the mechanisms of organic reactions are discussed from the viewpoint of the physical organic chemist. Topics considered include applications of kinetic data, linear free energy relationships and acid and base catalysis, concerted reactions, steric effects, solvent effects and isotope effects.

4880 Advanced Topics in Chemistry, a non-credit seminar to be given by invited speakers which must be taken by all 4th year Honours Chemistry students.

8880 Honours Examination: This is an additional class required of all Honours students in Chemistry in order to satisfy regulation 11. It should be taken in the final year of a concentrated chemistry honours program. All honours students, whether in a concentrated or unconcentrated program, must consult with the professor in charge of the honours Thesis Program (L. Ramaley).

Classics

Chairperson of Department
R. Friedrich

Emeritus Professors
A.H. Armstrong, MA (Cantab.), FBA
J.A. Doull, BA (Dal), MA (Tor.)

Adjunct Professor
T.E.W. Segelberg, DTh, FK (Upsala)

Professors
J.P. Atherton, MA (Oxon.), PhD (Liverpool)
R.D. Crouse, BA (Vind.), STB (Harv.), MTh (Trin.), PhD (Harv.) DD (Trin.)
R. Friedrich, Dr.phil. (Goettingen)

Associate Professors
W.J. Hankey, BA (Vind.), MA (Tor.), DPhil (Oxon.), *Undergraduate Studies Advisor*
D.K. House, MA (Dal), PhD (Liverpool), *Graduate Studies Advisor*
P.F. Kussmaul, Dr.phil (Basle), Dr.phil.habil. (Heidelberg)
C.J. Starnes, BA (Bishop's), STB (Harv.), MA (McG), PhD (Dal)

Assistant Professors
P.J. Calkin, BA (UBC), MA (Dal), PhD (Dal)
A.M. Johnston, BA (MtA), MA, PhD (Dal)

Postdoctoral Fellow
G. Naddaf, Élève Diplômé (E.P.H.E.), Docteur de l'Université de Paris IV (Sorbonne)

Classics is the study of our origins — how the Christian-European tradition to which we belong arose out of the ancient civilizations of the Mediterranean area. The fundamental ideas and beliefs of Europeans and North Americans, by which we are distinguished from Chinese, Indians, and those of other traditions, were formed in the meeting of Greek and Oriental cultures in ancient times. To understand fully our own contemporary culture, we must study its historical origins.

Classics is more than the study of ancient languages. Languages are not learned for themselves, but because they are necessary for the scientific study of ancient history, literature, religion, mythology and philosophy. The Classics Department at Dalhousie provides instruction both in these subjects and in ancient languages. While previous preparation in one or more ancient languages is desirable, it is nevertheless quite feasible for a student who discovers an interest in classics to begin his language studies at university.

Students of classics usually learn Greek and Latin. Instruction is also offered in Hebrew, Coptic, Syriac and Arabic.

It is obvious that classics is worth studying for its own sake by students who wish to obtain a better understanding of the common assumptions and beliefs of our society. This knowledge has always been regarded as pertinent to a career in politics and the higher levels of the civil service. For those who are thinking of the clergy, classics is the most relevant preparation.

Classical studies also prepares students for a life of teaching and

scholarship in several directions. Canada is responsible for its own culture, and we have great need of scholars and teachers who know about our origins. Teachers of classics for schools and universities are hard to find in Canada. Classics is also the best preparation for the study of non-European cultures (Chinese, Indian, Islamic, etc.), and there is a growing need for specialists in these fields. For the older history of philosophy, and for the history of Christian belief until, and including, the Reformation, a knowledge of classics is indispensable. The same may be said for medieval studies. Classics leads also to ancient Near Eastern Studies (Jewish, Babylonian, Egyptian, etc.) and to archeology.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Degree Programs

BA and BSc

Of classes offered by the department, Classics1000, 1010, 1020, 1030 and 1100 and those classes in Ancient History and Religions and Ancient and Medieval Philosophy not having a Language prerequisite should be especially useful to students taking a bachelor's degree. All classes beyond the 1000 level are available for *major and minor programs* in classics, and the Department is glad to assist students in working out programs according to their interests.

Note: The following classes satisfy the first-year writing requirements for a degree: Classics 1000; Classics 1010; Classics 1100.

Honours Programs

The candidate may choose between three programs: BA with Honours in Classics (Ancient Literature), BA with Honours in Classics (Ancient History), or BA with Honours in Classics (Ancient Philosophy). *In each case, it is highly desirable, but not essential, that the student begin the study of at least one of the classical languages during the first year of study.* For purposes of meeting grouping requirements, Ancient History and Ancient and Medieval Philosophy classes may be counted either as Classics credits, or as History and Philosophy credits, respectively.

To receive an Honours degree in Classics:

Students must complete nine to eleven classes in Classics beyond the 1000 level chosen in accord with the general Faculty regulations for Honours.

The program must include work in either Greek or Latin Language and Literature to the 3000 level and work in the other language to an appropriate level as determined by the Undergraduate Advisor.

The program must be approved by the Undergraduate Advisor.

Whether the Honours degree is awarded in Ancient Literature, History or Philosophy depends on the area of the Department's offerings in which a larger part of the work is done.

Combined Honours

Classics may be taken as part of a combined honours program with French and German. Students interested in either of these programs should consult with the chairmen of the respective departments.

Undergraduate Advisor

The programs of all students majoring or honouring in the Department must be approved by the Undergraduate Advisor. Currently, Professor Hankey holds the position.

Changes and Additions

As the Calendar goes to press before all plans for the next academic year are completed, there may be significant changes in the classes listed below. Students should consult the Department for names of instructors and revisions.

Classes Offered

Note: A number of classes listed here are not offered every year. It is advisable to inquire at the Classics Department (424-3468).

Literature, History and Philosophy, Art, Archaeology and Mythology

Note: The Introductory classes, and the more elementary classes in Ancient History and Religions, and Classical Philosophy listed below do not require knowledge of the ancient languages. However, students who plan to do advanced work in any of these areas are advised to begin study of the appropriate languages as early as possible.

Introductory: Origins of the West

Classics 1000 Ancient Literature in Translation: This class is the same as Classics 2000 (see below) but meets the first-year writing requirement.

Classics 1010 Ancient History: An Introduction to the Cultural History of the Ancient World: lecture 2 hours, D.K. House. The first term is devoted to a study of the major pre-classical civilizations (Sumer, Egypt, etc.) with attention paid to the art, religion and social forms of these cultures as well as their political development. In the second term the civilizations of Greece, Rome, and Israel are studied, and their issue in the Early Christian world considered. As the class is intended as an introductory one, no special preparation is expected. There is no foreign language requirement. This class fulfills the first year writing requirement.

Classics 1100 Classical Mythology: This class is the same as Classics 2100 (see below) but meets the first-year writing requirement.

Classics 1020 Archeology and Art: lecture 2 hours, W.J. Hankey, J.P. Atherton, P.F. Kussmaul. A study of Greco-Roman civilization through its visual art. The class will cover the period from 800 BC to AD 800. This is an introductory class. No special preparation is expected and there is no foreign language requirement.

Classics 1030 Origins of Western Thought: Introduction to Ancient Philosophy: lecture 2 hours, J.P. Atherton, W.J. Hankey. An introduction to classical culture through a study of its philosophical ideas. The ideas are presented in the religious, literary, and social context of their historical development.

Classics 2000 Classical Literature: lecture 2 hours, R. Friedrich, R.D. Crouse, C.J. Starnes and others. An introduction to classical civilization by way of the literature, read in English translations. Authors studied are Homer, the Greek Dramatists, Plato, Vergil and St. Augustine. *This class is open to first year students.*

Classics 2100 Classical Mythology: lecture 2 hours, A.M. Johnston. This class is designed as an introduction to the mythology and religion of ancient Greece and Rome. First the major gods and goddesses their worship and their myths will be studied, then the major cycles of Greek and Roman heroic mythology (the Trojan War, the Argonaut expedition, the cycles centering on Hercules, Perseus, Theseus and Aeneas) as they were recounted in Vergil, Ovid and in the visual arts. All texts read in translation. *This class is open to first year students.*

Ancient History and Religions

Classics 2200 Ancient History: The Ancient City: lecture 2 hours, P.F. Kussmaul. An introduction to Ancient History through a study of the constitutions of the Greek city states (especially Athens) and of Rome. Basic texts, such as Aristotle's *Athenian Constitution,* are read in English translation. *This class is open to first-year students.* There is no foreign language requirement. This class is given alternately with 2210.

Classics 2210 Roman History: The Roman Empire and the Rise of Christianity: lecture 2 hours, P.F. Kussmaul. A continuation of the introduction to Ancient History through a study of the institutions and constitutional arrangements of the Roman Empire from the time of Augustus. The relation of the Empire to Christianity is a topic of primary interest. This class is given alternately with 2200.

Classics 2220 Greek History: lecture 2 hours, D.K. House. Given alternately with Classics 2230.

Classics 2230 Roman History: The Cultural History of the Roman World: lecture/seminar 2 hours, D.K. House. Given alternately with Classics 2220.

Classics 3280/5280 Christian Beginnings and the Early History of the Church: seminar 2 hours, W. Hankey. The study of the beginnings of the Christian Church against its Jewish background within the Hellenistic culture.

Classics 3290/5290 Greek Religion: seminar 2 hours. The history of Greek Religion, with particular attention to the interpretation of myth.

Classics 3260/5260 Roman Religion: seminar 2 hours..

Classics 3270/5270 Near Eastern Religion: seminar 2 hours.

Classics 3520/5520 Seminar on Problems of the Hellenistic period: seminar 2 hours; Religions in the Hellenistic Period.

Classics 4530/5530 Seminar on the Roman Empire and the Rise of Christianity: seminar 2 hours, P.F. Kussmaul. Selected topics from the transition from Classical to Christian culture are studied. Particular attention is paid to the connection between religious innovation and the effect of the new beliefs on literature, art and philosophy.

Classical Literature

Classics 2000 Classical Literature: See description for Classics 2000 listed above.

Classics 2012 Greek Tragedy: Sophocles, seminar 2 hours. P. Calkin, R. Friedrich, A. Johnston. This class introduces the student to Greek tragedy through an in-depth study of the seven extant plays of Sophocles. This will be accompanied by a study of Aristotle's *Poetics. This class is open to first year students.* All texts will be read in translation.

Classics 2014A/2015B Euripidean Tragedy: seminar 2 hours, A. Johnston. These classes introduce the student to Greek tragedy through an in-depth study of a number of plays by Euripides. This will be accompanied by a study of Aristotle's *Poetics.* All texts read in translation. These classes, which may be taken separately or consecutively, are open to first-year students.

Classics 3510 Ancient and Modern Drama I: seminar 2 hours. R. Friedrich. Ancient and Modern Drama is a study of Western drama from its ritual beginnings in ancient Greece to its 20th century forms. It is presented in two parts, each forming a full credit course. However, both parts (Classics 3510 and 3511) are designed in such a way that they can be taken independently from one another. Ancient and Modern Drama I deals with ancient drama and theatre: their beginnings in the Dionysian ritual; the Dionysian festivals; production and stage conventions. The aim of this class is a study of Greek and Roman plays, both tragedies and comedies, by Aeschylus, Sophocles, Euripides, Aristophanes, Menander, Plautus, Terence and Seneca. This study will be accompanied by readings from Aristotle's *Poetics* and Horace's *Art of Poetry.* All texts will be studied in English translation. (Cross-listed as Comparative Literature 3510).

Classics 3511 Ancient and Modern Drama II: seminar 2 hours. R. Friedrich. This is Part II of a study of western drama from its ritual beginnings in ancient Greece to its 20th century forms. Although this class is a continuation of Ancient and Modern Drama I (Classics 3510), Part II can be taken independently of Part I. Thus Classics 3510 is not a prerequisite for Classics 3511. The class will open with a few lectures reviewing the results of Part I of Ancient and Modern Drama. A brief study of Aristotle's *Poetics* and Horace's *Art of Poetry*, will provide a guide to the study of the plays. The chief purpose of this class is to trace the formation of European drama and to study the influence of the ancients on this process. This will be done by studying a number of plays ranging from Medieval and Elizabethan Drama to 20th century drama, each representing a type and/or period of European Drama. All texts will be studied in English. (Classics 3511 is crosslisted as Comparative Literature 3520.)

Classical Philosophy

Classics 3300/5300 History of Christian Doctrine to Augustine: lecture 2 hours, C.J. Starnes, W.J. Hankey. The meaning of Christian doctrines in relation to their Jewish and Greek origins and their development in the classical world.

Classics 3361A and 3362B Ancient Philosophy from its Beginning to the Sixth Century AD: (same as Philosophy 3360) lecture 2 hours, J.P. Atherton, W.J. Hankey. Proper attention is paid to the great classical philosophies of Plato and Aristotle studied in their historical context. Much emphasis is laid on the Greek philosophy of the first centuries AD and its influence on developing Christian thought. The first half considers the history from the Pre-Socratics to Plato. The second half moves from Aristotle to Plotinus.

Classics 3370/5370 History of Christian Doctrine II: From Augustine to Calvin: W.J. Hankey. The class considers the theological development of matters like the Trinity, Incarnation, predestination, the nature of man and the sacraments by medieval thinkers.

Classics 3380 Medieval Philosophy: (same as Philosophy 3380) lecture 2 hours, R.D. Crouse. A study of the development of philosophy in the formative age of European civilization related to political, institutional, literary and theological concerns. An attempt is made to show how the legacy of classical and Christian antiquity was appropriated and reformed to constitute the ideology of medieval Christendom. The lectures are devoted mainly to the study and discussion of a few fundamental texts, beginning with Boethius' *Consolation of Philosophy.* Special attention is given to Anselm's *Proslogion* and the first few questions of Thomas Aquinas' *Summa.* It is the object of lectures to present the continuity of the historical development and to emphasize broad implications of the philosophical doctrines presented in the texts. In the later part attention is given to late medieval Platonism and Mysticism, to show something of the Reformation and modern philosophical and religious thought.

Classics 3400 The Dialogues of Plato: seminar 2 hours, D.K. House. This class presupposes some knowledge of the history of Ancient Philosophy, and some of Greek. Given alternately with Classics 3500.

Classics 3410 St. Augustine's Confessions: seminar 2 hours, C.J. Starnes. A study of the three parts of Augustine's *Confessions* with a view to understanding his dissatisfaction with the various positions he adopted prior to his conversion to Christianity (Part 1), the practical consequences of this conversion (Part II), and the new theoretical understanding of time, space and motion which come out of his Trinitarian exegesis of the first chapters of Genesis (Part III). This class presupposes some knowledge of the history of Ancient Philosophy, and some of Latin. This class is given alternatively with Classics 3420.

Classics 3420 St. Augustine's City of God: seminar 2 hours, C.J. Starnes. A study of Augustine's account of the failure of the Roman Empire and of the new Christian 'city' that replaced it. The course sometimes concentrates on the entire twenty-two books of the *City of God* and sometimes begins with a study of earlier accounts of Rome *(Aeneid)*, and of the relations of Rome and the church in, for example, the *Apostolic Fathers,* the *Acts of the Martyrs* and Tertullian, before turning to the first ten books of the *City of God. This class is given alternatively with Classics 3410.*

Classics 3450/German 345 Hegel's Philosophy of Nature

Classics 3470, Reading and Research: Ancient Literature

Classics 3480, Reading and Research: Ancient History

Classics 3490, Reading and Research: Ancient Philosophy

Classics 3500 Aristotle: seminar 2 hours, D.K. House. This class studies a treatise of Aristotle, usually the *De Anima* or the *Physics.* It presupposes some knowledge of Ancient Philosophy and some knowledge of Greek.

Classics 4200/5670 Ancient Practical Philosophy: seminar 2 hours, J.A. Doull, W.J. Hankey.

Classics 4300/5600 Seminar on the philosophy of Aristotle: seminar 2 hours, J.P. Atherton. Usually the Metaphysics and its relation to the other Aristotelian treatises will be studied.

Classics 4310/5610 Seminar on the Philosophy of Plato: seminar 2 hours, J.A. Doull.

Classics 4320/5620 Ancient and Modern Dialectic: seminar 2 hours, J.A. Doull. Dialectical method in Fichte, Schelling and Hegel in relation to Plato and Aristotle.

Classics 4400/5700 Seminar on the Philosophy of the Church Fathers: R.D. Crouse.

Classics 4450/5640 Medieval Interpreters of Aristotle: seminar 2 hours, J.P. Atherton, R.D. Crouse, W.J. Hankey.

Classics 4500/5800 Seminar on Neoplatonism: seminar 2 hours, J.P. Atherton. Topics from the history of Neoplatonism and its relation to the theology of the Greek Church are studied.

Classics 4580/5580 Reading and Research

Classics 4680A/4690B Reading and Research

Classics 4900/5900 Departmental Seminar: seminar 2 hours.

Classical Languages and Literature

Classics 1700 Introductory Greek: lecture 3 hours, P.J. Calkin. This is the beginner's class in the Greek language. No previous knowledge is required. The aim is to teach the student to read a Greek text. After becoming accustomed to the new alphabet — which does not take long — the study of grammar is introduced along with reading and translation of texts from original Greek literature.

Classics 2700 Intermediate Greek: lecture 3 hours, P.J. Calkin. Classics 2700 is a continuation of Classics 1700 or 2710. The aim is to develop the student's ability and to read and translate prose as well as poetic Greek texts.

Classics 2710 Greek Prose: seminar 3 hours. P. Calkin. A study of Greek accidence and syntax through the reading of Greek prose authors (Xenophon, Lysias). Prerequisite: any 1000 level Classics class or equivalent.

Classics 3700 Advanced Greek: seminar 2 hours, J.A. Doull, D.K. House, R. Friedrich. Prerequisite: Classics 2700. This class which reads both a prose and a poetic work is the normal third class in Greek.

Classics 3710/5710 Greek Epic: seminar 2 hours, R. Friedrich. Prerequisite: Classics 2700.

Classics 3720/5720 Greek Lyric: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3730/5730 Greek Drama: Tragedy: seminar 2 hours, R. Friedrich. Prerequisite: Classics 2700.

Classics 3740/5740 Greek Drama: Comedy: seminar 2 hours, R. Friedrich. Prerequisite: Classics 2700.

Classics 3750/5750 Greek Philosophical Texts I: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3760/5760 Greek Philosophical Texts II: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3770/5770 Greek Philosophical Texts III: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3751 Ancient Comedy; Greek New Comedy and Roman Comedy: seminar 2 hours. R. Friedrich. A comparative study of Menander, Plautus and Terence. Prerequisite: Classics 2700 and 2800. This course is crosslisted as Classics 3850 or as Comparative Literature 3750.

Classics 3780/5780 Greek Historians: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3790/5790 Greek Literary Criticism: seminar 2 hours, R. Friedrich. Prerequisite: Classics 2700.

Classics 3791A & B Reading and Research: seminar 2 hours, staff. Prerequisite: Classics 2700.

Classics 3725 Biblical Greek: This class enables the student who already knows the basics of Classical Greek to familiarize himself with *koine*-Greek as it is found in various *New Testament* authors. The Greek of the *Septuagint* will also be taken into account.

Classics 4700/5700A/B Reading and Research: staff. Prerequisite: any Classics 3000-level class.

Classics 1800 Introductory Latin: lecture 3 hours, C.J. Starnes. An introduction to Latin through the study of its basic grammar.

Classics 2800 A Study of Latin Prose and Poetry: lecture/discussion 2 hours, P.F. Kussmaul. A study of the poetry and prose literature of Rome through a selection of texts. Particular attention is paid to improving the students' command of the grammar and syntax of the Latin language.

Classics 2810 Latin Prose: seminar 3 hours. C. Starnes, P. Kussmaul. A study of Latin accidence and syntax through the reading of Roman prose authors (Caesar, Cicero). Prerequisite: any 1000 level Classics class or equivalent.

Classics 2860 Latin Historical Texts: lecture 2 hours, J.P. Atherton.

Classics 3800/5800 Roman Satire: seminar 2 hours, staff.

Classics 3810/5810 A Study of Vergil: seminar 2 hours, J.P. Atherton. Prerequisite: A class in Latin at the 2000 level. A study of the development and importance of Vergil's basic themes and ideas embodied in the *Aeneid.* In the first part of the class special attention is given to his early work the *Bucolics,* where his themes begin to appear, and their development is then followed through the relevant parts of the *Georgics.* The main part of the class is devoted to the reading and discussion of the chief themes of the *Aeneid,* especially as they illustrate Roman political, religious and social ideas which have greatly influenced our own beliefs and institutions.

Classics 3820/5820 Advanced Reading in Latin Literature: staff.

Classics 3830/5830 Latin Religious Poetry: seminar 2 hours, J.P. Atherton, P.F. Kussmaul. A study of religious poetry written in the Latin language from the *Carmen Saliare* (680 BC) to Calvin's *Epinicon* (1544 AD) and the poems of Leo XIII (1890 AD).

Classics 3840 Latin Philosophical Texts: lecture 2 hours, R.D. Crouse. Prerequisite: Classics 1800, 2810 or Senior Matriculation in Latin. The purpose is to give students experience in reading philosophical Latin. Various authors are read from Cicero to the late Middle Ages.

Classics 3850: A Latin (i.e. 800) listing for Classics 3751.

Classics 4800 Reading and Research: staff.

Classics 4850/5850 Reading and Research: staff.

Near Eastern Languages

The classes in Hebrew, Coptic, Syriac and Arabic, are sometimes available as electives at the discretion of the Department, only in relation to the needs of the particular student.

Note: The classes in Hebrew and Arabic are taught by the Atlantic School of Theology.

Hebrew

1010 Elementary Hebrew and Introductory Readings

2020 Intermediate Hebrew

3030 Advanced Hebrew

Arabic

Students wishing to take a class in Arabic must consult with the Department before registering for the class.

1000 Introductory Grammar and Reading of Texts

2000 Intermediate Arabic

Special Topics

Classics 4910A/4920B Special Topics

Classics 4710A/4720B Special Topics

Classics 4810A/4820B Special Topics

Comparative Literature

A. Andrews (Theatre)
J.A. Barnstead (Russian)
S.A.M. Burns (Philosophy)
R. Friedrich (Classics) (Chairman)
F. Gaede (German)
R.M. Huebert (English)
S. Jones (Spanish)
J.M. Kirk (Spanish)
R.M. Martin (Philosophy)
H.R. Runte (French)
M.C. Sandhu (French)
H.G. Schwarz (German)
H.S. Whittier (English)

Comparative Literature, despite its name, is not so much defined by 'comparisons' as by studies involving literary works which belong to more than one literature and language. The idea of a national literature (English literature, French literature, Canadian literature, etc.) is of relatively recent date. It originated in the 18th century with the rise of national consciousness; yet at the same time the traditional broad unity of all literatures reasserted itself in Goethe's concept of 'world literature.' In Comparative Literature the literary work is treated in its double aspects of belonging to a national literature as well as forming part of world literature. Comparative Literature has various approaches. It implies the study of *themes* and *motifs* (e.g. Faust, myths, etc.) as they recur in literary works of different ages and literatures; of *literary genres* such as drama, epic or romance; of *periods* (e.g. Renaissance, 18th century, etc.); of authors writing in different languages but linked by influences; of the *reception* of the work of an author in another literature (e.g. Shakespeare in Germany). The relationships of literature to the other arts (e.g. film, the fine arts, music, etc.) may also be a subject of Comparative Literature; and last but not least, Comparative Literature forms a bridge between literature and other fields in the humanities such as philosophy, religion, and politics.

The Departments of Classics, English, French, German, Philosophy, Russian, Spanish and Theatre offer the following classes in Comparative Literature. Classes which are cross-listed may form part of an area of concentration. All lectures are given in English and works are read in English translation unless otherwise noted.

Classes Offered

Classes marked * are not offered every year. Please consult the current timetable on registration to determine if this class is offered.

Note: At present the Comparative Literature Program is being revised; the entries may therefore be outdated at the time when this Calendar will be published. Students interested in the Comparative Literature Program should contact R. Friedrich, Classics Department, 424-3468; or H.R. Runte, French Department, 424-2430.

***2000 Introduction to Comparative Literature:** This is an introduction to the understanding of man's approach to the problems of life through the study of selected masterpieces of European literature which may include works by Dante, Chaucer, Cervantes, Shakespeare, Moliére, Goethe, and others. Note: English 100 or Classics 2000 is acceptable as an equivalent to Comparative Literature 100.

2011A/B The History of the Theatre from its Origins to the Renaissance: 3 hours, A. Andrews. This class is class is cross-listed as Theatre 2011A/B.

2012A/B The History of the Theatre from Renaissance to the Twentieth Century: 3 hours, A. Andrews. This class is cross-listed as Theatre 2012A/B.

2030 Masterpieces of Western Literature: H.S. Whittier. This class is cross-listed as English 203.

2040 The European Novel: Staff. This class is cross-listed as English 204.

2100 Classical Mythology: A. Johnston. This class is cross-listed as Classics 2100.

***2110 Theories and Manifestations of Love in Medieval Europe:** H.R. Runte. A literary and anthropological study of major poetic, romanesque, and dramatic works by English courtly poets, French troubadours, and German Minnesaenger, with special emphasis on their relation to our time.

***2120 Realism and the 18th Century English and French Novel:** R. Runte. Novels by such authors as Marivaux, Richardson, Prévost, Fielding, Rousseau, Diderot, Smollett, and Laclos are studied. Aspects of realism in style and structure provide the basis for comparison/contrast of the works read.

***2140 Arthurian Romances:** H.R. Runte. A historical, archaeological, cultural and literary investigation of French, English, and German Arthurian texts dealing with the medieval legend of King Arthur and the Knights of the Round Table. All readings in modern English translations.

***2180 Germanic and Greek Mythology:** This class is cross-listed as German 235.

***2370 Restoration and 18th Century Comedy:** R. Runte. A comparative study of English and French plays by such authors as Wycherley, Etherege, Congreve, Steele, Sheridan, Moliére, Lesage, Marivaux, Voltaire, and Beaumarchais. Critical essays on comedy are studied with a view to defining the universal, national and temporal nature of comic elements in the works read.

2705B Philosophy in Literature: R.M. Martin. This class is cross-listed as Philosophy 2700B.

3500 The Modern Theatre: A. Andrews. This class is cross-listed as Theatre 3500.

3510 Ancient and Modern Drama I: R. Friedrich. This class is cross-listed as Classics 3510.

3511 Ancient and Modern Drama II: R. Friedrich. This class is cross-listed as Classics 3511.

4900 Dramatic Theory and Criticism, and the Aesthetics of the Theatre: A. Andrews. This class is cross-listed as Theatre 4900.

Comparative Religion

Professor (Chairperson)
R. Ravindra, BSc, MTech, (IIT), MA (Dal), MSc, PhD (Tor.), Adjunct Professor of Physics

Associate Professor
C.T. Sinclair-Faulkner, BA (Tor.), MTh, MA, PhD (Chic.)

The University study of religion aims at an intellectual understanding of this more than intellectual reality. Religion is a phenomenon virtually universal in human society and history; some have held that it is central to the human condition. Understanding involves grasping simultaneously both the meaning of faith in the lives of participants, and the critical analysis of outside observers. Both the student wishing enhanced understanding of religion as an historical and social and human fact, and the student who wishes to wrestle with problems arising in academic reflection concerning the relation between the personal and the objective, can find material to engage them in the courses described below.

BA

Students wishing to major in Comparative Religion must successfully complete Comparative Religion 1010 or 1301, and at least four to eight full-year classes or their equivalent in Comparative Religion beyond the 1000-level. These must include at least two from each of the groups (2001, 2002, 2003) and (2011, 2012, 2013).

After earning at least 10 credits of any kind students must successfully complete one class in Comparative Religion beyond the 3000-level (see "Topics in Comparative Religion").

This provides them with a broad introduction to both Eastern and Western religious life, and to the various ways in which religion may be studied. In light of their specific interests, Comparative Religion majors are encouraged to enrol in related classes offered by other Departments. Programs should be planned in consultation with the undergraduate advisor, Dr. C.T. Sinclair-Faulkner.

Please consult the current timetable on registration to determine which classes are being offered.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Classes Offered

1000/2000R Introduction to World Religion: lecture and tutorial 3 hours, R. Ravindra. No prerequisite. This class will focus on a comparative study of Christianity and other major world religions. The first half of the class will be an introduction to the basic ideas and concerns of the world religions with an emphasis on fundamental general questions in comparative studies: What materials in different traditions are comparable? What psychological and intellectual attitudes are required for such a study? The second half is devoted to a comparative study of the *Gospels* and a scripture from another religion. Extra work will be required in 2000 which is not available to first-year students.

1301 Introduction to the Study of Religion: lecture 2 hours, section meeting 1 hour, C.T. Sinclair-Faulkner. (No prerequisite). Religion is: a way of life? an encounter with God? a neurosis? the essential human trait? an epiphenomenon? The possibilities are explored by using the insights of modern social scientists, humanists and theologians to study Canadian life. This class fulfils the first-year Writing Requirement. A detailed syllabus is available from the Department of Comparative Religion.

The following semester-long classes serve variously as prerequisites to 3000-level classes (q.v.). Each deals with one of the world's six major religious traditions by examining its founder(s), scriptures, history, communal forms, a key ritual, and the impact of the modern world. The common text for all six classes is Nielsen *et al., Religions of the World.* There are no prerequisites for these classes but first-year students are not admitted without the consent of the instructor.

2001 A/B Judaism: lecture and seminar 3 hours, C.T. Sinclair-Faulkner.

2002 A/B Christianity: lecture and seminar 3 hours, C.T. Sinclair-Faulkner.

2003 A/B Islam: lecture and seminar, 3 hours, C.T. Sinclair-Faulkner.

2011 A/B Hinduism: lecture and seminar, 3 hours, R. Ravindra.

2012 A/B Chinese and Japanese Religions: lecture and seminar, 3 hours, R. Ravindra.

2013 A/B Buddhism: lecture and seminar, 3 hours, R. Ravindra.

3001 Western Spirituality: lecture and seminar 2 hours, C.T. Sinclair-Faulkner. Prerequisite: At least one of 2001, 2002, 2003 or permissison of the instructor. The Western world has known many different ways to be religious: personal, mystical, political, rational, sensual. Original accounts of Jewish, Christian, Muslim and Amerindian spiritualities are studied in their historical context. Each student undertakes a guided study of some twentieth-century religious experience of his or her choice. A detailed syllabus is available from the Department of Comparative Religion.

3002 Religion in Story: lecture and seminar 3 hours, C.T. Sinclair-Faulkner. Prerequisite: At least one of 2001, 2002, 2003 or permission of the instructor. When religious people seek answers to ultimate questions or try to come to grips with the mystifying phenomenon of the Holy, they turn to stories. Modern novels and short stories, particularly Canadian works, are the primary reading assignments in this class. They are set in the context of related material from the broader western culture, including the Jewish scriptures. A detailed syllabus is available from the Department of Comparative Religion.

3003 Religion in Canada: lecture and seminar 3 hours, C.T. Sinclair-Faulkner. Prerequisite: 2001 or 2002 or permission of the instructor. When Canadians have built cities, gone to war, founded economic empires, fallen in love, designed school systems, and elected governments, religion has often been a decisive factor. Sometimes religion has been *the* decisive factor. What is "religion" in Canada? In the course of this extensive historical study of life in Canada from the sixteenth century to the present, a variety of answers will be explored. A detailed syllabus is available from the Department of Comparative Religion.

3014R Love and Death in World Religions: lecture and seminar 3 hours, R. Ravindra. Prerequisite: A class in Comparative Religion or the permission of the instructor. What are love and death? Is it possible to love in the midst of intense suffering and hatred, as in the Holocaust? How are sex and love related with each other? Why do mystics in many traditions speak of love and death together? What meaning can life have in the face of the inevitability of death? Does individual identity come to a complete end or does one continue existence in some form, as most religions assert? What is the nature of judgment after death? Is there reincarnation?

3015A/B Myths, Symbols and Rites: lecture and seminar 3 hours, R. Ravindra. Prerequisite: A class in Comparative Religion or permission of the instructor. Myths, symbols, and rites have been among the major vehicles of spiritual truths and psychological insights in all religions. After a general discussion of the nature of symbolic and mythic understanding, the focus is on some of the major myths and symbols associated with the lives and teachings of Krishna, Shiva, Gautama Buddha and Jesus Christ.

3531 Mystical Consciousness and Modern Science: seminar 2 hours, R. Ravindra. Prerequisite: A class in Comparative Religion or in Science (preferably both). Yoga, Zen, Prayer of the Heart, Sufism and other spiritual disciplines have gathered an enormous amount of experiential and theoretical material about human consciousness and its many levels, from the ordinary to the mystical and cosmic. The first term is devoted to understanding many levels of human consciousness based on these disciplines. The second term is devoted to a critical examination of mystical consciousness in the light of modern scientific discoveries, and of the fundamental presuppositions of modern science in the light of the universal experience and knowledge of the many levels of consciousness.

3502A/B The Rise of Modern Science: lecture/tutorials 3 hours, J. Farley (Biology) and R. Ravindra (Comparative Religion/Physics) The modern world has been fundamentally altered by science and technology. In what ways? How has this come to be? This class, *designed for students in the arts as well as the sciences,* examines these questions by looking at the origins of modern science in the 16th and 17th centuries, its growing popularity in the 18th century, and the rise of the scientific profession and science-based industry in the 19th and 20th centuries.

3503A/B Nuclear Bombs: Survival and Moralilty: seminar 3 hours, R. Ravindra. This class, designed for students in the arts and the sciences, will study the history of atomic bomb development, the moral issues involved in the destruction of Hiroshima and Nagasaki, and the concerns about human survival raised by the proliferation of these weapons. Prerequisites: Comparative Religion 3502A (or equivalent) or permission of the instructor.

Classes at the 4000-level will normally only be arranged at the request of a student who is majoring in Comparative Religion, though other students may then be admitted to the class upon application to the instructor. These classes permit the student to integrate the work of many previous classes and lines of study while examining some chosen topic in the academic study of religion.

4310A/5310A-4320B/5320B Topics in Comparative Religion: seminar 2 hours, staff. Structured as a seminar or for independent guided study depending on the interests and needs of the students and the faculty. The intention is to devote some concentrated time to a specific topic of interest, such as *Cults and New Religions, The Feminine in World Religions, Religious Aspects of Middle-East Politics, Tradition and Modernity,* etc. Please consult the Department for the topic which may be discussed in any given term.

Computing Science

Director of Computing Science Division
M.A. Shepherd

Professors
A.G. Buckley, MSc (Alta.), PhD (UBC)
P.Keast, PhD (St. Andrews)
K.J.M. Moriarty, MSc (Dal), PhD (London)

Associate Professors
B.W. Fawcett, MSc, PhD (McMaster)
C.S. Hartzman, MS (Purdue), PhD (Colorado)
M.A. Shepherd, MSc, PhD (Western)

Assistant Professors
A. Farrag, PhD (Alberta)
R.D. Holmes, MSc (Princeton), PhD (Dal)
J. Mulder, PhD (UBC)
A.E. Sedgwick, MS (Wisconsin), PhD (Tor)

Degree Programs

Students who plan to major in Computing Science should arrange a program in consultation with the Department of Mathematics, Statistics and Computing Science.

Major in Computing Science

Majors in Computing Science must obtain at least four (and no more than eight) credits beyond the 1000 level in Computing Science.

In addition to the necessary first-year prerequisites (i.e. Math 1000, 1010, Computing Science 1400, 1410) the following classes are required:

2nd year: CS2270, CS2350, CS2450, CS2610, Math 2030 or Math 2130

3rd year: CS3690, CS3040, CS3700, CS3250

Students wishing to major in Computing Science will normally take the pair CS1400/1410, but it will be possible to proceed from CS1200/1210 into a Computing Science program. The main purpose of CS1200/1210, however, is to provide an introductory computing course suitable for science majors. This pair of courses leads naturally into CS2270 (Numerical Linear Algebra),CS3210 (Numerical Analysis) and CS3350 (Introduction to Supercomputers). In addition, CS1200/1210 (as well as the pair CS1400/1410 satisfies the first year requirement for TUNS programs (see Other Information section)

Students who wish to arrange inter-disciplinary programs (with fields such as Mathematics, Physics, Psychology, and others) are invited to discuss their interests with the department.

Honours in Computing Science

The Honours program in Computing Science must include the following courses usually taken in the years shown:

1st year: Math 1000, Math 1010, CS1400, CS1410, CS1670*, CS2670*

2nd and 3rd year: CS2450, CS2350,CS2610, CS2270, CS2670, CS3690, Math 2070, Math 2080, Math 2130 or (Math 2030, Math 2040), CS3040, CS3700, CS3250

4th year CS8870, and four 4000 level CS courses.

*Typically taken within the first two years.

Combined Honours

Students interested in taking honours in Computing Science and another subject as a combined program should consult the honours advisor through whom a suitable course of study can be arranged.

A combined honours program may well be an appropriate choice for many students. If a student is contemplating graduate work, it should be borne in mind that the work in either subject of a combined honours program may be insufficient for entry to a regular graduate program, and that a qualifying year may be necessary.

Cooperative Education Programs

The department offers two Co-op education programs involving Computing Science, a concentrated honours program in Computing Science, a 20-credit major program and a combined program with Mathematics. Computing Science Co-op students are required to take all the courses that non-Co-op students take.

For further information regarding the 20-credit program refer to specific regulations on pages 33 to 41. Further information about the Co-op

programs is included under the Calendar entry for Mathematics. Interested students should note that some Departmental regulations for Co-op students differ from those regulations for students not in the Co-op program.

Any student who is interested in enrolling in a Co-op program is urged to contact the Director of Co-op Education as early as possible in their academic career for course advice and other information.

Prerequisites:

If a Computing Science course is listed as a prerequisite for a Computing Science course beyond the first year level, a grade of C or better is required in the listed course for it to count as a prerequisite.

Other Information

The Department operates a VAX-750 system, running Unix, for Computing Science students. The terminals are located in the Killam Library. The university also operates a VAX-8800 running VMS that is used for some Computing Science courses and has a PC lab and a Macintosh lab avaiable for coursework and student use. In addition, a VAX-785 system, running Unix, is available for faculty and graduate students.

Students who complete the first two years of a Dalhousie program in Computing Science may complete their programs at Dalhousie or may be able to transfer to the Technical University of Nova Scotia (TUNS) to complete a Bachelor of Computing Science with Engineering options. Further information about the classes required for admission to a TUNS program may be obtained from TUNS or the Department of Mathematics, Statistics and Computing Science.

Note that credit may not be obtained for the same class twice even if the number has been changed (e.g. 2610 is the same as the former 360).

Classes Offered

Classes marked * are not necessarily offered every year. Please consult the current timetable on registration to determine if this class is offered.

1200A Introductory Computing Science: lecture 3 hours; tutorial 1 hour. Prerequisite: Nova Scotia Math 441 or equivalent. Together with CS1210 this class provides an introduction to Computing Science. No previous knowledge of computing is assumed. The course will teach the elements of programming and algorithm development. The language which will be used is FORTRAN. Throughout the course the emphasis will be on numerical and scientific applications. Credit will be given for only one of CS1200 and CS1400.

1210B Scientific Applications and Algorithms: lecture 3 hours, tutorial 1 hour. Prerequisite: CS1200 (or CS1400 and the permission of the instructor), and Math 1000. This is a continuation of CS1200. The course will deal mainly with scientific applications of computers and with the development of algorithms for scientific problems. Elementary numerical techniques will be taught and deterministic and random simulation will be discussed. Credit will be given for only one of CS1210 and CS1410.

1400A Introduction to Computing Science: lecture 3 hours, tutorial 1 hour. Prerequisites: Nova Scotia Math 441 or equivalent. This class together with CS1410 provides a general introduction to algorithmic concepts, structured programming, and Computing Science. Students develop programming skills in a higher-level language such as Pascal, with emphasis on structured programming. The exercises involve primarily non-numerical tasks including character manipulation and sequential file processing.

1410B Applications and Algorithms: lecture 3 hours, tutorial 1 hour. Prerequisites: CS1400 (or CS1200 and permission of the instructor) and Math 1000. This is a continuation of CS1400. The applications tend to be more mathematical and include numerical calculations with truncation and rounding errors, statistics, modeling and simulations, data processing, non-numerical applications involving networks and graphs, interpreters and translators. Students are introduced to elementary data structures and algorithm analysis.

1670A Discrete Structures I: lecture 3 hours (see Mathematics 1670A).

2270A Introduction to Numerical Linear Algebra: lecture 3 hours (same as Mathematics 2270B). Prerequisites: Math 1010, 2030 and CS1410. We begin by examining the floating point number system and its arithmetic. Next, we investigate the numerical solution of systems of linear equations, examining Gaussian Elimination and some iterative methods. The idea of condition numbers, both of a problem and an algorithm, is introduced, together with some techniques of estimating the condition number of a matrix. The Singular Value Decomposition of a matrix and generalized inverses are also examined. The Modified Gram Schmidt process, the solution of undetermined linear systems, and overdetermined linear systems using a least squares approach, are discussed. Reference is also made to various software libraries available, including LINPACK. Time permitting, interpolation is also discussed.

2350B Introduction to File Processing: lecture 3 hours. Prerequisite: CS2610. This class begins with a review of sequential file algorithms. However, the primary subject is direct-access file systems and the various access methods. Some of the theoretical topics covered include hashing and tree data structures appropriate for file directories. Internal and external sorting methods are covered in considerable detail.

2450A Introduction to Computer Systems: lecture 3 hours Prerequisite: CS1410 . An introduction to machine architecture from the perspective of an assembly language programmer. Students gain familiarity with an assembly language and the translation process needed to produce machine code. Common addressing modes, macros and file I/O are discussed, together with the internal structure of memory, control units and processing units.

2610A Data Structures and Algorithmic Analysis: lecture 3 hours. Prerequisite: CS1410. Data types and the operations on them are covered in this class, including stacks, queues, trees and various linked structures. The efficient representation of graphs and the corresponding algorithms are discussed. Considerable emphasis is placed on the analysis of algorithms.

2670B Discrete Structures II: lecture 3 hours (see Mathematics 2670B).

3040A/B Introduction to Computer Organizations: lecture 3 hours. Prerequisite: CS2450. An introduction to logic design and detailed computer architecture. Basic logic elements such as gates and flip-flops are discussed and the design of combinational networks, registers and control mechanisms analyzed. Internal representation and arithmetic, communication between components, instruction fetch and sequencing, interrupts and I/O controllers are also discussed.

3090A/B Computers and Society: lecture 3 hours. Prerequisite: CS1410. The impact of computers on society is discussed in this class. Topics include the history of computing and technology, the place of the computer in modern society, legal issues such as the copywriting of software, the computer scientist as a professional, the impact of databanks on individual privacy and the public perception of computers and computer scientists.

3210B (formerly part of 320) Introduction to Numerical Analysis: lecture 3 hours (same as Mathematics 3210A). Prerequisites: Mathematics 2000 and CS2270. See class description for Mathematics 3210A.

***3220A or B Numerical Solutions of Ordinary Differential Equations:** lecture 3 hours (same as Mathematics 3220B). Prerequisites: CS3210 and Mathematics 3110, 3090. See class description for Mathematics 3220B.

3250A Data Base Management Systems Design: lecture 3 hours Prerequisites: CS2610, CS2350. The concepts and structures necessary to design and implement a data base management system are stressed. Hierarchical, network and relational models are discussed with emphasis on the necessary logical and data structures. Various normal forms and canonical schema are discussed as well as the concepts of relational algebras and relational calculus.

3350A/B Introduction to Supercomputing: lecture 3 hours. Prerequisites: CS 2270 and CS2450. An introduction to the computer architecture of the supercomputers of today: CRAY X-MP, CRAY 2, CDC CYBER 205, ETA-10, FUJITSU VP200 and NEX 2X-2. The software for the efficient implementation of vectorization and parallel processing will be discussed.

3690B (formerly 270) Programming Languages: lecture 3 hours. Prerequisite: CS2610. The emphasis is on fundamental concepts such as block structure and recursion and structured control flow. Exercises are given in several languages such as C, Lisp and Prolog. Recursion and functional programming are extensively discussed as well as an introduction to program correctness.

3700B Operating Systems I: lecture 3 hours. Prerequisite: CS2610, 3040. This class covers the principles of modern operating system design with examples from existing systems. Specific topics include: concurrent processes, interprocess communication, synchronization, scheduling policies, multi-level storage management, and associated algorithms.

3750A Artificial Intelligence: lecture 3 hours. Prerequisite: CS3690. An introduction to basic concepts and techniques of artificial intelligence or systems with insights given into active research areas and applications. Representational issues and notational structures are emphasized and existing systems are surveyed. Students work on a fairly large project using Lisp.

***3810B (formerly Physics 421) Microcomputers in the Real World:** lecture 3 hours (same as Physics 3810B). Prerequisites: CS2450, Physics 2200A/2210B or 2110/2120. See class description for Physics 3810B.

***4100A/B Operating Systems II:** lecture 3 hours. Prerequisites: CS3700B, Mathematics 2070-2080. A further development of the material of Operating Systems I. Topics include concurrent processes, address space management, resource allocation, multiprogramming systems, protecting access to objects, pipelining, user interfaces and networks.

***4130A/B Analysis of Algorithms:** lecture 3 hours, (same as Math 4130 A/B) Prerequisite:CS3690. This class covers algorithmic solutions to a wide variety of problems and a formal analysis of their complexity. It is a continuation of the 2610 class. Problems are taken from combinatorics and numerical computation including algorithms for unordered and ordered sets, graphs, fast multiplication, prime testing, factoring, polynomial arithmetic and metric operations. Other topics include the analysis of algorithms used in systems programming and artificial intelligence such as pattern matching for text processing and algorithms in natural language processing.

***4140A/B Software Design and Development:** lecture 3 hours. Prerequisite: CS3690. This class involves a formal approach to state-of-the-art techniques in software design and development. Students work in teams in the organization, development and management of a large software project. Formal models of structured programming, stepwise refinement and top-down design, strength and coupling measures, milestones and estimating, chief-programmer teams, program libraries and documentation are included.

***4150A/B Theory of Programming Languages:** lecture 3 hours. Prerequisite: CS3690. This is a class in the formal treatment of programming language translation and compiler design concepts. Topics include lexical analysis and parsing with emphasis on the theoretical aspects of parsing context-free languages, translation specification and machine-independent code optimization. Finite state grammars, lexical scanners, and context-free parsing techniques such as LL(k), procedence, LR(k), SLR(k) are included.

***4200A/B Selected Topics in Artificial Intelligence:** lecture 3 hours. Prerequisite: CS3750

4250A Information Retrieval: lecture 3 hours. Prerequisite: CS2350. An introduction to online information retrieval systems for textual databases. The major models of information retrieval will be covered as well as such basic tools as automated indexing and performance measures.

***4270A/B Numerical Software:** lecture 3 hours. Prerequisite: CS3210. The design and implementation of reliable programs and libraries for numerical computation are the foci of this class. Program libraries such as EISPAC, LINPAC and IMSL are reviewed. Particular attention is paid to the choice of subroutine parameters and the tradeoffs between convenience, simplicity and generality.

***4350A/B Topics in Computer Science:** lecture 3 hours. Prerequisites: Three 3000 level CS courses. See the Department for the current topic.

4380A/B Statistical Computing: (see Statistics 4380) lecture 3 hours. Prerequisites: Statistics 2080, Mathematics 2040, CS1210 (or 1410).

***4400A/B Programming Methodology:** lecture 3 hours. Prerequisite: B average in 3000-level Computing Science courses. Techniques for verification of computer programs. Formal specification of software.

***4450A/B Introduction to Data Communications:** lecture 3 hours. Prerequisites: CS3700. The elements of data communications and the structure of computer networks will be discussed. The course uses the ISO model as a reference and includes an introduction to basic data transmission techniques, computer network topologies and architectures, and a look at some specific implementations and applications.

***4500A/B Computational Linguistics:** lecture 3 hours. Prerequisite: CS3750. An introduction to the computer modelling of natural language understanding. Recent developments in Artifical Intelligence will be reviewed.

4550A or B Microcomputers: lecture 3 hours. Prerequisites: CS2450 and CS3700. This course provides an overview of microcomputer systems both at the general concept level and by examining specific systems. General architecture topics include instruction sets, memory I/O, bus systems and interrupt structures. Specific systems by several different manufactures are examined on the basis of both hardware and software.

4650A or B Selected Topics in Information Retrieval: lecture 3 hours. Prerequisite: CS4250A. Assuming that the student has a broad understanding of the field of information retrieval, this course takes an in-depth look at selected topics at the forefront of the field. The topics will vary slightly from year to year, but may include: clustering and nearest neighbour matching, information theory, bibliometrics, and new models of information retrieval.

***4660A/B Automata and Computability:** lecture 3 hours (same as Mathematics 4660A/B). Prerequisite: CS2670. This class deals with finite state, pushdown and linear bounded automata; their correspondents in the Chomsky hierarchy for formal grammars and Turing machines. Appropriate closure properties and non-determinism are discussed as well as computable and noncomputable functions and the Halting problem.

***4700A/B Advanced Topics in Data Base Design:** lecture 3 hours. Prerequisites: CS3250.

***4800A/B Computer Systems Modelling:** lecture 3 hours. Prerequisites: CS3700 and Stats 2070/2080. This course develops queueing network models suitable for modelling computer systems. Approximate and exact solutions to these models are developed and single and multiple classes of users are considered. Modelling multiprocessors, I/O, shared memory, swapping, paging, etc. are also considered. Finally, some of the modelling techniques are applied to other situations such as database performance. The models are developed intuitively and justified rigorously using queuing network theory.

8700 (non credit) Co-op Seminar

8701 (non-credit) Co-op Seminar II

8870C Honours Seminar

8891 Co-op Work Term I

8892 Co-op Work Term II

8893 Co-op Work Term III

8894 Co-op Work Term IV

Economics

Chairperson of Department
E. Klein

Emeritus Professor
Z.A. Konczacki, BSc (Lond.), B.Econ.Hons. (Natal), PhD (Lond.)

Professors
R.L. Comeau, BA, MA (St FX), PhD (Brown), *Coordinator of Graduate Studies*
J.L. Cornwall, BA (Iowa), MSc (Lond.), PhD (Harv.)
R.E. George, BSc (Lond.), MA (Brist.), PhD (Lond.) William A. Black Professor of Commerce
J.F. Graham, BA (UBC), MA, PhD (Col.), FRSC, Fred C. Manning Professor of Economics
E. Klein, LLM (Buenos Aires), MSc (Dal), Dr.Rer.Pol. (Hamburg)
C.T. Marfels, Dr.Rer.Pol. (Berlin)
R.I. McAllister, MA (Oxon.), MA (Cantab.)
L. Osberg, BA Hons (Queen's), MPhil, PhD (Yale)
U.L.G. Rao, MA, MSc (Andhra), PhD (W.Ont.)
A.M. Sinclair, BA (Dal), MA, B.Phil. (Oxon.), PhD (Harv.)

Associate Professors
F.M. Bradfield, BComm (McM), PhD (Brown)
M.G. Brown, BA (W.Ont), MA (Queen's), AM, PhD (Chi.)
M.L. Cross, AA (Dawson College), BA (Montana), MA (SFU), PhD (Texas A&M.)
S. DasGupta, BA (Calcutta), MA (Delhi), MA, PhD (Rochester)
P.B. Huber, BA, MA, PhD (Yale)
G. Kartsaklis, CE (Athens), Dr.Rer.Pol. (Bonn)
B. Lesser, BComm (Dal), MA, PhD (Corn.)

Assistant Professors
D. Gordon, BA Hons (Lethbridge), MA (Saskatchewan), PhD (UBC)
B.M. Jamieson, BA (UBC), MA, PhD (Tor.)
R.L. Mazany, BSFS (Georgetown), PhD (UBC)
S.A. Phipps, BA Hons (Victoria), MA (UBC)

Special Lecturer
T.A. Pinfold, BA, MA (W.Ont.), PhD (Minn.)

Economics is a social science — a science because it involves a rigorous intellectual effort to derive logical conclusions from basic facts and propositions; a social science because it has human beings and their welfare as its ultimate concern. The basic facts of Economics cannot be knowable and measurable with the same precision as those of the physical sciences — human society and its motivations are far too complex to permit this — but none of the sciences surpasses economics in its relevance to our needs, problems and goals. Economic man is rational man consuming, organizing and producing within a framework of laws and customs in an effort to use the limited resources of our world efficiently for the greatest satisfaction. It is not an easy science; indeed it is one of the most complex, difficult (and fascinating) areas of study you could choose in the university when you pursue it beyond its elementary levels, but some basic knowledge of economics is essential for any educated person. A more extensive knowledge of the subject is an invaluable complement to other fields of specialization such as law, commerce, politics and other studies in social sciences or humanities, and a specialization in the field can lead to a variety of interesting career opportunities.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Degree Programs

BA Degree Program (Three Years)

Students choosing to major in economics at the undergraduate level may do so in the three-year BA Program, or they may seek a higher level of specialization in the four-year Honours Program. Several combined programs may also be arranged with economics as the major or minor subject in association with such other fields as political science, sociology, history, geology, biology, mathematics— and possibly others.

Final program approval for all majors' students must be obtained from the appropriate coordinator.

General Principles: The following program arrangements are provided to the students as guidelines to facilitate the selection of classes appropriate to particular areas of interest. They should not, however, be construed as straitjackets nor as a reason for not seeking individual guidance from faculty members. In suggesting such program frameworks, two principles have particular weight: (a) students taking economics as a major, or in an honours program, should strike a balance between breadth of coverage among disciplines and depth of specialization in economics; (b) students taking economics as a minor or as a component of another specialization, such as commerce, should be allowed a reasonable degree of flexibility in their choice of economics classes.

General Format: Requirements for a major in economics can be satisfied by taking Economics 1100 or equivalent and any four other full-year classes, or equivalent, in economics. However, a student who desires to take a major in economics with more than the minimal requirements should undertake a program of study along the following lines:

Year 1: Principles of Economics; Mathematics 1000/1010, or equivalent (usually Mathematics 1100); and three classes in fields other than Economics.

Year 2 and 3: A minimum of 5 and a maximum of 8 classes in Economics; Classes in Political Science, History, Mathematics and other related subjects are to be taken to bring the total of classes over the three-year period to 15.

No more than one credit will be given for Economics 1100, 1105B, and 1120. For persons considering an honours degree, or any advanced work in economics, intermediate micro and macroeconomic theory classes and intermediate statistics (Economics 2228 or equivalent) are mandatory. No more than one-half credit will be given for Economics 2200A/B and 2220A/B, or for Economics 2201A/B and 2221A/B

Specific Programs

Students wishing to take a set of classes which provide both depth and coherence in a particular area of economics should examine the following program suggestions:

Canadian Development Studies, Economic Analysis and Policy, Economics and the Citizen, Economics and Government, Economic Development in Historical Perspective, International Development Studies, Labour and Society, Mathematical Economics and Econometric Methods, Regional and Urban Economics, or Resources and Environment.

The details of these programs are in a brochure obtainable from the Department of Economics.

Students with interests not covered in the above-listed programs are encouraged to set up their own programs with the advice and approval of the Department. The Department is prepared to assist students who wish to devise their own programs under the present curriculum regulations. Interested students should consult the Undergraduate Coordinator.

BA Honours Degree Program (Four Years)

The necessary core classes for an Honours Degree in Economics are: Economics 1100; 2220 (A or B); 2221 (A or B); 4420A; 4421B; 2228; Mathematics 1000A/B and 2030A/B or equivalent; a class in Economic History; a class in the History of Economic Thought. A minimum of nine classes in Economics beyond the elementary level is required.

The student's program is chosen in consultation with the Department and must have the approval of the Department. The 21st mark required for the honours program is based on an honours essay, graded on a pass/fail basis. Of the classes selected outside of economics in the third and fourth year, students must include at least two classes above the elementary level.

Since mathematics is required for graduate work in most good graduate schools, the value of econometrics and of additional mathematics is stressed. In some instances, the Department may permit students to take classes in other subjects in lieu of classes in economics and may permit minor variations in the required classes. Students must arrange their courses to ensure that they satisfy the overall requirements for the General BA degree.

Combined Honours

Combined honours programs may be arranged with other departments. Combined programs with Biology, Geology, History, Mathematics, Political Science or Sociology are available; others can be arranged by consultation. For combined honours programs with economics where the major concentration is in the other discipline, students should consult the other departments concerned.

Classes Offered

Classes marked * are not offered every year. Please consult the current timetable on registration to determine if any such class is being offered.

1100 Principles of Economics: lecture 3 hours, tutorial 1 hour (optional), various members of staff. For those lacking a background in economics, taken as the first in a series of classes in economics or as a background elective. Emphasis is on developing the basic analytical tools and applying them in the context of contemporary, and generally Canadian, economics problems. Section 5 of Economics 1100 offers a problem-oriented framework in which the analytical tools are developed by examination in each term of a specific question. No more than one credit will be given for 1100, 1105B, and 1120.

1101A/B* Principles of Microeconomics: lecture 3 hours, tutorial 1 hour (optional), various members of staff. Available only to students who have one half credit of introductory macroeconomics which is being transferred from another university, this class completes the principles of economics complement. Consult Department.

1102A/B* Principles of Macroeconomics: lecture 3 hours, tutorial 1 hour (optional), various members of staff. Available only to students who have one half credit of introductory microeconomics which is being transferred from another university, this class completes the principles of economics complement. Consult Department.

1105B* Principles of Economics: lecture 6 hours, tutorial 2 hours (optional), various members of staff. Available only to students who are enrolling for the first time in January or who are declared economics majors, in that order of priority. For description see Economics 1100. Consult Department. No more than one credit will be given for 1100, 1105B, and 1120.

1106A/B Introductory Statistics for Non-Mathematicians: (cross-listed with Mathematics 1060A/B), lecture 3 hours. Prerequisite: Nova Scotia Mathematics or equivalent. For description see Mathematics 1060A/B.

1107A/B Statistical Techniques of Scientific Experimentation: (cross-listed with Mathematics 1070A/B), lecture 3 hours. Prerequisite: Mathematics 1060. For description see Mathematics 1070A/B.

1120* Principles of Economics, A Historical Approach: lecture 2 hours, tutorial 1 hour, B. Lesser. Note: Economics 1120 is not open to Commerce students needing to satisfy their Economics 1100 requirements. Episodes from Canada's past, such as the economic factors leading to Confederation, the development of the Prairie wheat economy, the building of the CPR, the beginnings of U.S. investment in Canada, and the Great Depression, are examined as a means of developing the basic analytical principles of economics. No more than one credit will be given for 1100, 1105B, and 1120.

2200A/B Intermediate Microeconomics: lecture 3 hours, various members of staff. Prerequisite: Economics 1100 or equivalent. An introduction to microeconomic theory and its applications which satisfies the minimum microeconomic theory requirements for majors and honours in economics. Of particular interest to Commerce students or others not majoring in economics, it pays particular attention to applications of theory in a practical context. Serves as the microeconomic prerequisite for higher-level classes in economics. Note: Students may not receive credit for both 2200A/B and 2220A/B.

2201A/B Intermediate Macroeconomics: lecture 3 hours, various members of staff. Prerequisite: Economics 1100 or equivalent. Inflation, unemployment, exchange rate and related macro problems, with emphasis on Canadian policy experience in these areas. An introduction to macroeconomic theory and its applications which satisfies the minimum macroeconomic theory requirements for majors and honours in economics. Of particular interest to commerce students or others not majoring in economics, it serves as the macroeconomic prerequisite for higher-level classes in economics. Note: Students may not receive credit for both 2201A/B and 2221A/B.

2220A/B Microeconomic Theory: lecture 3 hours, (offered both terms). Prerequisite: Principles of Economics. Microeconomics deals with the economic behaviour of households as purchasers of output and suppliers of input services, and of firms as producers of outputs and purchasers of inputs, as well as with the behaviour of groups of households and firms. In addition to standard topics, an introductory treatment of general equilibrium, external economies, and welfare economics is included. Emphasis is on theoretical ideas, while applications of these ideas are also considered. Of particular interest to those planning to major or to do honours in economics. Note: Students may not receive credit for both 2200A/B and 2220A/B.

2221A/B Macroeconomic Theory: lecture 3 hours, (offered in both terms). Prerequisite: Principles of Economics. The various models that economists use to analyze an economy at the macroeconomic level are developed, showing how they relate to the formulation of macroeconomic policy. Of particular interest to those planning to major or to do honours in economics. Note: Students may not receive credit for both 2201A/B and 2221A/B.

2222A Economic Statistics I (cross-listed with Commerce 2501A/B): lecture 3 hours, workshop 2 hours, various members of staff. For description see Commerce 2501A/B.

2223B Economic Statistics II (cross-listed with Commerce 2502A/B): lecture 3 hours, workshop 2 hours, various members of staff. For description see Commerce 2502A/B.

2228 Intermediate Statistics: lecture 3 hours, U.L.G. Rao. The student is expected to have at least a one-year course in calculus (Mathematics 1100 or 1000) and preferably linear algebra too. Including the basic theory of mathematical statistics and an introduction to econometrics, this class concentrates on the theory of probability, discrete and continuous probability models, mathematical expection, moment generating functions, and statistical inference. The general linear model is also discussed. A critique of various problems that arise consequent to violations of the assumptions of the general linear model is presented as a preparation for applied econometric work and advanced work in econometrics.

2231A Health Economics: lecture and seminar 3 hours, M.G. Brown. Prerequisites: Principles of Economics; Economics 2200A/B or 2220A/B is desirable. An examination of the allocation of resources to and within the health care sector of an economy. Characteristics claimed to be unique to the health care sector are analysed within an economic framework. Determinants of demand, supply and use of health services are examined with particular reference to the organization and evolution of Canada's health care system. This one-term survey class consists of a literature review, lectures, and student seminar presentations on selected topics. To accommodate part-time students the class meets during late afternoon or evening, one day per week.

2232 Canadian Economic History: lecture 3 hours, B. Lesser. As prerequisite, a class in economics principles and some knowledge of history would be beneficial. The development of Canada from the age of discovery to now, presented in relation to the larger system of the relationships

between the Old World and the New. As the class proceeds, the focus shifts more and more towards Canada and more formal theory is introduced in discussing Canadian problems and policies, especially in the twentieth century.

2238A* The Industrial Revolution in Europe: lecture 2 hours, Z.A. Konczacki and P.B. Huber. Prerequisite: Introductory Economics or permission of Instructor. Transitions from preindustrial to industrial economies in England, France, Germany and Russia form a broad background for understanding the roots of contemporary society; of particular relevance for those interested in the economic history of Canada, the United States and other countries formerly part of a colonial system. Emphasis is on the economic, social, and technical changes of these industrial "revolutions" to disclose common elements in the experience of industrialization.

2239B* The European Economy in Historical Perspective: After the Industrial Revolution: lecture 2 hours, P.B. Huber and Z.A. Konczacki. Prerequisite: Introductory Economics or permission of the Instructor. A self-contained class (may be taken separately from Economics 2238A) examining the contrasting development patterns of various industrialized European countries after their respective industrial revolutions and up to about 1960. Focus is on the development of hypotheses regarding the causes and effects of differences in the experience of growth of mature economies.

2241A* Comparative Economic Systems: National Economies: seminar 2 hours, P.B. Huber. Prerequisite: Introductory Economics. A detailed background of institutional material on the structure and performance of several economies is featured. Reading on specific countries provides the basis for several short papers. There is no written examination. A student taking this class must understand the interrelated character of economic activity and grasp the nature of the price system.

2242B* Comparative Economic Systems: Economic Organization and Planning: seminar 2 hours, P.B. Huber. Prerequisite: Introductory Economics, plus an additional half-class in Economics. The economic behaviour of organizations and the ways in which this can be controlled provide the basis for consideration of the theory and practice of economic planning at micro-economic and macro-economic levels in various institutional contexts.

2250 Applied Development Economics: seminar 2 hours and tutorials, R.I. McAllister. Prerequisite: Introductory Economics. Analysis of economic development theory and practice, with particular emphasis on developing countries and regions. There are three main elements: (1) policy and theory for economic development, focussing on foreign aid and regional aid; (2) development plans, budgets, and programs — lessons from experiences of agencies such as CIDA, CUSO, and the World Bank; (3) projects for development — drawing on case studies and first-hand field work. Experienced advisors from government and the private sector join the instructor during project visits.

3315A Labour Economics: lecture 3 hours, L. Osberg or S.A. Phipps. Prerequisites: Economics 1100; Economics 2200 and 2201 (or equivalent) are recommended. The theory of labour markets is emphasized, in particular the aftermath of alternative viewpoints which seek to explain relative wages, unemployment and the allocation of labour.

3316B* Collective Bargaining and Labour Market Policy: lecture and seminar 3 hours, L. Osberg. Prerequisite: Economics 3315A. Topics covered are the theory and institutions of collective bargaining and current issues in labour market policy, e.g. discrimination, manpower planning, wage/price controls, impact of unemployment insurance or the negative income tax.

3317B* Poverty and Inequality: lecture and seminar 3 hours, L. Osberg. Prerequisites: Economics 1100; Economics 3315A is highly recommended. The extent of poverty and the distribution of income and wealth in contemporary societies are discussed. Most data are drawn from Canada but international evidence is introduced for comparative purposes. The theories underlying alternative measures and explanations of economic inequality are emphasized.

3324 Public Finance: lectures and seminar 3 hours, J.F. Graham. Prerequisites: Introductory Economics, Economics 2200A/B or 2220A/B and 2201A/B or 2221A/B are desirable. The principles of public finance and public policy, i.e. the economics of the public sector. The two major sections are (1) the theory of public goods and public expenditures and (2) the theory of public revenue, principally taxation. Other important areas are public borrowing, fiscal (stabilization) policy, and intergovernmental fiscal relations. Both normative and positive theory are considered. Particular attention is paid to the Canadian federal system, with its three levels of government: federal, provincial and municipal.

3326A Money and Banking: lecture 3 hours, R.L. Comeau. Prerequisites: Introductory Economics; Economics 2201A/B or 2221A/B is desirable (complemented by Economics 4426B.) Deals with the nature and operation of the financial system, with particular reference to Canadian experience. It is concerned with financial instruments and institutions and the process of the social control of the supply of money and credit.

3327* History of Economic Thought: lecture 3 hours, M.L. Cross. Prerequisite: Economics 1100. Classes in micro- and macroeconomics are advised. The approach taken is to study 'the intellectual efforts that men have made in order to understand economic phenomena.' The presentation is largely non-mathematical; the main requirement is an ability to read and assimilate a certain body of literature rather quickly.

3328 Industrial Organization: lecture 2 hours, C. Marfels. Prerequisite: Economics 2200A/B or 2220A/B which may be taken concurrently. Students may also be admitted by permission of the instructor. The application of the models of price theory to economic reality. In any industry, the problems of a firm competing with its rivals in order to survive and acquire a higher market share are far more complex than those in price theory where we have to deal with more or less simplified assumptions. The three main parts are: market structure, market conduct and market performance.

3330A/B* International Trade: lecture 3 hours, R.L. Mazany or A.M. Sinclair. Prerequisites: Introductory Economics and 2200A/B or 2220A/B. The causes of international exchange of goods and services are considered and the effects of international integration on the incomes and growth rates of national economies are analyzed. The theory and practice of commercial policy and other restrictions on trade are considered after the pure theory of international trade and its implications have been explored. Depending upon class interest and availability of time, the subjects of economic integration and of Canadian commercial policy may be discussed in some detail.

3332B* Resource Economics: lecture 3 hours, M. Cross. Prerequisite: Introductory Economics. Economics 2200A/B or 2220A/B is also desirable. This class focusses on economic theory pertaining to fisheries and the economic history of the Canadian Atlantic and Newfoundland fisheries since 1870. Reference is made to other resource sectors—agriculture, forestry, mining and energy—and students may undertake study of them.

3333A/B* Theories of Economic Development: lecture 2 hours, Z.A. Konczacki. Prerequisite: Introductory Economics. A class in macro-economics equivalent to Economics 2201A/B or 2221A/B and Economics 3327 are desirable. A theoretical framework for the understanding of the process of economic development in the more and the less developed countries is provided with a view to its eventual application to the solution of practical problems. The concluding seminars are devoted to the problem of the foundations of the theory of economic development, and the distinction between the concepts of unilinear and multilinear evolution is discussed.

3334A/B* Economic Development: Recent Debates, Controversies and Conflicts: lecture 2 hours, Z.A. Konczacki. Prerequisite: Economics 1100. Economics 2201 or 2221 and Economics 3333A/B are desirable. Whereas Economics 3333A deals with the more rigorously defined theories and models and their appraisal, this class focusses on the development policies and related controversies. Important examples of such controversies and conflicts, with far reaching developmental consequences, are provided. Attention is paid to the much debated environmental aspects of growth and development.

3336B Regional Development: seminar 2 hours and tutorials, R.I. McAllister. Prerequisite: Introductory Economics. At least one class in both Political Science and Canadian History are desirable. Most countries have richer and poorer regions. The energy crisis has raised additional complications. Economic development issues, policies, and theories facing more industrialized nations are analyzed with particular focus on Canada (especially the Atlantic region), the European Economic Community, U.S.A., Japan, and Australia.

3338A Introductory Econometrics I: lecture 3 hours, R.L. Mazany or L. Osberg. Prerequisites: Mathematics 1000 (or equivalent) and one of Economics 2228, Economics 2222A and 2223B or Mathematics 1060A. The theory of some quantitative methods commonly used by economists is introduced in the context of the classical linear model. Estimation problems caused by violations of the assumptions of the classical model are discussed including heteroskedasticity, autocorrelation and simultaneous equations bias.

3339B* Introductory Econometrics II: lecture 3 hours, R.L. Mazany or L. Osberg. Prerequisite: Economics 3338A. Practical problems associated with economic data and with model specification and estimation are discussed. The techniques introduced in Introductory Econometrics I are used to estimate simple economic models. Some additional methods of estimation and forecasting are introduced.

3350A/B* Social Cost Benefit Analysis: seminar 3 hours, T.A. Pinfold. Prerequisite: Introductory Economics. Intermediate Microeconomics and Introductory Statistics are desirable. The methodological base of social cost benefit analysis is developed, demonstrating some practical applications. Social cost benefit analysis and capital budgeting are two approaches to investment decision making. The former is used by public sector agencies; the latter is employed by private sector firms. Similarities and differences in the two approaches are highlighted. Solving problems which illustrate basic concepts and a paper reporting on an actual application of the methods taught are important requisites.

3356A Marxian Economics I: lecture 3 hours, G.A.B. Kartsaklis. Prerequisites: Economics 2200A/B and 2201A/B; Economics 3327R is recommended, or permission of the instructor. Historically, the economics of Karl Marx defined a very important period in the development of economic theory. Recently, several attempts have been made to integrate Marxian economics into the mainstream of modern economic analysis. This class and Economics 3357B constitute an introduction to the economics of Karl Marx. In 3356A, special attention will be paid to: the labour theory of value; the theory of exploitation and Marx's fundamental theorem on industrial capitalism; and the theory of simple reproduction.

3357B Marxian Economics II: lecture 3 hours, G.A.B. Kartsaklis. Prerequisites: Economics 3356A or permission of the instructor. This class is a continuation of Economics 3356A. Special attention will be paid to the theory of extended reproduction and accumulation of capital; the so-called transformation problem; and the issue of class struggle in a growing economy.

3432* Regional Economics: lecture and seminar 3 hours, F.M. Bradfield. Prerequisite: Economics 2200A/B or 2220A/B. A variety of growth theories are examined, followed by a discussion of empirical studies and their assessment from the various theoretical points of view. Policy discussion and the presentation of a seminar paper are involved. A framework for understanding the reasons for regional disparities is provided. Focus is on the underdeveloped regions of developed nations.

4000* Seminar on Economic Policy: Public Policy in the 80's: 2 hours. The discussion centres on the problems of formulating and carrying out economic policy in Canada. Recent budget addresses; industrial policy and tax and expenditure policies are reviewed. Other topics include Canada's reliance on resource exports and capital imports; issues raised by multinational corporations and their consequences for political sovereignty. The choice of a balanced economy or export specialization is examined. The approach is interdisciplinary.

Economics 4000C Honours Seminar: seminar 2 hours, various staff members. Prerequisites: Economics 2220 and 2221 (or equivalent) and Economics 2228. The seminar is designed to provide fourth-year honours students with an exposure to research being conducted in various fields of economics. The students are expected to work on their own research leading up to the completion of the honours essay.

4400A Linear Models I: lecture 3 hours, S. Dasgupta. Prerequisites: Intermediate Micro and/or Macroeconomics and a class in linear algebra are desirable. Admission by permission of instructor possible. Exposition of aspects of economic theory from the standpoint of linear economic models. A brief systematic exposition of linear programming, followed by applications such as in: Theory of the Firm, Leontief Inter Industry Model, Transportation problems, International Trade, General Equilibrium Theory, Game Theory.

4408R Competition Policy/Antitrust Economics: lecture 2 hours, C. Marfels. Prerequisite: A course in Industrial Organization (Ec. 3328R) is desirable, but students may also be admitted by permission of the instructor. In this course the various ways of public policy towards business are discussed. Basically, there are three approaches to public policy towards business — the competitive approach, the regulatory approach, and the ownership approach. Under the first, the ownership of the means of production is in private hands, and the public interest is assumed to be protected by the free play of competitive forces. Under the second, ownership remains in private hands but in one way or another the state restrains the exercise of private economic power. And under the third, the state not only owns but manages and operates the productive facilities. Specific attention will be paid to the means of implementing the competitive approach the antitrust laws.

4409B* Linear Models II: lecture 3 hours, S. Dasgupta. Prerequisites: Economics 4400A and a class in calculus are desirable. Admission by permission of instructor possible. Introduction to dynamic models of economic growth and planning over time. Efficient programs of capital accumulation, growth with terminal objectives and balanced growth, optimal savings over time, theories of interest and capital, money, exhaustible resources and population are discussed.

4420A Microeconomic Theory: lecture 3 hours, E. Klein. Prerequisite: Economics 2220 or 2200. Mathematics 1000 and 1010 are desirable. A basic but rigorous introduction to modern microeconomic theory. Deals in detail with the theory of choice as applied to consumers and firms, and discusses the working of an economy as a system of interdependent decision-makers. Emphasis is on the comparison of alternative solution concepts for competitive economies ending with an introduction to stability theory.

4421A Macroeconomic Theory: lecture 3 hours, J. Cornwall. Prerequisite: Economics 2201A/B or 2221A/B and Mathematics 1100 (or equivalent). For those who wish to do relatively advanced work in economic theory, possibly with the thought of going on to do graduate work in economics. The class assumes some knowledge of calculus. Topics covered include: classical models of income and employment; Keynesian models of income and employment; the theory of economic growth (including two-sector models); and trade cycle models.

4422B* Inflation, Stagflation and Macroeconomic Policy: lecture 3 hours, J. Cornwall. Prerequisite: Economics 2201 or 2221. A consideration of different theories of inflation that have been developed to explain the acceleration of inflation in the past decade. Alternative policy solutions are appraised. Forms of incomes policy are taken up in some detail.

4426B* Monetary Policy: lecture 3 hours, R.L. Comeau. Prerequisite: Economics 2201A/B or 2221A/B. It is advantageous for students to have completed Economics 3326A as well. Assuming a basic knowledge of monetary institutions and macro-economics, a critical analysis of the objectives and effectiveness of monetary policy is developed. Particular attention is given to the Canadian experience and the effectiveness of Canadian policy.

4431A/B* International Payments: lecture 3 hours, R.L. Mazany or A.M. Sinclair. Prerequisite: Economics 2201A/B or 2221A/B. Selected topics in recent international monetary history are examined, the causes of and remedies for external imbalance in national economies are considered, and the reorganization of the international monetary system is discussed. Depending upon class interest, certain issues of international development finance and problems of instability and growth in the international economy may be discussed in detail.

4433B* Intergovernmental Fiscal Relations: seminar 2 hours, J.F. Graham. Prerequisite: Principles of Economics. Economics 2200A/B or 2220A/B, and 3324 are recommended. The principles of intergovernmental fiscal adjustment and their application in a federal political system, particularly Canada, at both federal-provincial and provincial-municipal levels are developed.

4446B Classical Liberalism, and Democracy: (seminar in Philosophy, Politics, and Economics) 2 hours, D. Braybrooke. For description see Philosophy 4470.

4447B The Theory of Games as an Approach to the Foundations of Ethics and Politics: (seminar in Philosophy, Politics and Economics) 2 hours, spring term, D. Braybrooke. For description see Political Science 4485B.

4448A Social Choice Theory: (seminar in Philosophy, Politics, and Economics) 2 hours, D. Braybrooke. For description see Political Science 4480A.

4449B The Logic of Questions, Policy Analysis, and Issue Processing: (seminar in Philosophy, Politics, and Economics) 2 hours, D. Braybrooke. For description see Philosophy 4490.

Graduate Studies

The Department offers a graduate program leading to the MA and PhD degrees. Details of these programs, including a list of graduate courses, are given in the calendar of the Faculty of Graduate Studies. Senior undergraduates may be admitted to some graduate classes at the discretion of the instructors concerned.

English

Chairperson of Department
Alan Kennedy

Emeritus Professors
M.M. Ross, OC, BA (UNB), MA (Tor.), PhD (Corn.), D Litt (UNB), LLD (St. Thom.), LLD (Dal.), D Litt (Trent), (Edinburgh), FRSC
S.E. Sprott, MA, BD (Melb.), PhD (Col.)

Professors
J. Fraser, MA (Oxon.), PhD (Minn.) *George Munro Professor of English Literature*
J. Gray, MA (Aberd.), MA (Oxon.), PhD (Montreal), FRSC, FRSA, *McCulloch Professor*
R.M. Huebert, BA (Sask.), MA, PhD (Pitt.)
A.E. Kennedy, BA, MA (UBC), PhD (Edinburgh)
M.G. Parks, MA (Dal), PhD (Tor.)
R.J. Smith, BA (Natal), MA (Oxon.), PhD (Natal)
D.P. Varma, MA (Patna), PhD (Leeds)

Associate Professors
J.R. Baxter, BA, BEd, MA, PhD (Alta.)
S.A. Cowan, BA (Montana), MA (Yale)
R. MacG. Dawson, MA (Tor.), M Litt (Oxon.)
M.M. Furrow, BA (Dal), MA, MPhil, PhD (Yale)
M.A. Klug, BA (Minn.), MA (Kan. State), PhD (Ill.)
P. Monk, BA (Reading), MA (Carleton), PhD (Queen's)
C.J. Myers, BA (Sask.), MA, PhD (Tor.)

R.R. Tetreault, BA (UBC), MA, PhD (Corn.)
J.A. Wainwright, BA (Tor.), MA, PhD (Dal)
H.S. Whittier, BA (U.S. Naval Acad.), MA (New Hamp.), PhD (Yale)

Assistant Professors
L.P. Diepeveen, BA (Calvin Coll.), MA, PhD (Ill)
B. Greenfield, BA (York), MA (McGill), PhD (Columbia)
A. Higgins, BA (Conn.), MA (McGill), MA (Mass.), MA, PhD (Yale)
V. Li, BA, MA (UBC), PhD (Cantab.)
H.E. Morgan, BA (UBC), MA (Wash.), B Litt (Oxon.), PhD (Wash.)
D. McNeil, BA (Concordia), MA (UNB), PhD (McMaster)
M.I. Stone. BA (Guelph), MA, MPhil (Wat.), PhD (Tor.)

Adjunct Professor
R.L. Raymond, BS (Yale), MA (Tor.)

Senior Instructor
L. Choyce, BA (Rutgers), MA (Montclair), MA (CUNY)

The study of English literature at Dalhousie is not just the study of the literature of England. Although largely concerned with the rich written heritage of the British Isles, it also includes the study of writing in Canada, the United States, parts of the English-speaking Commonwealth and, indeed, some European countries, in translation.

It ranges widely in time from early Anglo-Saxon works of the eighth century through thirteen centuries of changing ideas and language to the still-changing thoughts, feelings and expressions of our own time. The many forms that the written word may take —poetry, fiction, drama, essay, history — are read, not only for an understanding of the literary evolution that brings them to be what they are, but also for an understanding of that which is temporary and that which is more enduring.

The purpose of English studies at Dalhousie, briefly stated, is the enjoyment and understanding of the written word. Since the word is the principal link between the individual heart and mind and the rest of the world, such studies naturally touch upon philosophy, politics, religion, and the fine arts as well. At the same time, the student is required to think, and to use language with clarity, judgement and imagination.

In more detail, the goals of English studies are to perceive that reading is a source of pleasure, knowledge and wisdom, to sharpen the powers of discrimination between what is good and bad in literature and ideas, to gain some understanding of the process by which great writing is achieved and indeed to inspire students to their own best expression.

In the first year, English 1000 is required of all students who wish to take further English classes. There are some thirty different sections ranging from historical surveys to more eclectic studies. To enable students to choose the one most suited to their inclinations and needs the English Department and the Registrar's Office have an English 1000 supplement which includes the aims and reading lists of each section.

Classes numbered from 2000 to 4099 are especially suited for those concentrating in English, studying is as a complement to their main area, or taking an elective, and classes beyond 4250 are designed as studies of specialized areas for Honours students. Honours classes are open to General students with permission of the Chairperson and the professor concerned. *A supplement describing Upper-year General and Honours classes in detail is available from the English Department.*

Degree Program

BA Program

Students in the BA program must take from four to eight classes in English beyond 1000. The Department expects of all of its students to consult with faculty advisors and to form coherent programs of study; it strongly recommends that these programs contain at least six classes in English beyond 1000.

English majors must take at least one class from each of the following groups, unless they have departmental permission to use an honours class to meet a group requirement.

GROUP I: English 2207, 3209, 3210, 2211, 3212, 3213, 2221, 2231, 3232, 2233, 2234.
GROUP II: English 2205, 3206, 2208, 3215, 3218, 3219, 3224, 3229.
GROUP III: English 2200, 3201, 3202, 2203, 2204, 3214, 3216, 2220, 2225, 2226, 2227, 2228, 3244.

The purpose of the requirements stated above is to ensure some variety in each student's program. The Department recommends that the student take at least one class that concentrates on poetry and one that concentrates on fiction, and at least one class from each of two different historical periods. There is, of course, more to a sound program than variety. From the Department's offerings, students may approach the study of English literature in a number of different ways. They may choose programs which offer a broad historical background, which focus on specific genres or which concentrate on specific historical periods such as the 19th or 20th century. There are numerous other possible combinations. In any case, students should give careful consideration to planning their programs to meet their individual needs and interests, and should consult with their departmental advisor if they need help in doing so.

The following program of study is recommended for English majors intending to become teachers of English at the high-school level:

2200 Advanced Composition, or 3201 The English Language, or 3202 History of the English Language

2207 Canadian Literature

3214 Shakespeare

2228 The Short Poem in English, or 3215 Romantic Poetry, or 3210 Modern Poetry in English, or 3224 Renaissance Poetry, or 3229 Victorian Poetry.

3220 English Drama, or 2226 Tragedy, or 2227 Comedy and Satire, or 3232 Modern Drama.

2208 English Novel to 1900, or 3209 Modern Fiction, or 3212 British Literature of the 20th Century, or 3213 American Literature of the 20th Century

At least one class chosen from the last three groups should involve a substantial amount of literature written prior to the 20th Century.

The student may also choose a maximum of two more classes in English.

Classes numbered from 2000 to 4099 (excepting 3201, 3202, 3218, 3244) are not accepted as preparation for Graduate Studies in English. Students who may desire to change to an Honours Program or continue in Graduate Studies should arrange with their advisor and with the Chairman of the Department to complete several Honours classes before graduating with a General BA. It is possible to enter a two-year MA course on completion of a General BA degree, but only if the student has completed four or five Honours rather than General classes for the concentration and has attained at least a second-division average in them.

The BA with Honours in English (Major Program)

The Honours course in English offers a systematic study of the major writers and trends from medieval times to our century. It is therefore of particular relevance to the student who is interested in detailed study of English as a basis of a liberal education, to the prospective high-school teacher of English who needs a comprehensive understanding of the subject, and to the student intending to proceed to the graduate study of English and to complete in one year the requirements for the MA degree.

Students intending to enter the Honours course in Year II must consult the Department in advance to plan their course and be formally enrolled. In the subsequent years, Honours students are encouraged to seek advice of the Department in choice of classes.

The Honours course consists of nine classes (in addition to English 0451A) beyond English 1000. At least one class must be taken from each of the following six sections:

Section A: English 4252 (recommended for third year)

Section B: English 4253, English 4351

Section C: English 4251, English 4352

Section D: English 4254, English 4356

Section E: English 4354, English 4355, English 4452, English 4457

Section F: English 4357, English 4453, English 4455

The student may choose the three remaining classes from those not already chosen in Sections B to F, or from Section G: English 3201, 3202, 3244.

Introduction to Literary Research

English 0451A, a non-credit class which meets one hour per week, in the first term is required of all Honours students and is to be taken in the first year of the Honours course.

Honours students must meet the requirements for the General BA degree. They are advised to select a minor from one of the subjects listed under either Group A or Group B in the "Academic Programs" section of the Calendar.

BA with Combined Honours

There are several Combined Honours programs: English and French, English and German, English and History, English and Philosophy, English and Spanish, English and Theatre. Students interested in any of these combinations or any other that involves English and another subject should consult with the Departments concerned.

Classes Offered

1000 Introduction to Literature: lecture 3 hours, members of the Department. Since English 1000 consists of sections taught by many different instructors, statements about its objectives and approach must be confined to generalizations. All instructors of English 1000 have these two broad objectives in common: (a) to involve students in the serious study of literature; (b) to involve them in the discipline of words so that they will be more critical and responsive readers and more exact and imaginative writers. The subject matter varies from section to section. Detailed syllabi of all sections are available. Practice in writing is carried on throughout the year in fortnightly essays. Each section attends three lectures per week. In addition, the tutors attached to each session conduct small discussion groups and personal interviews with students.

Classes for General Degree

Successful completion of English 1000 is the prerequisite for entry into Upper-Year classes.

For a more complete description of classes and of texts, students should consult the Departmental Supplement for Upper-Year classes. Not all classes shown are taught every year.

(Tentative List)

Classes in the 2000 Series

The 2000 series includes classes that emphasize genre or literary form, and those that offer broad surveys of literature. Classes in the 2000 series are open to students in their second or third year of studies who have completed English 1000.

2200 Advanced Composition: lecture 3 hours, P. Monk. Prerequisite: English 1000. An advanced class in the theory and practise of writing English prose, designed for people who already have some competence and interest in writing. The class is *not* a "remedial" class and *not* a "creative writing" class.

2203 Masterpieces of Western Literature: lecture 3 hours, H. Whittier. Intensive reading of selected major works from Western literature, is designed to broaden the student's outlook on literature and also to increase his familiarity with works that are not only stimulating in themselves but also comprise the basis for the development of English and other literatures.

2204 The European Novel: lecture 2 hours. An intensive study of about ten representative European novels of the last two hundred years. A considerable amount of attention is paid to the philosophical ideas which are an important feature in many of the novels studied.

2205 Landmarks of English Literature: lecture 3 hours, A. Kennedy, R.R. Tetreault. This class studies works by many of the most influential British authors from Chaucer to the present century. These landmarks provide some orientation in the literary landscape, and help to make students aware of the diversity available in literary studies. The class is aimed at, but not limited to, English majors.

2207 Canadian Literature: lecture 2 hours, R.J. Smith, M.G. Parks, P. Monk, J.A. Wainwright. This class offers an introduction to Canadian poetry and prose written in English. The aim will be to trace the development of Canadian fiction and poetry from the nineteenth century to the present through discussion of selected texts.

2208 The English Novel to 1900: lecture 2 hours, H.E. Morgan, M. I. Stone, D. McNeil. Based on a selection of titles by representative authors, this class is a survey of the early English novel. Attention is given to the rise of the genre as well as to the variety of forms and functions which the novel assumed or served.

2211 Commonwealth Literature: lecture 2 hours, R.J. Smith, A. Kennedy. An introduction to the literature of the British Commonwealth, excluding that of Canada and the British Isles. Writing from Africa, Australia, the Caribbean and India will be discussed and common problems or themes examined. The bulk of the literature studied will be modern.

2220 English Drama: lecture 2 hours, R.M. Huebert. An introduction to some of the major plays and playwrights in the history of English drama. Special emphasis is given to plays by such leading dramatists as Marlowe, Webster, Wycherley, Shaw, Pinter, and Stoppard. Some attention is paid to the principal changes in staging practices from the medieval beginnings of English drama to the recent experimental theatre. The objective of the class as a whole is to sample the richness and diversity of the English dramatic tradition.

2221 Fictions of Development: lecture 2 hours, M. Stone. A study of a variety of literary works (chiefly novels) which portray the crises and conflicts involved in growing up, finding a vocation, and finding oneself. Works from the nineteenth century to the present by Canadian, English and American authors are included, and special attention is given to the connections between art and autobiography, and between literature and psychology, as well as to the influence of gender differences in patterns of human development, and ways of writing about them.

2225 Epic, Romance, and Fantasy: lecture 2 hours, P. Monk. This class offers a consideration of epic, romance, and fantasy. Starting with a consideration of primary epics, it will then go on to take a look at manifestations of the epic spirit in modern works.

2226 Tragedy: lecture 2 hours, R.R. Tetreault. A study of the nature and method of tragedy in literature. Examples are taken from Greek, Shakespearean, and modern drama, as well as from poetry, and from novels.

2227 Comedy and Satire: lecture 2 hours, J. Gray, D. McNeil. The comedian and the satirist are interested in both the laughable and the deplorable antics and eccentricities of human nature. This class concerns itself with their points of view, as expressed in such varied forms as stage comedy, graphic satire, the comic novel, and the humorous essay. It also considers theories of comedy and laughter in their application to a wide variety of literary types. Lectures and class discussions are augmented with play readings, films and other illustrative materials.

2228 Short Poems in English: lecture 2 hours, A. Kennedy, J.A. Wainwright. Forms and themes in the short poem are studied by means of critical reading of poems written in English. Topics may include the following: the self in the short poem, other persons, public events, love, nature, the city, the machine, wit, myth, traditional forms, free verse, the hokku, lyric as song, spoken poetry, poetry in print, concrete poetry, and possibly other topics to suit the class.

2231 Modern American and Canadian Novels: lecture 2 hours, M.A. Klug, members of the Department. Six Canadian and six American novels are treated as related "pairs," with the instructors dividing their time equally between the two sections. Both sections and both instructors meet together to discuss each pair of novels, after the novels have been dealt with individually.

2233 Science Fiction and Fantasy: lecture 2 hours, S.A. Cowan, P. Monk. Selected works of speculative fiction are read for pleasure and studied for understanding. The study emphasizes analysis and evaluation of the works as literature. Each student is responsible for self-disciplined study of the history of science fiction and may expect to be examined in detail on his knowledge. Non-majors are welcome.

2234 The Short Story: lecture 2 hours, A. Kennedy, J.A. Wainwright. This class attempts to combine detailed consideration of a wide range of the best short stories of the last 150 years with discussion of general questions about the nature of the genre itself. As much as anything else it is a class in 'reading and writing' intended to improve reading ability and to develop the capacity to understand and interpret literature.

Classes in the 3000 Series

The 3000 series includes classes that focus on periods in national literatures, that take up the descriptive and historical study of the English language itself, and that deal with the theory and history of literary study. Classes in the 3000 series are open to any student who has completed English 1000.

3201 The English Language: lecture 2 hours, M.M. Furrow. This class, concerning the English language of today, begins with some general questions about the nature of language, and goes on to investigate the syntax, semantics, phonology, and dialects of modern English, with an ultimate interest in the stylistic analysis and comparison of short literary texts.

3202 History of the English Language: lecture 2 hours, R. MacG. Dawson, M.M. Furrow. An introduction to the historical development of the English language. The growth of our "word-hoard," the evolution of word meanings, the changing patterns of speech sounds, of word forms and of syntactic structures, the distinction of dialects and literary styles are studied through analysis of selected literary texts. English 3201 and 3202 are complementary classes.

3206 American Literature of the Nineteenth Century: lecture 2 hours, S.A. Cowan, H.S. Whittier. An introduction to American literature through representative works by major writers from 1800 to 1900. Among those studied are Cooper, Hawthorne, Poe, Emerson, Melville, Whitman, Dickinson, and Twain. Both fiction and poetry are studied. Students are encouraged to discuss the works, and classes usually proceed by a combination of discussion and lecture.

3209 Twentieth-Century Fiction: lecture 2 hours, R.J. Smith, J.A. Wainwright, H.S. Whittier. An introduction to the main thematic and technical trends in the modern novel. Each section has its own emphasis and choice of texts.

3210 Modern Poetry in English: lecture 2 hours. A study of modern poetry in English focussing on the seminal poets Yeats, Stevens, Pound, Eliot, and Williams. Developments and trends in poetry from the 1930's to the present are also considered. For readers, beginning and more experienced, who wish to get their bearings in modern poetry.

3212 British Literature of the Twentieth Century: lecture 2 hours. A survey introduction to the past seventy-five years of British fiction, drama, and poetry.

3213 American Literature of the Twentieth Century: lecture 2 hours, B. Greenfield, V. Li, M.A. Klug. An introduction to poetry, fiction and drama by American poets and novelists of the twentieth century.

3214 Shakespeare: lecture 2 hours, M.M. Furrow, R.M. Huebert,C.J. Myers, A. Higgins. An introduction to Shakespeare's career as a playwright, through discussion and interpretation of a dozen or more of his plays.

3215 Poetry of the Romantic Period: lecture 2 hours, D.P. Varma, R.R. Tetreault. An introduction to the spirit of an age and its manifestations in literary art. Examples of shorter and longer lyrics and excerpts from longer narrative and dramatic poems are drawn from the works of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats. Although devoted to the study of a period, the class begins with a general introduction to the reading of poetry.

3216 The Gothic Novel: lecture 2 hours, D.P. Varma. A survey of the origins and development of *The Tale of Terror and the Supernatural* during the latter half of the eighteenth century and its various manifestations and influences in succeeding fiction. Students will not only chart the chief landmarks of gothic fiction but also explore the various chambers of horror-literature.

3218 Medieval Literature: lecture 2 hours, H.E. Morgan, A. Higgins. A study of selected medieval works of Northern Europe, with major emphasis upon the Arthurian legend as found in Malory. Beginning with a look at Nordic, Celtic and Frankish background materials (in translation), one goes on to focus upon late-medieval developments in saga and romance, concluding with a look at some post-medieval uses of the inherited matter in Tennyson, Morris, Lewis and Tolkien. An enriched English 3218 is available for Honours credit students who have previously taken English 4351.

3219 Chaucer and his Contemporaries: lecture 2 hours, M.M. Furrow, A. Higgins, H. Morgan. A selection from the genres of late medieval literature in English: romances, fabliaux, plays, lyrics, and legends. Some works are studied in translation; others (including Chaucer's) are read in the original Middle English.

3224 Renaissance Poetry: lecture 2 hours, J.R. Baxter. An introduction to English poetry from the early sixteenth to the mid-seventeenth century, concentrating on authors whose works have exercised a continuing influence: Sidney, Shakespeare, Donne, Jonson, and Milton.

3229 The Victorian Age: lecture 2 hours, M.I. Stone. A survey of selected Victorian texts designed to deconstruct modern myths about the Victorians and to introduce students to the diversity of the Victorian Age. Works by Mill, Tennyson, Arnold, the Brownings, the Pre-Raphaelites, and Wilde demonstrate that Victorian Literature is animated by a spirit of rebellion and a zest for controversy, marked by innovation and experimentation in literary forms and subjects, and notable for both its passionate defences of individual liberty and its surprisingly modern affirmations of women's rights.

3232 Modern Drama: lecture 2 hours, R.M. Huebert. An introduction to the major developments in drama from Ibsen to the present. Special attention is given to changes in dramatic style and to the growth of modern theatrical movements. The playwrights represented include Strindberg, Shaw, Pirandello, Brecht, Genet, Ionesco, Pinter, Albee, and Stoppard. A few recent Canadian plays provide a focus for discussion of contemporary trends.

3244 Literary Criticism: lecture 2 hours, A. Kennedy. A survey of Classical Greek and Latin theory, English critics and some pertinent European writers and trends.

Classes in the 4000 Series

Classes in the 4000 series focus on more specialized topics than other courses in the major program. They are designed for the more experienced student of literature and are open to English majors in their third or fourth years. Other majors must have completed two English classes after English 1000 (or have obtained the permission of the instructor) to be eligible. These classes will be organized as seminars and will have a lower enrolment than other major program classes. Their specific subject matter will vary year-to-year.

4001A/B Studies in an Individual Author I (half class)
4002A/B Studies in an Individual Author II (half class)
4003A/B Studies in Genres I (half class)
4004A/B Studies in Genres II (half class)
4005A/B Studies in National Literatures in English I (half class)
4006A/B Studies in National Literatures in English II (half class)
4007A/B Studies in Literary History I (half class)
4008A/B Studies in Literary History II (half class)
4009A/B Studies in Literary Theory I (half class)
40010A/B Studies in Literary Theory II (half class)

Classes for the Honours Degree

(Tentative List)

0451A Introduction to Literary Research: lecture 1 hour (first term only), C.J. Myers, H. Melanson, Ian Colford. A departmental (i.e., non-university and non-credit) technical class for honours and graduate students. It is planned to acquaint the student with certain research tools in the library that are most frequently used by students of English (bibliographies, catalogues, indices, digests, journals, dictionaries, microfilms), many of which the student is unlikely to stumble upon himself/herself in his/her own research. There will be a brief introduction to the history of printing and papermaking. Students will be taken on a tour of the printing shop (Dawson Room) and occasionally guest speakers will lecture on relevant topics. Successful completion of exercises and attendance at lectures one hour a week for the first term will constitute fulfillment of requirements for the course.

4251 Sixteenth-Century Prose and Poetry: lecture 2 hours, M.G. Parks, A. Higgins. This is a class in the prose and poetry of the English Renaissance from its beginnings to the 1590s. The major writers to be studied are More, Sidney, Spenser, and Shakespeare; brief selections from Wyatt, Surrey, Elyot, Ascham, Hooker, Marlowe and a few others will also be read.

4252 Shakespeare and the Drama of His Time: lecture 2 hours, J.R. Baxter, R.M. Huebert. About fifteen plays by Shakespeare, some by choice of the class, are read in the context of representative plays by his earlier and later contemporaries, especially Marlowe and Jonson. Students may consult the professor for a list of plays and suggested preliminary reading.

4253 Old English: lecture 3 hours, R. MacG. Dawson. An introduction to the Old English language (700-1100 AD), followed by a study of some of the prose and minor poems, and, in the second term, of *Beowulf*. Students are also introduced to some aspects of Old English art and archaeology. Some knowledge of a classical or modern European language (preferably German) is desirable, though not essential, and an understanding of traditional grammatical terminology will be helpful. This class is not recommended, except in unusual circumstances, to those who are not thoroughly fluent in modern English.

4254 Restoration and Eighteenth-Century Literature: lecture 2 hours, J. Gray, D. McNeil. The emphasis is on three great satirical authors (Dryden, Pope, and Swift), on a study of Restoration drama and on major works of Samuel Johnson. Since the literature of the period is related closely to the men and manners of the age, some time is spent on the contemporary climate of opinion revealed in the works of a number of writers representative of literary, political, social, and philosophical points of view: Hobbes, Halifax, Pepys, Rochester, Butler, Addison and Steele, Mandeville and Shaftesbury.

4351 Middle English: lecture 2 hours, H.E. Morgan, M.M. Furrow, A. Higgins. An introduction to the language and literature of feudal and chivalric England, with the principal emphases being upon Chaucer's poetry and upon the Arthurian story. Through readings and study, the student should gain some historical sense of the language, of the late-medieval social milieu and of the especial flourishing of literature in the late-fourteenth century.

4352 Seventeenth-Century Poetry and Prose: lecture 2 hours, M.G. Parks, R.M. Huebert. A study of selected poetry and prose of the later Renaissance from the turn of the century to the Restoration. Of the poets, Donne and Milton are given special emphasis; poems by Jonson, Herbert, Vaughan, and Marvell are also studied. Prose works are by Bacon, Donne, Browne, and Milton. The study of Milton's poetry, especially *Paradise Lost*, occupies a major part of the second term.

4354 Victorian Novel: lecture 2 hours. The novels of the period from Scott and Austen to Hardy are studied.

4355 American Literature to 1900: lecture 2 hours, B. Greenfield. This class deals with major writers of the 19th century, as well as works from the colonial period which raise important cultural questions.

4356 The Romantic Period: lecture 2 hours, R. Tetreault, V. Li. A close reading of the major poetry of Blake, Coleridge, Wordsworth, Byron, Shelley, and Keats. Attention is also given to their critical writings in prose, and to the intellectual, cultural, and historical milieu in which they worked.

4357 Modern Canadian Literature: lecture 2 hours, A. Wainwright, P.

Monk. A study of Canadian fiction and poetry since the 1920's with emphasis on the changing form and content of Canadian writing. Classes consist of lectures and discussion.

4360C Old Norse: lecture 1 hour, H.E. Morgan. Prerequisite: One of English 3218, 4253, 4351 or instructor's permission. A broad survey of major Old Norse prose and poetic works in translation and an introduction to the comparative study of the very close relation of the early Norse and English languages and literature.

4452 Nineteenth-Century Prose and Thought: lecture 2 hours, C.J. Myers. The study of representative non-fictional prose works of the nineteenth century, for their intrinsic merits, with the object of exploring the ideas of the period about politics, religion, education, art and society. Instruction is chiefly by means of lectures, but there are ample opportunities for class discussion, and each student presents one seminar paper per term.

4453 Twentieth-Century English Literature: lecture 2 hours, J. Fraser. Primarily for honours students and for MA students in their make-up year. Each member of the seminar writes two papers to serve as starting-points for the class discussions. There are no examinations, but regular attendance is expected in the interests of effective debate.

4455 Modern American Literature: lecture 2 hours, M.A. Klug, V. Li. In the first term, this class studies 20th-century American fiction. In the second term, modern American poetry is assessed. Classes are a combination of lectures and discussion.

4457 Victorian Poetry: lecture and discussion 2 hours, C.J. Myers, M.I. Stone. Poems by Tennyson, Robert Browning, Elizabeth Barrett Browning, Arnold and selected Pre-Raphaelites are studied in the context of the social and political, the religious and scientific ideas current in Victorian England.

Graduate Studies

The Department offers graduate classes leading to the degrees of MA and PhD. Details relating to admission, scholarships and fellowships, requirements for the degree, classes of instruction, etc., can be found in the Calendar of the Faculty of Graduate Studies.

French

Chairperson of Department
M. Bishop

Emeritus Professor
P. Chavy, Agrégé des Lettres (Paris), Chevalier de la Légion d'Honneur

Professors
M. Bishop, BA, BEd (Manchester) MA (Manitoba), PhD (Kent, Canterbury)
J.W. Brown, AB (Miami), MA (Middlebury), PhD (Penn.)
B.E. Gesner, BA (Kings), BEd, MA (Dal), Dr. de 3e cycle (Toulouse, II)
W.T. Gordon, BA, MA, PhD (Tor.)
R. Kocourek, State Examination, PhD, CSc (Charles U., Prague), *McCulloch Professor, (Graduate Coordinator)*
D.W. Lawrence, BA, MA, PhD (London)
H.R. Runte, MA, MPh, PhD (Kansas)
M. Sandhu, Licence ès Lettres (Montpellier), PhD (Yale)

Associate Professors
P. De Méo, BA, MA, PhD (UCLA)
N. Trèves, BSc (American U., Cairo), PhD (Rice)
K. Waterson, BA (Long Island), MA (NYU), PhD (CUNY)

Assistant Professors
B. Bednarski, BA (London), MA (Dal), PhD (Laval)
I.Z. Oore, BA (Tel-Aviv), MA (Waterloo), PhD (Western Ontario)
E. Boyd, BA (SMU), BEd (St FX), MA (Middlebury)
M. Myers, DUEL, Licence ès Lettres, MA, Dr. de 3e cycle (Strasbourg)

Adjunct Professor
R. Runte, BA (SUNY), MA, MPh, PhD (Kansas)

The Department of French offers students not only the opportunity to develop fluency in classes backed up by excellent laboratory and ancillary facilities, but also the possibility of studying the literature and culture of France, French Canada and the other nations of the French-speaking world, and the linguistic structure and development of French.

Classes are available for beginners and for those with a background in the language who wish to improve and maintain any or all of the following skills: speaking, listening, reading, and writing. Other classes are specially designed for students who are interested in teaching, translation, or other areas of language study. The role of French in Canada and in the Maritimes is stressed in classes in Acadian and Québécois literature and civilization. The literature of France and French-speaking nations is brought to life in classes organized around a theme, a genre, or a historical period.

The Department of French urges students to practise the language as much as possible. The *Maisons Françaises* are two houses on campus in which students may live with native speakers in a francophone environment. The French Club organizes activities including films, French meals, parties and plays in which all students may participate. Exchanges with Québec and individual student travel and study are encouraged. Normally the Department offers at least one course off campus in a francophone environment. In the past we have offered an intensified version of French 3000B in Mayenne, France and in Saint-Pierre and Miquelon. Please consult the Department for information concerning schedule.

A BA degree in French with Honours or with Honours in French and another subject combined may lead the student to a career in education, written or oral translation, or may provide the background for careers in many fields, including radio, television, law, social work, public relations, business, diplomacy, journalism and library science. Students considering French as an area of concentration in a BA degree course are invited to discuss the matter at any time (the earlier the better) with a member of the Department. The accent is on the particular needs and aspirations of the individual. An Honours degree is normally required for access to graduate studies: MA, MAT and PhD degrees may be pursued in the Department (see the Calendar for Faculty of Graduate Studies).

Major or honours students may, with the approval of the Department of French, take up to one year (5 full credits) of work at a University in a francophone environment and receive credit at Dalhousie. Scholarships are available for students selected to participate in the Dalhousie/Aix-en-Provence Year-Abroad Program, for Honours students.

Students considering a career in teaching French are encouraged to discuss their goals and program as early as possible with Professors DeMéo or Myers.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Degree Programs

BA Program

Students should consult the Chairperson or a Department Advisor about their choice of classes. The Department expects students majoring in French to form coherent programs of four to eight full classes or equivalents beyond 1020R or 1000R/2000R. The following classes are required: 2040R, 2201A, 2202B, 3040R and one other full credit at the 3000-level. Normally, three full credits are taken in the second year (and a minimum of two). Courses other than those required may be chosen freely in consultation with the Major Advisor, according to the students' desire to obtain a general knowledge of the field, or a greater concentration in specific areas such as Literature, Linguistics, French-Canadian Studies, etc.

Students wishing to change to an Honours Program may do so during the second or third year of studies, given sufficient standing. Those wishing to do so, or to continue in Graduate Studies after obtaining a BA Major in French, should consult the Chairperson or the Honours Advisor.

BA with Honours in French

This program offers systematic, comprehensive and individualized study of French language and/or literature both within and without the classroom. It is, therefore, an option which should be considered seriously by any student who, with career or personal objectives in mind, wishes to obtain a strong background in French and by those who plan to teach or earn a graduate degree in French.

Honours students are strongly encouraged to enrich their more traditional learning experience by living in one of the *Maisons Françaises* and by spending at least one summer in a French-speaking area. Majors or honours students may, with the approval of the Department, take up to one year (five full credits) of work at a university in a francophone environment and receive credit at Dalhousie. Please consult department for information on programs available.

Financial support may be available. Please consult the Chairperson of the Department.

Combined Honours students should consult the Chairperson before proceeding to see the Honours Advisor. Following is a description of the three different kinds of honours programs in French and the requirement for each*:

I. **Concentrated Honours** (from 9-11 credits in French beyond the first year. *First year* does not necessarily mean 1000-level courses; it refers to any course taken in the first year of study). The following courses are required: 2040, 2201A/2202B, 3020, 3040, one full-credit to be chosen in French literature and/or culture, one full-credit to be chosen at the 4000-level.

II. **Combined Honours** (from 11-13 credits in French and another subject. Not fewer than 4 nor more than 9 may be chosen in either subject.) Minimum requirements for the combined honours program are as follows: 2040, 2201A/2202B, plus a minimum of two credits in language, literature and/or culture.

III. **Honours Certificate** The honours certificate is an option for continued study open to anyone who has previously completed a BA major program in French. Normally, it consists of five full credits of course work plus one additional credit: either an honours essay or an oral interview based on course work and /or a specific topic. Requirements for the honours certificate are similar to those for the concentrated honours program, but will vary according to individual circumstances.

*A requirement may only be waived in exceptional circumstances with Departmental approval.

Classes Offered

1000R Français pour débutants/Beginners French: lecture 3 hours, language lab 3-6 hours, according to individual need, members of the department. This class, intended for students with little or no previous instruction in French, covers a sufficient range of basic linguistic structures and high-frequency vocabulary to enable students to engage in simple, everyday communication on a variety of subjects. Classes are conducted in French as much as possible with a view to developing competence in "real-life" communication, both oral and written. Work done in the three class meetings per week is supplemented with both oral and written exercises in the Dalhousie Learning Laboratory and with reading assignments, compositions, and written exercises to be completed outside of class. Students are also introduced to significant aspects of French, French-Canadian, and other francophone cultures. Upon completion of French 1000, students wishing to complete the study of basic French language structures and to increase their written and spoken fluency should enroll in French 2000. Anyone wishing to register in 1000 must provide the grade 12 transcript at the time of registration.

1001A/2001B Français pour débutants: Niveaux I & II/Beginners French: Levels I & II: lecture 6 hours, language lab 6-12 hours, according to individual need, E. Gesner. This course offers motivated students the opportunity to do the work of French 1000R and 2000R, normally a two-year program, in one academic year. 1001A and 2001B each give one full credit. Neither is counted towards a Major in French, but completion of this work permits entry into the Major or Honours programs.

1020R Révision de français oral et écrit/Spoken and Written French in Review: lecture 3 hours, language lab 1-2 hours, according to need, members of the department. This is the usual first-year class for those students who have studied French throughout high school. Designed to develop proficiency in speaking and listening skills, as well as in reading and writing. Classes are taught in French and involve much oral practice: discussions, exercises, etc. are based on a wide variety of reading and listening materials. Short written exercises and regular compositions reinforce this work. The basic structures of French are reviewed through independent study and classroom practice. Listening comprehension assignments are done in the Learning Laboratory in the Killam Library. It is assumed that students are familiar with the basic structures of French, although it is expected that students have not full control of them.

1060R Pratique de la lecture/French for reading: lecture 3 hours, members of the department. Development of the ability to read contemporary French prose with ease and accuracy. Emphasis is on the acquisition of skills that facilitate reading. Students are encouraged to become familiar with the best French-English dictionaries and to use them judiciously, to learn large blocks of vocabulary by recognizing word families, and to grasp the meaning of unknown words from context wherever possible. Classroom work involves a grammar review, study and discussion of a wide variety of readings as well as correction of prepared translations and sight translations (from French to English only). French 1060 is given in English and is not, by itself, suitable for students who plan to major in French. It may, however, be taken by those with no prior training in French and as an additional first-year option for those taking French 1020.

Note: All classes above this level are normally given in French.

2000R Français pour débutants: Niveau II/Beginners French: Level II: lecture 3 hours, language lab 3-6 hours, according to individual need, members of the department. No student may enrol in French 2000 without having first completed French 1000 or without the chairperson's permission. This class continues the work begun in French 1000, focusing on more advanced forms of expression including the vocabulary, verb forms, and syntactic structures necessary for communication at a relatively high level of abstraction and complexity. As in French 1000, all classes are conducted as much as possible in French, with additional practice provided through the Dalhousie Learning Laboratory and through regular reading and writing assignments. Reading selections drawn from the press and the literature of French-speaking cultures continue to be a regular part of the work, in the interest of deepening and enriching the students' understanding of the people whose language they are studying. (Credit awarded for French 2000 may not be counted towards a major in French but the completion of this work permits entry into the Major of Honours programs.)

2001B: See 1001A above.

2021A/2022B Etudes pratiques/Practice in Language Skills: lecture 3 hours. Follows 1020 or 1000/2000, members of the department. It is normally taken in the second year of study and provides the opportunity to practice and improve language skills already acquired. Sections approach language learning through different subjects (such as Acadian studies, African and Caribbean civilization, cinema, journalism, the occult, or the detective novel). All classes and assignments are entirely in French. Students must choose sections with different topics to earn credit for both A and B. However, it is not necessary to take both A and B and students may elect to study one semester only. Students should consult the current timetable, as the topics offered change each year.

2023A/2024B Etudes pratiques II/Practice in Language Skills II: lecture 3 hours, members of the department. For non-majors only. Permission of coordinator of French 2021 required. Open only to students having completed French 2021A/2022B. These classes provide the opportunity for further practice and improvement of language skills already acquired. As in 2021A/2022B, sections approach language learning through subject areas such as French Art, Technical and Commercial Vocabulary, Women in

France and French Canada, etc. All classes and assignments are entirely in French. Students must choose sections with different topics to earn credit for A and B. The topics chosen for 2023A/2024B must also be different from those taken in 2021A/2022B. It is not necessary to take both A and B and students may elect to study one semester only. Students should consult the current timetable, as the topics offered change each year.

2025A/2026B Etudes pratiques III/Practice in Language Skills III: lecture 3 hours, members of the department. For non-majors only. Permission of coordinator of French 2021 required. Open only to students having completed 2023A/2024B. Topics chosen must differ from those of all previous classes.

2030A/2030B De l'orthophonie à l'intonation expressive/From Corrective Phonetics to Expressive Intonation: lecture 3 hours, language lab, according to need, K. Waterson. Prerequisite: French 1020 or equivalent. Using widely varied texts and recordings, this class studies the basic sounds (phonemes) of French and the essential non-phonemic features of the language (rhythm, stress, intonation, etc.). It helps students master French phonemes, understand the role of non-phonemic features in oral communication and develop self-expression and audio-comprehension.

2031A/2031B Interprétation/Simultaneous Translation: lecture 3 hours in language laboratory, supplementary lab hours, as necessary for individuals, H. Runte. Practical introduction, given in the language lab, to oral English-French and French-English translating (interpreting) with emphasis on fluency, vocabulary building and comparative syntactico-stylistic analysis.

2040R Etudes pratiques de stylistique/Intermediate Composition: lecture 3 hours, R. Kocourek, D. Lawrence, I. Oore, M. Sandhu. These classes constitute a detailed and comprehensive review of grammar by means of various exercises including dictations, translations, compositions and summaries. They involve a study of written style and manner of expression.

2201A/2202B Introduction à la littérature/Introduction to French Literature: lecture 3 hours, M. Bishop, D. Lawrence, H. Runte, N. Trèves. A survey of literature in French from the Middle Ages to the 20th century, presenting selected works of prose, poetry and theatre from France, Québec, Acadia and other francophone areas. Introduction to general notions of literary history and to the basic concepts involved in reading literary texts. Attention is paid to the development of both oral and written expression of ideas. French 2201A and 2202B may be taken consecutively. Classes involve, principally, group discussion, often based upon short individual presentations.

3000B Cours supérieur de français oral/Advanced Oral French Workshop: lecture 3 hours, members of the department. Class discussions and oral presentations based on themes of contemporary concern. This class may be offered off campus in France in the summer in an intensive fashion. This class is intended to build vocabulary, perfect facility of expression (fluency) and style. Reading and research are necessary for the oral presentations.

3020R Linguistique/Linguistics: lecture 3 hours, R. Kocourek. This class will interest future linguists, literary specialists and language teachers, as well as translators and public servants concerned with bilingualism. Its main objective is to improve and refine the students' understanding of the French language and to explain the major areas of its study. Culturally interesting literary excerpts will be used to observe and analyse linguistic problems in texts. Each student will prepare two reports on linguistic topics. Assignments based on practical problems of pronunicaiton, spelling grammar, vocabulary and meaning will complement the syllabus.

3025A/3025B Les Parlers acadiens: Introduction linguistique/Linguistic Introduction to Acadian Dialectology: Students wishing to take the course must have taken, be concurrently enrolled in French 3020R, or must seek the permission of the instructor, E. Gesner. An examination of the phonetic, morphosyntactic and lexical systems of various Acadian speech communities, with emphasis on the Acadian dialects of Nova Scotia. Frequent comparisons will be made between these dialects and both standard French and Québécois. Recorded and written materials are used.

3040R Stylistique/Advanced Composition: lecture 3 hours, M. Sandhu, D. Lawrence. This class develops further the skills acquired in 2040R. Through a variety of exercises, students are taught to express themselves in clear, accurate, idiomatic French, and to perform a number of tasks of a practical nature: writing reports, summaries, letters, etc. A good knowledge of grammar is essential.

3081A/3082B Didactique du français langue seconde à l'école secondaire/Methods of Teaching French at the Secondary Level: lecture 3 hours, P. De Méo, M. Myers. Open only to students who have demonstrated adequate competence in French language and culture (passing a French language proficiency exam is required). Students taking this class are normally completing a BEd. Other students interested must consult the instructor. A consideration of foundations of second language teaching which moves to a discussion of methodology, techniques, materials (including visual aids), and testing. Emphasis is on developing teaching strategies which enable students to use French as a tool for authentic self-expression, orally and in writing. Directed observation of experienced teachers and practice in the development of teaching skills are integral parts of the class. Evaluation is based upon class participation (microteaching, oral reports, contributions to discussions), written projects, lesson plans, and examinations.

3085B Didactique du français langue seconde à l'école élémentaire et en immersion/ Methods of Teaching French in the Elementary School and Immersion: Prerequisite: Students must have enrolled in or actively audited French 3081A, P. De Méo, M. Myers. This class focuses on specific methods and materials appropriate for the elementary-age child in the French core program and/or immersion.

3100R Civilisation de la France/Civilization of France: lecture 3 hours, M. Sandhu, J. Brown. An attempt, through talks, reading, discussion and slide presentations, to understand and to suggest fruitful ways of studying, from an English-speaking Canadian point of view, what is essential in French culture and outlook.

3200A/3200B Appréciation de la littérature/Literary Appreciation: lecture 3 hours, M. Bishop et al. An approach to the critical reading of various periods of French literature. The class offers discussion of representative works of major writers, centering either on genre, theme, or period and involving close textual analysis. It also includes some discussion of past and current theories of literature. See department for specific details in any given year.

3300A/3300B La littérature médiévale/Mediaeval French Literature: lecture 3 hours, H. Runte. Textual analyses of selected works representing the major literary genres (epic, romance, theatre, poetry) from the *chansons de geste* to François Villon (most texts in modern French translations). The discussion of the origins and the development of a national French literature provide a convenient introduction to critical approaches to literary texts.

3400A La littérature du seizième siècle/16th-Century French Literature: lecture 3 hours, N. Trèves. Reliving the awakening, bloom and decline of the Renaissance period in literature and language through the works of Marot, Rabelais, Du Bellay, Ronsard, Montaigne and the poets of the *baroque*. The century's concern with the French language provides a convenient introduction to the study of the development of modern French.

3500A/3500B La littérature du dix-septième siècle/17th-Century French Literature: lecture 3 hours, K. Waterson. The theatre in 17th century France: an examination of representative works by Corneille, Racine and Molière; an attempt to define these dramatists' vision of man and the world and to assess their contribution to the history of ideas and the development of French theatre.

3600A La littérature du dix-huitième siècle/18th Century French Literature: lecture 3 hours, members of the department. An introduction to the literature of the 18th century which includes works by such authors as

Voltaire, Rousseau, Diderot and Marivaux. Each year the readings and class discussions will be centered on a different theme (for example: the hero, women, love, wealth and power).

3700A/3700B La littérature du dix-neuvième siècle/19th Century French Literature: lecture 3 hours, J. Brown. An introduction to the main literary movements of the 19th century: Romanticism, Realism, Symbolism. Focus is on representative authors and/or texts belonging to one or more of these trends.

3800A/3801B La littérature du vingtième siècle/20th Century French Literature: lecture 3 hours, M. Bishop. Poetry and Theatre, 1900-1988. Study of modern poetry from Dada and Surrealism to the work of contemporary poets such as Yves Bonnefoy, Jacques Dupin and Michel Deguy; and of modern theatre from Jarry to Beckett, Ionesco and beyond.

3900A/3901B La littérature canadienne française/French-Canadian Literature: lecture 3 hours, B. Bednarski, I. Oore. In-depth study of a few major works of French-Canadian literature with emphasis on the period from 1945 to the present day. Each class deals with a specific genre (e.g., 3900A Poetry, 3901B Novel) and choice of genre may differ from year to year.

3910A/3910B Etudes acadiennes/Acadian Studies: lecture 3 hours, H. Runte. Critical investigation into the historical, socio-cultural, linguistic and literary significance of past and present Acadian writing. May follow Acadian Studies (2021A/2022B).

4001A/4002B Histoire de la langue française/History of the French Language: lecture 3 hours, H. Runte. 4001A *Histoire du français —Moyen Age/History of French — The Middle Ages:* Advanced research into selected topics in Old and Middle French —manuscript studies; paliography; historical phonetics, morphology and syntax; the cultural-literary context of linguistic development; etc. 4002B *Histoire du français — Epoque moderne/History of French — The Modern Period:* Advanced research into selected topics — the emergence of a national language, the problem of orthography, usage and the development of normative grammars, the evolution of vocabulary, epochal phenomena (Rhétoriqueurs, the Baroque, Préciosité, the Revolution, scientific French, argot), etc.

4010A/4010B Grands Linguistes du vingtième siècle/Great Linguists of the 20th Century: lecture 3 hours, R. Kocourek. How did French-speaking linguists of the 20th century contribute to the understanding of the language? Interpretation of passages by six linguists (such as Saussure, Bally, Tesnière, Guillaume, Gougenheim, Martinet) will show how interesting questions were asked, and how new answers and methods enriched the field of language study. Class reports, discussions, assignments.

4011A/4011B Lexicologie/Lexicology: lecture 3 hours, R. Kocourek. How can French vocabulary be studied and structured? What is its formation (derivation, composition, metaphor, borrowing, abbreviation, etc.), its meaning, its development? Class reports, discussions and lexical assignments are important components of this class.

4012A/4012B The Structure of French: lecture 3 hours, R. Kocourek. Students will help select, from the many problems of French phonology, graphonomy, grammar, lexical formation and semantics, the ten subjects to be examinined in detail. Lectures and readings will be complemented by students' reports. Culturally relevant excerpts from literary masterpieces will be used for discussion and assignments.

4015R Cours supérieur de version/Advanced Translation into English: lecture 3 hours, W.T. Gordon. Development of awareness of the expressive resources of French by dealing with problems and techniques of translation into English. The texts of weekly translation assignments, which account for 50% of the final grade, progress from expository and descriptive prose to poetry. Topics introduced through lectures and oral class reports include categories of translation, style, context and choice, context and meaning, ambiguity, verb systems of French and English, textual redundancy, simultaneous interpretation, and translation of metaphors. Occasionally, alternate English translations of a French text are studied for revealing contrasts.

4041A/4042B Cours avancé de stylistique littéraire/Advanced Composition: lecture 3 hours, members of the department. These classes present an in-depth study of style. The class has as a goal to teach students to express themselves with elegance and refinement.

4300A/4301B Le roman et la poésie courtois/Courtly Novels and Poetry: lecture 3 hours, H. Runte. *Le Roman courtois/The Courtly Novel:* A close literary analysis of mediaeval French Arthurian romances. Texts in bilingual (Old French/French) editions. *La Poésie courtoise/Courtly Poetry:* A stylistic and socio-cultural study of French courtly love poetry from the 9th to the 15th centuries. Early texts in modern French translations.

4400A/4400B Poésie de la renaissance: Théorie et pratique/Renaissance Poetry: Theory and Practice: lecture 3 hours, N. Trèves. A seminar-style study of poetic theories and practices from the *Rhétoriqueurs* to the *Plêiade* and to Malherbe. French 3400 recommended.

4401A/4401B La pensée philosophique, politique et morale de la renaissance/Philosophical, Political and Moral Thought of the Renaissance: lecture 3 hours, N. Trèves. An in-depth study of major currents of Renaissance thought: humanism, scientific awakening, the beginning of *littérature engagée,* and the emergence of the *moralistes* and *philosophes.*

4500A/4501B L'aventure intellectuelle du grand siècle/The Intellectual Adventure of French Classicism: lecture 3 hours, K. Waterson. The focus of these classes, which examine, at an advanced level, a major figure, movement, genre or theme in 17th-century French literature, will vary frequently. Please consult the professor for detailed information on the topic to be treated in any given semester.

4600A/4601B Le siècle des lumières: forme et philosophie/The Enlightenment: Form and Philosophy: lecture 3 hours, members of the department. An in-depth study of the French Enlightenment which treats some of the longer works by major authors and introduces the student to secondary authors whose works are also of significant literary, philosophical or historical value. The study is unified by an examination of recurring philosophical ideas and literary themes important to understanding the development of new genres and styles. Please consult the professor for information on the theme treated and the works to be studied in any given semester.

4700A/4701B Du romantisme au réalisme/From Romanticism to Realism: lecture 3 hours, J. Brown. *4700A La révolution romantique/The Romantic Revolution:* Romanticism is viewed primarily as a rebellious and creative force which greatly contributed to reshape traditional society. The origins, main themes and trends of the movement are studied with an attempt to show Romanticism as a European movement, the impact of which was felt in fields beyond the boundaries of literature. Classes are conducted as seminars; students are required to do a great deal of personal research, to prepare *exposés* and to participate in class discussions. The choice of texts depends largely on the students' previous experience: they include works by Mme de Staël, Chateaubriand, Lamartine, Hugo, Vigny, G. Sand and others. 4701B *Le roman/The Novel:* Intensive study of the work of a major novelist of the 19th century: e.g., Stendhal, Flaubert, Balzac, Zola; a study of his place in the development of the novel and of his contribution to the genre. The class involves a considerable amount of reading and regular reports and exposés.

4710A/4710B Du symbolisme au surréalisme/From Symbolism to Surrealism: lecture 3 hours, M. Bishop. Analysis of the evolution of French literature from the various symbolist manners of Verlaine, Rimbaud, Mallarmé, Lautréamont and Laforgue, through the period of Jarry and Dada, to the aspirations and paradoxes of Surrealism viewed, principally, through the work of Breton, Eluard, Aragon and Desnos.

4800A/4801B Le théâtre et le roman modernes/Modern Theatre and Novel: lecture 3 hours, D. Lawrence. 4800A *Le théâtre de Camus et de Claudel/The Theatre of Camus and Claudel:* In all, eight plays are studied, four from each author. The works offer a contrast in philosophical content and reveal technical problems involved in their stage presentation. 4801B

Le nouveau Roman/Anti-novels of the 20th Century: In this class we are mainly interested in fictional techniques: how the author creates his illusion. Each of the works selected for detailed study is important due to the author's rejection of conventional ideas regarding the form of the novel.

4811A/4811B La poésie francophone de Perse et Char à Senghor et Césaire/Francophone Poetry from Perse and Char to Senghor and Cesaire: lecture 3 hours, M. Bishop. Discussion of the works of five or six major francophone poets of the modern period, chosen from: Perse, Reverdy, Claudel, Char, Frénaud, Senghor, Tchicaya, Césaire, Glissant, Miron and others.

4902A/4903B Ecrivains Québécois Contemporains/ Contemporary Qébec Writers: lecture 3 hours, B. Bednarski, I. Oore.

4994A/4995B, 4996A/4997B, 4998A/4999B Recherches indéndantes/Independent Research: May only be taken with the approval of the Chairperson as well as that of the faculty member concerned.

Graduate Level Courses

Classes in the 5000 series are for graduate students who, for more detailed information, should consult the Graduate Calendar and arrange to meet the Graduate Coordinator. Special seminars and graduate colloquia are arranged each semester. Students may obtain current information as to topics, dates, and places, in the Departmental office.

Geology

Chairperson of Department
P. Ryall

Undergraduate Advisor
M.R. Gibling

Graduate Advisor
R.A. Jamieson

Emeritus Professors
H.B.S. Cooke, MSc, DSc (Witwatersrand)
C.G.I. Friedlaender, PhD (Zurich)

Professors
D.B. Clarke, BSc, MA (Tor.), PhD (Edin.)
J.M. Hall, BSc (Wales), PhD, DIC (Lond.)
F. Medioli, PhD (Parma)
P.T. Robinson, BSc (Mich.), PhD (Calif.), Mobil Professor of Geology
M. Salisbury, BSc (MIT), PhD (Washington), NSERC/Petro Canada Professor
P.E. Schenk, BSc (W.Ont.), MSc, PhD (Wisc.)
M. Zentilli, BSc (Chile), PhD (Queen's)

Associate Professors
R. Boyd, BSc, PhD (Sydney)
M.R. Gibling, BA (Oxon.), PhD (Ottawa)
R.A. Jamieson, BSc (Dal), PhD, (MUN)
G.K. Muecke, BSc, MSc (Alta.), DPhil (Oxon.)
P.H. Reynolds, BSc (Tor.), PhD (UBC), (jointly with Physics)
P.J.C. Ryall, BSc (Dal), MSc (Alta.), PhD (Dal)

Assistant Professors
N. Culshaw, BA (Keele), PhD (Ottawa)
D.B. Scott, BSc (Wash.), PhD (Dal)

Instructor
P. Wallace, BSc, MSc (McM)

CIDA/NSERC Research Fellow
S.O. Akande, BSc (Ibadan), MSc (Western), PhD (Dal)

Research Associate
C. Beaumont (Major appointment in Oceanography Department)

Adjunct Professors
F. Gradstein, BA, MSc, PhD (Utrecht)
P. Hacquebard, PhD (Groningen)
L. Jansa, BSc, MSc (Masaryk), PhD (Charles)
P.J. Mudie, BSc (Leicester), PhD (Dal)
D.J.W. Piper, BSc, PhD (Cambridge)

Honorary Research Associates
P.S. Giles, BSc, MSc (Acadia), PhD (W. Ont.)
F.J. Hein, BSc (Ill.), MSc, PhD (McMaster)
P.R. Hill, BA (Oxon), PhD (Dal)
C.E. Keen, BSc, MSc (Dal), PhD (Cambridge)
C.T. Schafer, BSc, MSc, PhD (New York)

Geology is for those who wonder about the earth. How was it made? What changes it now? Where do we seek oil? Or nickel? What moves continents? Its study is of enormous economic importance to Canada — and of course to the world as a whole — and is intellectually exciting.

The Halifax-Dartmouth region is one of the best places in Canada in which to study the earth. The departments of geology, oceanography, and physics at Dalhousie are all involved, as are several government agencies in the region.

Classes in geology are offered for different types of students. Some will want to make a career in some aspect of the study of the earth — as geologists, geochemists, geophysicists, oceanographers or teachers. Some may need instruction in geology as an aid to other disciplines: for example, a mining engineer, or a physicist interested in X-ray diffraction spectrometry, or a chemist interested in crystallography, or a biologist interested in protozoa. Students may be interested in a geology degree before they take a professional qualification such as law or business administration. Those whose prime interest is the humanities or social sciences will find that the introductory class in geology stimulates their awareness of their surroundings, and their appreciation of the many facets of science.

Careers open to geologists are many and varied. The largest number of job opportunities is provided by industry, primarily in the search for the production of raw materials. Geologists competent in mathematics might be involved in processing and analysing data using digital computers; those interested in going to sea might work with marine institutions. The federal and provincial governments also employ geologists.

High School Preparation

Students in high schools who plan a *career* in sciences involving the earth, such as geology or geophysics, should note that it is sensible to try to have the following subjects in Grades XI and XII: Grade XII mathematics, plus two of Chemistry, Physics and Biology. (The third should have been taken in Grade XI if possible). Note that these are *not* prerequisites, but are strongly advised. The student should aim to make up deficiencies in high school preparation in the first year at Dalhousie. Note too that, at present, Grade XII Geology is *not* counted as equivalent to a 1000-level class in Geology at Dalhousie.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Undergraduate Programs

Programs and classes for those whose major is not geology

These classes are specially designed for those who want to know something about the earth, but whose major field of study at Dalhousie will lie elsewhere; an economics student, concerned with resources; a history student, interested in the role played by Canada's geological frame in the development of transportation; a biology student whose fauna and flora inhabit the mud of the sea floor. These classes are:

Geology 1040A/1050B, an evening class especially designed for students in the humanities and social sciences.

There is one evening class, 2410B, open to all with 1000, or good grades in 1040A. This particular class is not normally suitable for students whose major is geology.

For engineering students and science students in other disciplines: Biologists: 1000, 2410B, 2200R; Chemists: 1000, 2100, 3010A, 3020B, 4380A; Physicists and mathematicians: 1000, 2050B, 3130B, 4270A, 4280B, and 4290B.

General Degree Program

Three-year programs with a major in Geology are suitable for students who intend to take further professional training or to enter fields where they are likely to need their geological training as background, but are of little value as a qualification for a professional career in the earth sciences.

One program recommended for students undertaking a general BSc with a major in Geology is the first three years of the concentrated honours program (see the table below). This program may not be suitable for all students, and others can be arranged. All students intending to major in geology are required to take Geology 1000. Geology 1000 is offered during summer school in alternate years (offered in 1988). The core program for a major in geology must include Geology 2100, 2110A, 2200, 2050B 3010A and 3020B. Faculty regulations permit a student graduating with a general degree with a major in Geology to convert it to an honours degree by certificate. Note that Geology 2410B does not form a part of the core program for concentrated honours in Geology and cannot count as a credit towards an honours degree although it can form part of the General Degree Program.

Students undertaking a general degree with a major in Geology must attend an approved field school, normally the first of the two field schools offered by the department. It should normally be taken at the end of second year.

Twenty Credit Major A 20-Credit Advanced Major degree is offered in Geology. This is, in essence, an "enriched" General Degree requiring the student to take twelve of twenty credits beyond the 1000 level. Six to nine of the classes beyond the 1000 level must be in the major and three at the 3000 level or above. Students are required to earn a minimum of sixteen merit points for this degree. Students should also note that a grade of C- or better in a third year prerequisite class is required for registration in a fourth year class. Where several classes are listed as prerequisites and a grade of C- was not obtained in all, the instructors consent may be the basis for admission.

Students undertaking this Twenty Credit Major degree with a geology major must attend an approved field school.

Honours degree programs

An honours degree is almost essential for any professional work in earth sciences, and for graduate study. Students must take the second and third year classes of the Geology core program listed below. The recommended program is:

Year 1: Geology 1000; Mathematics 1000A/1010B/1500R; *one class in two of Physics, Chemistry, Biology;* an elective (normally selected to meet the faculty requirement for a class in which writing ability is emphasized). Note that Geology 2050B fits best in Year 2 of the program and that it has Physics 1100 and Mathematics as prerequisites. Physics and Mathematics should therefore be included in Year 1 if possible.

Year 2: Core program: Geology 2100, 2200, 2110A; *one class in two of Physics, Chemistry, Biology, Mathematics;* and an elective. Geology 2050B is required but students not in the geophysics stream may elect to take this class in the 3rd year.

Year 3: Core program: Geology 3010A, 3020B, 3140A, 3300R; *plus one class in Physics, Chemistry, Biology, Mathematics;* and an elective. Students in the geophysics stream will take 2050B in year 2 and 3130B in year 3.

Year 4: Geology 4200; 4350B, other 4000 level classes in Geology; and an elective.

A student who decides at the end of first year to take honours in Geology but has not taken Geology 1000 in that year may take Geology 1000 if available, in the summer session or may take 1000 and 2100 in Year 2 if he has obtained a B+ standing in Year 1. A student who has taken Geology 1000, but whose program does not meet the other requirements, should consult the department.

A student must normally complete one class in each of Biology, Chemistry, Physics, and Mathematics by the end of his second year, and a second class in one of these subjects. The recommended first classes are Physics 1100, Chemistry 1100, Mathematics 1000/1010, 1500R, Biology 1000 or 2000. Recommended second classes are: Biology 2000 or 3321; Chemistry 2110B, 2200A, 2300A, 2340B; Physics 2200A/2210B or 2300A/2330B; Mathematics 2000, 2200, 1060/1070, 1300R, 2270B.

Students wishing to take combined honours in geology and another subject should discuss their program in detail with the undergraduate advisor.

Suggestions for the first three years of study are given below:

Combined honours with Biology: Students should follow the Geology honours program in Years 1-3, including Geology 2200 and 2110A; but should take either a Biology class, or Geology 4500R in place of Geology 3010A/3020B. Suggested Biology classes are 1000 or 2000 in Year 1, 2040A/B, and 2060A/B in Year 2, and 2000 or 3321 or 3323 in Year 3.

Combined honours with Physics (a possible geophysics program): Students should follow the Geology honours program in Years 1-3, including Geology 2050B and 3130B, but should take a Physics class in place of Geology 3010A/3020B. Suggested Physics classes are 1100 in Year 1, 2300A/2330B in Year 2, and two of 2200A/2210B or 3000A/3010B or 3200A/3210B and 3160A/3170B in Year 3. Math 2000 should also be taken in either Year 2 or 3.

Combined honours with Chemistry: Students should follow the Geology honours programs in Years 1-3, but should take 3000 level Chemistry classes in place of Geology 3300R and 2110A/3130B. Suggested Chemistry classes are 1100 in Year 1; 2200A/2110B and 2300A/2340B or 2400 in Year 2; any 3000 level Chemistry in Year 3.

Students in combined honours and unconcentrated honours programs should attend the field camp, normally taken at the end of the second year.

Field Work

Students in a concentrated honours program must complete one field camp at the end of second year and one at the beginning of fourth year. The camp at the end of the second year runs for ten days early in May or September. It is designed to introduce the simpler techniques used in geological mapping. The field trip at the beginning of fourth year is of seven to fourteen days duration. It is designed to give the student an introduction to regional geology and serves as a practical synthesis of specific course material. Normally the trip will take place within Atlantic Canada, but if additional funds are available a more remote location could be selected. A geophysics field school is held in early May and is an integral part of Geology 3130B. Field excursions are a part of several classes and are conducted at appropriate times during the session. In addition, some optional field excursions may be held each year.

Students are charged a contribution towards the cost of all field excursions. Charges for those trips that are held, during the session, as part of a class are payable at registration. Due to increased costs and uncertainty of external funding, fees for individual field excursions are fixed yearly. (Please consult department.) The charges for optional field trips are notified, and payable, several months in advance. Overpayments, in excess of $5.00, are reimbursed to the student.

Thesis and Honours Qualifying Examination

A student in an honours degree program may choose one of three options:

A thesis as Geology 4200, followed by an oral examination, based on the general subject area of the thesis. This oral examination then counts as the honours comprehensive examination.

A thesis as Geology 4200, and a written comprehensive examination, reflecting the content of the 3000 and 4000 level classes which the student has taken.

An honours thesis in addition to five regular classes in the fourth year, in which case the thesis will count as the honours comprehensive examination.

Theses must be completed by the second Monday in March of the fourth year. Students who complete them after this date must re-register for Geology 4200 for the following academic year, pay the fees for that class, and graduate at the spring convocation of that academic year.

Minimum Grades

Admission into the second year of the Geology program is conditional upon a minimum grade of B- in Geology 1000.

A grade of D in a later Geology class precludes admission to classes for which that one is a prerequisite.

Classes Offered

1000 Introduction to Geology: lecture 3 hours, lab 3 hours, M. Salisbury, R. Boyd, M.R. Gibling and staff. An introductory class for students who plan to take a degree in geology, or in another science, or in engineering. The lecture material covers the whole field of geology including the origin of the solar system, earth history, mountain formation, volcanoes, continental drift, natural resources such as metals and petroleum, and environmental pollution. The laboratory component involves work with minerals, rocks, fossils, and geological maps as well as a number of field excursions to observe local geological features. Students who wish to major in Geology but have unresolvable scheduling conflicts with Geology 1000 should consult the undergraduate advisor.

1040A/1050B The Earth and Society: lecture 3 hours, lab 1 hour per week, D.B. Scott. These classes are two parts of a single unit designed for students in the social sciences and humanities. Geology 1040A deals with the nature and structure of the earth and with processes acting thereon, but only in sufficient depth to provide background for understanding of the matters discussed in Geology 1050B, without detailed study of rocks and minerals. Previous mathematics, physics, or chemistry is not required. Students with good grades in this class may enter Geology 2410B. Geology 1050B applies to geological concepts learned in 1040A to consider the influence of geological factors upon economic, social, and political decisions of the past and future. Geology 1040A is a prerequisite.

2050B Principles of Geophysics: lecture 3 hours, lab 1 hour, P.J.C. Ryall. Prerequisites: Physics 1100 and a first year class in mathematics. Geophysical methods are increasingly important in geological studies. Understanding the principles of the various techniques (seismics, gravity, magnetics, electromagnetics), their powers, and limitations, provides a foundation for later more practical classes.

2100 Introduction to Mineralogy and Geochemistry: lecture 3 hours, lab 3 hours, D.B. Clarke. Prerequisite: Geology 1000. This class deals with the ways in which the chemical components of rocks are organized into crystalline compounds (mineralogy) and the ways in which chemical changes affect rocks (geochemistry). The lectures cover the crystallographic principles which determine the regular internal and external structure of minerals, the chemistry and structure of the major groups of rock-forming minerals, the ways in which minerals interact with melts, with other minerals and with solutions in geological environments, and practical applications of these principles to mineral exploration. The labs cover the identification and description of minerals both in hand specimen and with the use of the petrographic microscope.

2110A Field Methods: lecture 3 hours, lab 3 hours, N. Culshaw. Prerequisite: Geology 1000. This is intended as an introduction to field techniques useful to the practising geologist, particularly those concepts essential for the accurate field description and identification of rocks and the use and construction of geological maps. Geophysical field techniques and elementary structural geology are also considered.

2200 Sedimentology and Biostratigraphy I: lecture 3 hours, lab 3 hours, M. R. Gibling, R. Boyd, F. Medioli, P.E. Schenk. Prerequisite: Geology 1000 or equivalent. This class studies the basic materials of sedimentary geology: modern sediments and processes of deposition, ancient siliciclastic and carbonate rocks, and macrofossil morphology and taxonomy. The principles of stratigraphy are studied in order to subdivide the strata into mappable units and understand the evolution of sediments and fossils through geological time.

2410B Environmental and Resource Geology: lecture, lab 3 hours, one evening per week, P. Robinson, M. Salisbury . Prerequisite: any first level class in geology. Geology lies behind many of the environmental problems facing man today. In this class we consider topics such as energy and mineral resources, geological hazards such as earthquakes, landslides, and volcanic eruptions, the relevance of geology in the fields of foundation engineering, pollution and waste disposal, and the role that geology has to play in planning urban areas, especially in Nova Scotia.

0001 Field School. The course provides ten days of training in geological field methods. A wide range of rock types are examined in the field, and are described using traverses, measured sections, and outcrop and structural maps. An individual field mapping project forms part of the course. For students taking combined honours with Physics, participation in the geophysics field school (part of Geology 3130B) is considered equivalent. Although the field school is a non-credit course, it appears on transcripts and is a compulsory part of the geology program.

3010A Igneous Petrology: lecture 3 hours, lab 3 hours, P.T. Robinson. Prerequisite: Geology 2100. The study of the field relations, mineralogy, texture, and geochemistry of volcanic and plutonic rocks. Lectures discuss the classification, graphical representation, means of production, differentiation, and emplacement of igneous rocks, and their grouping into co-magmatic provinces. Labs involve using the petrographic microscope to determine the crystallization history of igneous rocks through their mineralogy and texture.

3020B Metamorphic Petrology: lecture 3 hours, lab 3 hours, R. Jamieson. Prerequisites: Geology 2100R, 3010A. Metamorphic petrology is the study of the way in which pre-existing igneous, sedimentary, and metamorphic rocks respond to changes in pressure, temperature, and geochemical environment. The mechanisms of metamorphic reactions and recrystallizations, the stability relations of minerals and mineral assemblages under various physical and chemical conditions, and the concept of metamorphic facies series are discussed. In the labs, microscopic mineralogy and texture are used to decipher the metamorphic history of rocks.

3130B Exploration Geophysics: lecture 3 hours, tutorial 3 hours (every second week), P.H. Reynolds. Prerequisite: Geology 2050B. This is a class in exploration geophysics relating largely to the mining industry and designed to follow Geology 2050B. It is a normal prerequisite for the several 4000 level geophysics classes. Topics include: electrical properties of rocks; resistivity, self-potential and induced polarization exploration methods; electromagnetic exploration; radioactivity as an exploration tool; geophysical well logging; integrated geophysical problems. The geophysics field school normally conducted during the last week of April is an integral part of this class.

3140A Structural Geology: lecture 3 hours, lab 3 hours, N. Culshaw. Prerequisites: Geology 2100R, 2110A, 2200R. An introduction to the behaviour of rocks during deformation, stressing the geometrical aspects of rock structures on the scale normally encountered by the exploration geologist, and their interpretation. The laboratory exercises in the construction and interpretation of geological maps develop skill in the interpretation and graphical representation of structures in three dimensions.

3300 Sedimentology and Biostratigraphy II: lecture 3 hours, lab 3 hours. P.E. Schenk, R. Boyd, M.R. Gibling, F. Medioli, D.B. Scott. Prerequisite Geology 2200R. This course is concerned with the generation of siliciclastic, glacial, carbonate and evaporite sediments in their environments of deposition. Weekend field trips to selected environments occupy the first

month of class laboratory sessions. A second component of the course involves micropaleontology and includes a general, systematic study of major groups of microfossils (mainly foraminifera, ostracoda and calcareous nannoplankton). Particular emphasis is placed on recent microfauna and laboratory techniques for sampling and studying them.

0002Advanced Field School: The course is a field excursion of 7 to 14 days duration which is designed to give the student a regional perspective of Appalachian geology, including the metamorphic terrains, igneous intrusions and sedimentary basins of Precambrian to Mesozoic age. Classic field localities in eastern North America will be discussed. Exceptionally, a more distant location may be selected. Although the field school is a non-credit course, it appears on transcripts and is compulsory for all Honours students.

4064C Pleistocene Biogeography: lab 3 hours, J.G. Ogden III. Prerequisite at least two credits in Biology or Geology. Cross-listed with Biology 4064C.

4150 Economic Geology: lecture 3 hours, lab 3 hours, M. Zentilli. Prerequisites: 3010A, 3020B, 3140A. For those interested in mineral exploration. The class starts with a brief introduction to principles of exploration and mining geology, followed by a review of the processes leading to the formation of metallic mineral deposits. Later, and developed mainly as seminars, important examples of ore deposits are discussed with emphasis on their total geological environment and the development of conceptual models for their genesis.

4155B Fossil Fuel Geology: lecture 3 hours, lab 3 hours, P. Hacquebard and staff. Prerequisites: Completion of 3rd year core courses. This course will consider the geology of hydrocarbons. One third of the term will consist of a self-contained course on the geology and petrology of coal (Hacquebard). Consideration of the geology of petroleum will make up the bulk of the course. Topics covered will include source rocks, maturation, migration, reservoirs, entrapment, and preservation of hydrocarbons. An introduction to the geophysical and geochemical characteristics of petroleum reservoirs will be offered as well as an overview of the geology of oil shale and tar sands. Students cannot receive credit for both 4150R and 4155B.

4200 Honours Thesis: A research project and thesis are a normal part of the Honours BSc program and may be counted as a class under certain conditions. Special regulations govern this, and the student should consult the undergraduate advisor.

4270A Applied Geophysics: lecture 3 hours, P.J.C. Ryall. Prerequisites: Geology 2050B, 3130B, or instructor's consent. The application of geophysical methods to petroleum and mineral exploration as introduced in 2050B and 3130B is here treated at a more advanced level. Assignments attempt to involve the student in interpretation of realistic geophysical data.

4280B Marine Geophysics: lecture 3 hours, lab and occasional sea trip to be arranged, P.J.C. Ryall, K. Louden (Oceanography). Prerequisites: Geology 2050B, 3130B, 4270A or instructor's consent. The application of the various geophysical techniques to the study of the sea floor and the principal results obtained are examined. The processes involved in the creation, evolution and destruction of ocean basins and the implications of the experimental observations are also considered.

4290A Geodynamics: lecture 3 hours, C. Beaumont (Oceanography). Prerequisites: Geology 2050B, 3130B and 4270A, or Instructor's consent. Essential for geology or physics students who intend to be geophysicists, the class covers the physical state and behaviour of the Earth as a whole. It shows how studies of geomagnetism, the Earth's electrical conductivity, earthquake seismology, the Earth's gravity field and the loss of heat from the Earth contribute to our present detailed picture of the Earth's interior. Methods of absolute age determination and other isotopic studies together with paleomagnetism allow us to follow aspects of the Earth's evolution to its present state.

4350B Tectonics: lecture 3 hours, J.M. Hall, and staff. Prerequisites: Completion of third year core courses. This is a required class for Geology Honours students. It is intended to synthesize the various aspects of geology treated in more specialized courses through an analysis of those processes which have shaped the earth's crust in the past and continue to do so today. Part of the course deals with modern plate tectonic processes as observed at active spreading centres, subduction zones, and transform faults. The rest of the course examines the structure, stratigraphy, and petrology of mountain belts like the Cordillera and the Appalachians in order to determine what processes, including plate tectonic processes, created them.

4380A Advanced Geochemistry: lecture 3 hours, lab 3 hours, G.K. Muecke. Prerequisites: Geology 3010A, 3020B. Geochemical aspects of ore formation and the exploration for economic mineral deposits are covered. How principles of crystal chemistry, isotope fractionation, thermodynamics, solution chemistry, etc., apply to the investigation of hydrothermal solutions, models of ore deposition and redistribution, and geochemical cycles is demonstrated. Geochemical surveys, exogenic element dispersion and the origin and evaluation of geochemical anomalies are also discussed. In the laboratory the most common methods of rock and mineral analysis and the processing of geochemical data are introduced.

4390B Advanced Igneous Petrology: lecture 3 hours, R.A. Jamieson. Prerequisites: Geology 3010A, 3020B, (not offered in 1987-88). This class deals with advanced topics in igneous and metamorphic petrology. The exact content of the class varies from year to year depending on the instructor. A project involving lab work outside the scheduled lecture time is normally part of the course.

4400B Advanced Metamorphic Petrology: lecture 3 hours, R.A. Jamieson. Prerequisites: Geology 3010A, 3020B. Metamorphic rocks are considered as equilibrium systems. The role of fluids in metamorphism, metasomatism and mass transport, and kinetics of metamorphic process are discussed. Laboratory projects and special topics are chosen to suit the student's interests.

4500 Sedimentology and Biostratigraphy III: lecture 3 hours, F.S. Medioli, R. Boyd, M.R. Gibling, P.E. Schenk, D.B. Scott. Prerequisite Geology 3300. This course is designed to present advanced topics of current interest in sedimentology and biostratigraphy. It builds on the basic elements presented in years II and III and provides a broad synthesis approach to topics such as: sedimentary tectonics and basin analysis in the context of plate-tectonic theory; the diagenesis of sediments during basin filling; seismic stratigraphy and sedimentation in the world's oceans; Quaternary paleo-oceanography and faunal distribution; and the evolution of North American fossils and sediments through time.

4510A/4511B Directed Reading: Permission of the department required.This class is intended to permit further study of a specific topic of interest, or to correct a deficiency in a student's program.

Seminars

Department seminars are arranged during the term. Other specialized seminars are arranged on an ad hoc basis.

Graduate Classes

Some graduate classes may be suitable. Please consult the Graduate Calendar and seek advice from the Department.

German

Chairperson of Department
H.G. Schwarz

Professors
F.W. Gaede, PhD (Freib.)
P. Michelsen, PhD (Gott.)
H.G. Schwarz, MA (Munich), PhD (McG)

Associate Professor
D. Steffen, PhD (Gott.)

Assistant Professor
E.A. Spence, BA (Hons), MA, PhD (UBC) *Undergraduate Advisor*

Lecturer
G. Josenhans

German, the most widely used language in Central Europe, is spoken by approximately 100 million people as their native tongue in Austria, the two Germanies, Switzerland and some parts of Eastern Europe. The cultural, economic, and scientific role of the German-speaking countries makes the knowledge of German indispensable to the study of most academic disciplines.

The departmental program "German Studies" is the investigation of German culture and its place in the formation of the modern world. The program concentrates on significant aspects of the cultural tradition of the German-speaking countries. From Luther to Nietzsche, Freud, and Marx, German writers have moved men and nations to change the course of the world. The literary and intellectual development of Germany culminated around 1800 in the epoch of Classicism. The authors of this epoch (Lessing, Herder, Hegel, Goethe, Schiller) founded their writings on a thorough knowledge of the cultural tradition of Europe, especially Greek culture. As scientists, historians, and politicians they described in their literary works, problems and questions of a universal nature. They became the first historians of literature and created the discipline of aesthetics. The universality of the authors of German classicism explains their present actuality and makes the study of German important and attractive.

Major or honours students may, with the approval of the Department of German, take up to one year (5 full credits) of work at a University in a German-speaking country and receive credit at Dalhousie.

20-Credit Major

The department is able to offer a major in the 20-credit program. For further information refer to specific regulations for the 20-credit programs on pages 33 to 41.

Degree Programs

BA

Students concentrating on German should take a minimum of four German classes beyond the 1000 level.

BA with Honours in German

Students considering an honours course are advised to consult the Department of German.

Combined Honours

It is possible for a student to take an honours degree combining German with another subject. Any student intending to take such a combined honours degree should consult with the two respective departments to arrange the details of such a program.

Program for Future Teachers of German

The Department also offers a special one-year program in conjunction with the Department of Education for third-year students of German. All courses under this program must be taken as a unit. Any student desiring to pursue this program should consult with the Department.

Prerequisite: Successful completion of an intermediate German Class (such as German 2000) or equivalent.

Structure of Program: (a) intensive language training, (b) philology and linguistics, (c) teaching methods, and (d) work in German civilization.

Classes marked * are not offered every year. Please consult the timetable on registration to determine if this class is offered.

German Language Studies

Introductory Classes Offered

1000 German for Beginners: lecture 3 hours, members of the Department. German 1000 is a seminar class for beginners only, and no previous knowledge is required. Its equivalent is two years of German in high school with a final mark of 75% or better. The class emphasizes the spoken language, and provides the student with a thorough knowledge of basic grammar. Language laboratory work and attendance of small conversation groups are required. The class fulfills the writing requirement for first-year students. German 1000 or its equivalent is a prerequisite for all classes on the 2000 level.

1010 German for Beginners: lecture 3 hours, members of the Department. An introductory language class, using the same methods and goals as German 1000. This class does not fulfill the writing requirement for beginning students.

1050 German Reading Course for Beginners: lecture 3 hours, H.G. Schwarz. Students acquire a knowledge of basic vocabulary and grammatical structures sufficient to understand newspapers and texts in the humanities and sciences. No previous knowledge of German is required. The class is taught in English. For purposes of admission to advanced classes in German it is equivalent to German 1000. This class fulfills the writing requirement for first-year students.

1060 German Reading Course for Beginners: lecture 3 hours, H.G. Schwarz. An introductory reading class using the same methods and goals as German 1050. This class does not fulfill the writing requirement for beginning students.

1000/1050 Intensified German: lecture 6 hours, lab 2 hours. The combination of German 1000 and 1050 is recommended for students who desire rapid progress in the German language.

Intermediate Classes

Intermediate classes are based on German 1000, high school German Grade 10, 11, 12 or an equivalent basic knowledge.

A combination of German 2000 and German 2020 serves as an accelerated Intermediate German course and is designed for students who want to make rapid progress in the language.

2000 Intermediate German: lecture 3 hours, G. Josenhans, H.G. Schwarz, E. Spence. The main aim is to develop a certain degree of speaking fluency as well as reading and writing skills. Language Laboratory work is required. Small conversation classes once a week as an aid to speaking fluency are compulsory.

***2010 Scientific German:** lecture 3 hours, E. Spence. Prerequisite: German 1000 or equivalent. Primarily a reading and translation class designed to enable science students to read scientific papers, reports, and articles in scientific journals in the original language. A reading knowledge of German is a prerequisite for many PhD degrees.

***2020 Exercises in Translation and Composition:** lecture 2 hours, G. Josenhans. Prerequisite: German 1000 or equivalent. English and German texts from various periods of different types will be translated. These translations lead to the discussion of specific difficulties of grammar and

construction. Students must prepare translations or compositions for each class. Dictations are given once a week. The class is conducted mainly in German.

2030 Advanced German: lecture 3 hours, G. Josenhans. Prerequisite: German 2000 or equivalent. Readings, essays and discussions will promote fluency in the language on the advanced level.

Study of German Literature and Culture

***2150 Goethe's Faust:** lecture 2 hours.

2200 Introduction to German Literature: lecture 2 hours, E.A. Spence. A study of texts representing major periods of German Literature. Special emphasis is on the interaction between literature, society and other forms of art. The class also serves as an introduction to literary criticism.

***2300 In Pursuit of Freedom from Luther to Nietzsche:** lecture 2 hours, D. Steffen. A study of major modern writers with special emphasis on Hegel's "Philosophy of Right."

***2350 Germanic and Greek Mythology:** lecture 2 hours.

2400 German Art and Literature: lecture 3 hours. H.G. Schwarz. This class gives an introduction to modern German Art and Literature. Special emphasis is on the interaction between art and literature, particularly the themes and styles shared by visual and literary expression during the various epochs of modernity.

***2450 Kant and the History of German Idealism:** seminar 2 hours, D. Steffen. A study of Kant's relation to modern Rationalism and Empiricism, and an inquiry into the principles of Idealism.

***3050 History and Theory of the German Novel:** seminar 2 hours, F. Gaede. Representative works from the Baroque Age to the 20th Century are studied and the principles of the genre discussed.

***3100 German Literature and Thought from Reformation to Enlightenment:** lecture 2 hours, F. Gaede. A study of German literature between the 16th and 18th centuries as a direct reflection of the important religious, social and philosophical developments after the Reformation and during Absolutism.

***3150 Goethe and the Enlightenment:** lecture 2 hours, D. Steffen. A study of German literature and thought of the time which preceded and witnessed the great revolutions of the 18th century.

***3200 Goethe and Romanticism:** lecture 2 hours, D. Steffen. A study of Goethe, Hölderlin, Kleist, and Novalis.

***3240 Literature of the 19th Century:** lecture 2 hours, H.G. Schwarz. A discussion of essential literary texts which throw a critical light on the growing forces of materialism and positivism.

***3250 Modern German Literature:** lecture 2 hours, H.G. Schwarz. Modern authors as witnesses of the political catastrophes and social changes of our century: a study of the plays of B. Brecht and of selected prose texts of Fr. Kafka, Th. Mann and G. Grass.

***3350 Hegel's Aesthetics and the Ancient:** seminar 2 hours, F. Gaede.

***3400 Heidegger and German Idealism:** seminar 2 hours.

***3450 Hegel's Philosophy of Nature:** seminar 2 hours.

***4100 Aesthetic Theory:** seminar 2 hours, F. Gaede. An historical study of the development of literary theory.

***4200 Seminar on Hegel's Phenomenology of Spirit:** 2 hours, D. Steffen. *The Phenomenology of Spirit,* published in 1807, was Hegel's first major work. He intended to write an introduction to philosophy by demonstrating the necessity of the advance from the most immediate form of knowledge to absolute knowledge. To achieve this he had to write the Phenomenology as an introduction to his own philosophy.

***4250 Studies in German Idealism**

Graduate Studies

The Department offers a graduate program leading to the MA degree. Details of the MA program are given in the Calendar of the Faculty of Graduate Studies.

Health Education

The course of study for the Bachelor of Science (Health Education) degree is described in the calendar entry for the School of Recreation, Physical and Health Education. The following health education course is approved as an elective for students in Arts and Science.

HE4412A/B Human Sexuality: lecture and discussion 3 credit hours, E. Belzer. Prerequisite:Completion of at least one year of university studies. This class is concerned with basic knowledge and understandings regarding biomedical, psychological, historical, legal, religious, semantic and comparative cultural aspects of human sexuality from conception to senility.

History

Chairperson of Department
G.D. Taylor

Professors
P. Burroughs, BA, PhD (Lond.), FR HistS
M.S. Cross, BA, MA, PhD (Tor.)
J. Farley, MSc (UWD), PhD (Man.), *Biology* (Adjunct)
J. Fingard, BA (Dal), MPhil, PhD (Lond.)
J.E. Flint, MA (Cantab.), PhD (Lond.), FR HistS, FRSC
R.M. Haines, MA, M Litt (Durh.), DPhil (Oxon.), FR HistS, FSA
N.G.O. Pereira, BA (Williams), MA, PhD (UC Berkeley)
G.D. Taylor, BA, PhD (Penn.)
M. Turner, BA, MA (Manc.), PhD (London)
P.B. Waite, MA (UBC), PhD (Tor.), FRSC
J.B. Webster, MA (UBC), PhD (Lond.)

Associate Professors
J.E. Crowley, AB (Princ.), MA (Mich.), PhD (Johns Hopkins)
J.F. Godfrey, BA (Tor.), B Phil, DPhil (Oxon.)
J.T. O'Brien, BA (Wisconsin), MA, PhD (Rochester)
J.L. Parpart, BA (Brown), MA, PhD (Boston)
L.D. Stokes, BA (Tor.), MA, PhD (Johns Hopkins)
D.A. Sutherland, BA (MtA), MA (Dal), PhD (Tor.)

Assistant Professors
R. Bleasdale, BA, MA, PhD (UWO)
D.R. Woolf, BA (Queen's), DPhil (Oxford)

Research Scholars
I. McKay, BA (Dal), MA (Warwick), PhD (Dal)
C. Neville, BA (Hons), MA (Carleton), PhD (Aberdeen)
L. White, BA (Calif.), PhD (Cambridge)

Honorary Special Lecturers
D.B. Flemming
N. Jannasch
M.E. Moore

History as a Subject for Study at University

A sense of history is a primitive need felt by individuals and by groups. Just as people need to know who they are and how they arrived where they are, groups, races, classes, states and nations need a sense of their own past as part of their culture.

The academic study of history, therefore, is concerned to discover as much as possible of the reality of the past and to interpret human behaviour in its changes through time. It is a unique subject, scientific in the way it uses evidence, but still an art because the reconstruction of the past requires a disciplined imagination and an effective rhetoric for the communication of meaning.

The contemporary world is one of intensive specialization, in which the varieties of human knowledge have increased well beyond the capacity of any individual to command them all. These developments have reinforced the role of history as the foundation of a person's education, because history can never draw frontiers around itself to exclude any branch of human knowledge, although individual historians will want to select that portion of it especially relevant for them. History's field of study will always be the whole of human experience.

Aims of Teaching and Study

The subject of history does not have a monolithic body of knowledge. Historical understanding is a matter of interpretation, of offering explanations for events and movements which are subject to constant revision by scholars. Arguments, scepticism and controversy are thus the very stuff of history. The history student does not merely acquire a particular mass of information, but learns to think independently.

Degree Programs

Classes in history are set out below. There are several levels of study. 1000-level classes are primarily for first-year students; most 2000-level classes treat broad geographical areas over specified periods; and 3000/4000 level classes provide opportunity for specialized study and advanced work for the undergraduate.

Bachelor's Degree Programs

Students who wish to major in history are urged to choose a 1000-level class and must take at least four and no more than eight upper-level classes, of which two should be at the 3000-level. First-year students may take two 1000-level classes in history.

Students who wish to build up a greater specialization in history than the minimum requirements may do so by taking classes of an historical nature given by the Departments of Classics, Economics, Music, Philosophy, Political Science, Theatre, etc.

Interdisciplinary Programs

Medieval Studies Program
African Studies Program
Canadian Studies Program

Honours Degree Programs

Students may choose from several honours programs: European, Canadian, North American, British Imperial/African/Caribbean or General. For details consult the History Honours Coordinator.

Note: Some former full-year classes are offered as two half classes or in a half-year version. Students cannot normally take more than one version of such a class. Please consult the timetable and History Calendar Supplement for current offerings and the timing of A/B classes.

Classes Offered at the 1000 Level

1000 The Making of Modern Europe: lecture/tutorial 3 hours, staff. An introduction to the history of Europe from the beginning of the Middle Ages to the period since the end of World War II, divided into four periods of differing chronological length: medieval times; the Renaissance, Reformation and early modern era; the 19th century (from the French Revolution to the outbreak of World War I); and the 20th century. The lectures, supplemented by tutorials, highlight a select number of themes and problems with which Europe has been confronted and which particularly characterized its development.

1010 Preindustrial Europe, 1450-1800: lecture/tutorial 3 hours, J. Crowley, D.R. Woolf. The fall term of the class will concentrate on topics in social and economic history such as demography, agriculture, transport, commerical towns, military, technology, scientific measurement, printing and literacy and metropolises. The spring term will be devoted to scenes of political and ideological conflict: Renaissance Florence, Reformation Germany, Cromwellian England, Enlightenment France and Scotland and the French Revolution. The first term will emphasise monographic literature and the second, primary sources.

1050 The Modern World: lecture 3 hours, G.D. Taylor. History cannot foretell the future, but historians seek to determine the origins of the problems that confront us today, and provide a perspective for people to consider how their ancestors coped with their world. This class relates current events to broader trends of political, economic and social developments in the modern industrial world.

1200 History of Canada: lecture 3 hours, staff. The development of Canada from Indian cultures to Pierre Trudeau. It has a central core of social and political history, but ranges across economic history as well as Canadian literature.

1300 United States History: 3 hours, staff. This class investigates the political, social and cultural development of the American colonies and the United States by addressing such fundamental matters as the coexistence of slavery with egalitarian principles, the conflict of sections over territorial expansion, the interplay of immigration with industrialization and urbanization, and the growth of the federal government's involvement in domestic and foreign affairs.

1400 Europe and the Third World: lecture/tutorial 3 hours, M. Turner, J.B. Webster. An introduction to university level work in history. This class also provides training in study habits, analysis of problems, and essay writing by examining six "units of study" in turn. The themes are announced in the Departmental Calendar Supplement. For each unit there are lectures and tutorials, and students write an essay each month in class time on each unit.

1600 Making the 20th Century World: First World, Third World: lecture/tutorial 3 hours, M. Turner. Concentrating on the period 1750 to the present this course investigates the origins of the present divisions between the industrialized and non-industrialized, capitalist and socialist countries. The course introduces a variety of source materials and is structured as a writing course.

1990 Problems of Historical Study and Writing: seminar 2 hours, staff. An introduction to the problems of historical study, including the nature of historical evidence, analysis and causation. No lectures take place; instead, each student registers for a section dealing with a type of history of interest. The sections are limited to fifteen students and meet once a week. Each student must write an essay per month. The general techniques of study and writing are thus acquired by consideration of particular problems in a field of special interest to the student. Some of the sections that may be offered: (1) The Atlantic World and the Colonization of the Americas (Crowley); (5) Medieval Life and Thought (Haines), 2 hours informal lecture/discussion, cross listed with Medieval Studies 301R; (7) The Holocaust (Stokes); (9) Canada: Politics and Protest (Sutherland); (10) Slavery in the United States (O'Brien); and (19) The Canadian Rebellions (Burroughs)

Classes offered at the 2000 level

European History

2001A/2002B Medieval Europe: (formerly 2000) lecture/discussion 2 hours, R.M. Haines. Cross listed with Medieval Studies 3O20A/3030B. An introduction to the thousand years between the end of the classical world and the beginnings of "modern" Europe. Where possible original sources in translation will be used to illustrate the medieval world-view. Students are introduced to a wide range of topics, political, intellectual, artistic and social , particular attention being paid to developing an appreciation of the richness of an age often characterized as dark and unknowable.

2010A Early Modern Europe's Expansion Overseas, 1450-1650: lecture/tutorial 2 hours, J.E. Crowley. The commercial and colonial expansion of Europe to the Americas. Topics of particular interest are the role of technology, the establishment of settler colonies, the use of unfree and indigenous labor, the effect of overseas communication on European culture, and the role of colonial expansion in the development of the world economy.

2011A Renaissance and Reformation Europe, 1650-1800: lecture/tutorial 2 hours, D. Woolf. An investigation of major changes in Western Europe from the late medieval depression to the crisis of centralized rule and economic growth in the seventeenth century. Among the topics are the development of humanism in fifteenth-century Italy and religious reform movements in transalpine Europe, the loss of Mediterranean predominance in European commerce, the centralization of authority by national monarchies and the rebellions lodged against them, and the subjection of urban culture and commerce to court dominance.

2012B Absolutist, Enlightenment and Revolutionary Europe, 1650-1800: lecture/tutorial 2 hours, J.E. Crowley. A study of Western Europe during the rise of absolutist states as agencies shaping economic and social structures. The class gauges the state's effectiveness in this role against Enlightenment writings on social and economic reform. We focus on the characteristic sources of social conflict in France's Old Regime and their relation to the course of the Revolution.

2013B Early Modern Europe's Expansion Overseas, 1650-1800: lecture/discussion 2 hours, J. Crowley. The development of the European colonial societies after their initial settlement and the establishment of their staples economies in the 16th and 17th centuries. The topics of chief interest are the predominance of colonial trade in Europe's large-scale commerce, the role of the colonies in European conflicts, the renewal of exploration, the development of the colonies' internal economies and politics, and their revolts against European rule.

2025R Russia, 9th-20th Centuries: lecture/tutorial 2 ½ hours, N.G.O. Pereira, E. Haigh. A survey of Russian history from the formation of the state at the end of the 9th century, through Kievan, Appanage, Muscovite, Petrine, and into modern times, ending with the Brezhnev era. Readings include translated primary source materials as well as recent Western and Soviet scholarship. No prior knowledge of Russian history is required or assumed.

2030 Germany in the 19th and 20th Centuries: lecture/tutorial 2 hours, L. Stokes. Selected topics in the history of Germany during the past two centuries, including the growth of nationalism and liberalism, the role of Prussia, industrialization, Bismarck and the political parties, civil-military relations and the rise, rule and destruction of Nazism. Open to all except first-year students.

2040 Modern France: From the Fall of the Bastille to the Rise of De Gaulle: lecture 3 hours, staff. Selected topics in French political, military, economic and cultural history from the Revolution of 1789 to the end of the Second World War.

2052B Europe and World War II: lecture/tutorial 2 hours, L.D. Stokes. Selected topics on the origins, course and aftermath of the Second World War as this involved Europe, including Nazi foreign and occupation policies, national resistance movements, the Holocaust and the wartime origins of the Cold War. Open to all except first-year students.

2062A Italy from the Risorgimento to Fascism, 1830-1945: lecture/tutorial 2 hours, L.D. Stokes. Selected topics in the history of 19th and 20th century Italy, including the role of Piedmont in the creation of the national state, regionalism and modernization, the political weaknesses of liberal Italy, and the origins and rule of Fascism. Open to all except first-year students.

British and British Imperial History

2101A Medieval England: lecture/tutorial 2 hours, R.M. Haines. Cross-listed with Medieval Studies 3090A. This introductory class examines some of the major political, social, and cultural themes in English history from the departure of the Roman legions to the Wars of the Roses. These may vary from year to year. At least one original source will be given detailed consideration.

2102B Early Modern England: lecture/tutorial 3 hours, D. Woolf. This class surveys the history of England from 1450 to 1750. Among the topics dealt with are the Reformation, the Government of Elizabeth I, Parliament in the early 17th century, the Civil War, the commercial revolution, and the establishment of political stability under Walpole. Note: 2101A/2102B supersedes 2100.

2111A Modern Britain to 1867: lecture/tutorial 2 hours, staff. Three themes of particular importance to the modern world: the emergence of parliamentary government, the industrial revolution, and the nature of social classes and politics from 1760 to 1867, including the press and public opinion.

2112B Modern Britain since 1867: lecture/tutorial 2 hours, P. Burroughs. The main themes are: the development of the popular press and modern modes of publicity and agitation, questions of imperial policy (including Ireland) as they reacted on governments and parties, and the experience of Britain in two world wars.

2131A/2132B The Rise and Fall of the British Empire: lecture/tutorial 2 hours, staff. A survey of British expansion overseas from Tudor times to the mid-Victorian heyday and the subsequent decline and fall of Britain as a great power. Among the themes considered are the motives and character of British imperialism, changing British attitudes and policies towards the empire, colonisation and conquests, contact with non-European peoples, the transformation of empire into commonwealth, colonial revolts and independence movements, decolonisation and the legacy at home and abroad.

2151B Scottish History to 1820: lecture/tutorial 3 hours, D. Sutherland. The making of modern Scotland. A survey of major themes in Scottish history from the Jacobean era to the end of the Napoleonic Wars. After a general introduction to Scotland, geographic and cultural inheritance, students will proceed to a review of such topics as: Anglophiles and Anglophobes; the Jacobite rebellions; commercial development and overseas expansion; Highlanders vs. Lowlanders, the Scottish Enlightenment, radicalism and repression; entrepreneurial innovation and the pursuit of progress, the Clearances and emigration to America.

2152B Scotland since 1820: lecture/tutorial 3 hours, D. Sutherland. A survey of major themes in the history of "North Britain" from the end of the Napoleonic Wars to the present. Topics to be dealt with in lectures or in tutorial discussion include: the transition from war to peace; crisis of the craftsman; agitation for Parliamentary reform; Scottish Chartism: Walter Scott and Scottish Romanticism; Scottish cities in the Victorian era; Evangelical ferment and Disruption of 1843; agrarian protest; Gladstone's Scotland; the second Scottish Industrial Revolution; shipbuilding; Scottish socialism; Clydeside and "Red Friday"; Scotland in the Depression; the war; the ascendancy of Labour; Roy Thompson's Scotland; Scottish Nationalism; North Sea Oil; the legacy of underdevelopment. No prerequisite required.

North American History

2202B Canada's Industrial Revolutions, 1850-1950: lecture/tutorial 2 hours, R. Bleasdale. A study of Canada's transition from a pre-industrial society to a leading industrial nation. Principle themes for discussion include urbanization, the rise of the factory and mass production, the impact on

home and family, the revolution in transportation and communications, weapons development, and patterns of consumption. Special attention is given to the role of technology.

2211A The Social History of Canada before 1870: lecture/tutorial 2 hours, M.S. Cross. This evening class examines the social history of pre-Confederation Canada through such topics as social control, violence and protest, women and domestic life, regionalism and marginal peoples, and the transformation of the economy.

2212B The Social History of Canada since 1870: lecture/tutorial 2 hours, M.S. Cross. This evening session surveys the development of Canadian society from Confederation to the present. Among the themes considered are social classes, the role of women, how people worked and how they lived, conflicts such as rioting and rebellions, and specific case studies such as Indian-white relations, the Winnipeg general strike and the troubles of industrial Cape Breton. Note: 2211A/2212B supersedes 2210.

2230 Canada in the Twentieth Century: lecture/tutorial 3 hours, R. Bleasdale, P.B. Waite. A survey of the roots of contemporary Canada, studying the origins of our current issues and problems focussing on Canadian political developments, as well as on economic and social structures, French-English relations and provincial and regional disparities.

2240 French Canada, 1837 to 1967: lecture/tutorial 3 hours, staff. Prerequisite: It is helpful to have had a general course in Canadian History. Given in English, for English-speaking students, although French-speaking students are welcome, this class begins with the formation of French-Canadian society from 1760 to 1837. In the main deals with the development of French Canadian political and social life from 1837 to the "Quiet Revolution" of the 1960's, including both federal and provincial aspects as well as French-Canadian developments in the West, Ontario and the Maritimes. Note: also offered as 2241A/B.

2250A/B West by North: History of the Canadian West and North: lecture 2 hours, staff. This course will cover the geography and history of the Canadian prairies, British Columbia, and Yukon and the Northwest Territories, from the first white contacts to the 1980s. Some emphasis will be given to the late 19th and 20th centuries.

2270 The Atlantic Provinces: lecture/tutorial 3 hours, D.A. Sutherland, J. Fingard. A survey of Maritime and Newfoundland history from the beginnings of European penetration to the "triumph of Canadianization." Attention is given to the interaction of environment and culture which has given rise to a durable but nevertheless vulnerable regional character. The class seeks to define internal patterns of social change and social conflict while simultaneously placing regional development within a broader national and international context.

2295B History of Modern Medicine, 1800-1950: lecture 2 hours, J. Farley. Examines the state of medicine in 1800, 1850, 1900 and 1950, and the transition of American and Canadian medicine from a low status, ineffective, poorly trained group of competing sects to what it is today. For each of these four periods the emphasis is on medical training, the diagnostic and therapeutic capabilities of physicians, their views on disease etiology, their attempts to control the size and quality of the profession and to prohibit the entry of women, and the scientific background to their views culminating in the growth of scientific medicine in the early 20th century.

2330 The United States: A Political and Economic History: seminar 2 hours, G.D. Taylor. American history features many colourful personalities and episodes from the Boston Tea Party to "Irangate." Underlying these events are broad patterns of change: population movements, religious and ethnic conflict, economic development, the organization of political parties and interest groups, and unheralded but enduring shifts in the law and public opinion. This class examines public life in America from the time of Benjamin Franklin to Ronald Reagan in the context of these general processes of social, economic, and cultural development.

2340 Social History of the United States: seminar 2 hours, J.T. O'Brien. A survey of the major social and economic forces which transformed the United States from an agrarian republic to an industrial nation. Attention is drawn to the process of industrialization and such allied topics as urban growth, immigration, the rise of the corporation, the changing nature of work, and the role of government in fostering economic growth. We also look at the history of labour organizations, protest movements, and business groups that sponsored new forms of economic activity in the period from the founding of the Republic to the Great Depression.

Third World History

2370 Age of Imperialism 1870-1970: seminar 2 hours, M. Turner. Deals with the last hundred years of the activities of the imperial powers, their impact on the world, their rivalries among themselves and the resistance they provoked on every continent. Different forms of conquest are discussed and illustrated: the shifting power balance among the imperial powers is traced and the growth of national resistance movements and their ideologies investigated. The class gives particular emphasis to the United States as the most important imperial power of the period, to its role in Latin America and to the ideologies which inform resistance movements.

2380 Latin America: Underdevelopment and Revolution: lecture/discussion 2 hours, M. Turner. Outlines key developments in Latin America from the independence wars to the present: the growth of nationalism, the impact of British and American capital and the development of the anti-imperialist struggle, (a) in relation to Argentina, Brazil and Chile, and (b) in relation to Mexico, Central America and Cuba. Note: also offered as 2381A/2382B.

2400R Tropical Africa: lecture/tutorial 2 hours, staff. A survey of Africa from early times to the present.

2410R Tropical Africa Before 1800: lecture/tutorial 2 hours, J.B. Webster. A study of some of the major themes of African pre-colonial history through an examination of the internal politics and development of African states and societies in tropical Africa. It will focus on the impact of immigration, slavery, and Islamic penetration on African societies.

2421A Colonial Africa: lecture/tutorial 2 hours, J.L. Parpart. Examines European colonial rule from the partition in 1885 to the emergence of independent African states in the 1960s. The course will analyze the material basis of colonial society, culture, class and social change in colonial society, the nationalist struggle and decolonization.

2422B Independent Africa: lecture/tutorial 2 hours, J.L. Parpart. A study of Africa from the early 1960s to the present. The course will examine neo-colonial myths and realities, class, party and state in Africa, economic development and underdevelopment, and the quest for national stability during the current crisis.

2501A The Middle East to the First World War: J. Flint. This class begins with an examination of the historical geography, linguistic divisions, and cultures of the peoples of the Middle East. It examines the emergence of Islam, the basic doctrines of the religion, and its political implications, with emphasis on the Islamic view of history and its significance. With this background the class then concentrates on the 19th century, looking at the impact of European influences, the problem of "reform" in the Turkish empire and in Iran, the British occupation of Egypt, revolutions of the early twentieth century, the origins of Zionism, and the impact of the First World War. The class is a prerequisite to History 2502B.

2502B The Middle East Since the First World War: J. Flint. Prerequisite History 2501A. The class begins by examining the impact of British and French imperial designs on the Middle East after 1918, the Balfour Declaration on Palestine, and the creation of new Arab states and the Republic of Turkey. These developments then lead to examination of the development of the oil industry, secular reformism *versus* Islamic traditionalism, Arab nationalism, the impact of the second world war, the emergence of the State of Israel, the revolutions in Egypt and Iraq, the rise of OPEC, the fall of the monarchy in Iran and the nature of Khomeini's Islamic Revolution.

2700R History of Political Thought: lecture/tutorial 3 hours, staff. This course will study the History of Political Thought from the ancient Greeks to the mid-twentieth century. Students will read works by a number of key political philosophers, including Plato, Aristotle, Aquinas, Machiavelli, Hobbes, Locke, Rousseau, Mill, Marx. Lectures and supplementary reading will relate the arguments of these authors to political and philosophical developments of their day. The approach adopted will be historical, but students will be encouraged to ask themselves how and why our current assumptions about political rights and duties developed. There will be two lectures and a tutorial a week. Assessment will be by a number of short essays and in-class tests.

2800R History of Modern India: seminar 2 hours, staff. This course will examine the period from the late eighteenth century and the beginnings of British rule to the present day. Although most of the period therefore involves an India ruled by Britain, the focus will be less on imperial history and policy and more on change within Indian society. The principal themes will include: religion and social structure over two centuries of profound political and economic change: the modernization of the Indian economy; the rise of nationalism and national political organizations; and India's place in world affairs, before and after independence.

Classes offered at the 3000 level

European and British History

3001A/3002B Medieval Civilization: Sources and Literature: (formerly 3000) seminar 2 hours. Cross-listed with Medieval Studies 3150A/3160B. R.M. Haines. History 2001A/2002B provides the appropriate background for this class. Each year a selection of topics is made, wide enough to be used as central themes in the context of which medieval civilization can be studied; for instance monasticism, universities, papal government, or architectural theory. Such topics are studied in depth, where possible with the help of original documents (in translation), and using periodical literature. Students master the basic work in certain areas, and are also encouraged to develop special interests of their own. Class discussions are used to unravel more difficult aspects and all students contribute in this way and in the writing of a small number of well argued and documented papers. Some general books should be read before starting the class.

3009A/3007B England in the Later Middle Ages: (formerly 3010) seminar 2 hours, R.M. Haines. Beginning with the reign of Edward II, attention is given to political, institutional, religious and social aspects of English history prior to the Tudors. This period includes the deposition of two reigning monarchs (three if Edward V is counted), the Hundred Years' War, the Black Death, Wycliffite heresy and the Lollards, the so-called "Wars of the Roses" and the most widespread building activity in the country since the Normans - despite an economic "depression." It is therefore one of exceptional interest and variety. Some previous experience of medieval history is desirable but not essential.

3011A/B Renaissance to Enlightenment: seminar 2 hours, J. Crowley. Prerequisites: History 2100, 2102, 2011 or 2012, or a reading ability in a Western European language other than English. This class examines selected aspects of the intellectual history of early modern Europe including history of science, historiography, political and moral philosophy and economic theory. Alongside general discussions of Renaissance, Reformation and Enlightenment, a number of authors are studied in detail, amongst them Machiavelli, Montaigne and Locke.

3012A/B The Emergence of Modern European Society, 1450-1800: seminar 2 hours, J.E. Crowley. As the first civilization to industrialize, Europe also had the most protracted transition from traditional to modern society. To study this centuries-long transition, this class examines such topics as the confrontation of peasant society with the commercialization of agriculture, the decline of magic in the face of increased literacy, the growth of specialized institutions to redress crime and insanity.

3021A/3022B The Medieval Church: seminar 2 hours, R.M. Haines. Cross-listed with Medieval Studies 31303A/3140B. This course is offered from time to time in response to demand. It is not intended to provide a chronological survey of the development of the Western Church, but is an advanced seminar dealing with selected topics without strict chronological limits, such as monasticism, heresy, education, administration, lay-clerical conflict, church life at parish level, the work of the episcopate, ecclesiastical architecture, etc.

3030B Russian Intellectual History: seminar 2 hours, N.G.O. Pereira. A changing selection and examination of some leading examples of Russian social and political thought, including that of Belinsky, Herzen, Chernyshevsky, Tkachev, Pobedonostsev, Soloviev, Gershenzon, Trotsky, Lenin, and others.

3040 French Intellectuals in the 20th Century: seminar 2 hours, staff. In France, political life and intellectual life are inseparable. This class examines the intellectual careers of Bloch, Maritain, Bernanos, Saint-Exupéry, Malraux, DeGaulle, Sartre, Camus, Teilhard de Chardin and Lévi-Strauss in the context of the political history of France in the twentieth century. Note: also offered as 3041/3042.

3051A/B Fascist and National Socialist Movements in Europe, 1900-1945: seminar 2 hours, L.D. Stokes. This class studies the origins, ideologies, social composition, leadership, rise to power and rule of the two principal European fascist and national socialist movements of the 20th century, those of Mussolini's Italy and Hitler's Germany, as well as similar phenomena which appeared in various countries of eastern and western Europe between the world wars. Through a comparative examination of these and other topics, the class attempts to define the nature of fascism and national socialism and to distinguish these from other contemporary European movements — in particular Soviet communism — with which they have often been associated as varieties of "totalitarianism."

3072A Rise of Modern Science: lecture/tutorial 3 hours, J. Farley (Biology), R. Ravindra (Physics). The modern world has been fundamentally altered by science and technology. In what ways? How has this come to be? This class, designed for students in the arts as well as the sciences, examines these questions by looking at the origins of modern science in the 16th and 17th centuries, its growing popularity in the 18th century, and the rise of the scientific profession and science-based industry in the 19th and 20th centuries.

3075B History of Tropical Medicine: lecture/tutorial 2 hours, J. Farley. With the acceptance of the modern germ theory of disease, and following the expansion of European powers into Africa, and the Spanish-American war of 1898, a full scale war was declared against such tropical diseases as yellow fever, malaria, sleeping sickness, hookworm and bilharzia. This class will examine this war as conducted by the British imperial and colonial governments, the U.S. Army, business firms, the Rockefeller Foundation and finally the W.H.O. Some background in either 20th Century British Imperial, or African, or American history desirable. No medical or biological knowledge will be assumed.

3090A Soviet Society: seminar 2 hours, N.G.O. Pereira. The basic institutions of contemporary Soviet society are considered both in terms of their own historical antecedents and useful comparisons with European counterparts. Topics may include the role of official culture, party machinery, the individual in society, relations with the West, science and technology, and the economy. Cross-listed with Russian 309A. Reading knowledge of Russian is required.

3092R Soviet Topics: seminar 2 hours, N.G.O. Pereira. Similiar in format to 3090A, but often with different themes reflecting the availability of English language materials. No reading knowledge of Russian is required.Also offered as 3092A/B.

3104 Tudor and Stuart Britain: seminar 2 hours, D. Woolf. Prerequisites: History 2100 or 2102, or instructor's permission. This class concentrates on the period 1558 to 1715. Within this period the central problem tackled is that of the causes, character and consequences of the English Revolution. This involves a study of social and economic change, cultural values and intellectual assumptions, and political conciliation and conflict.

3106 The Victorian Age, England 1815 to 1870: seminar with occasional lectures, 2 hours, staff. An examination of English society in the age of

English dominance after Waterloo, before the advent of rampant imperialism in the 1870's. The seminars are planned to portray the characteristic features of the Early and mid-Victorian period. Each seminar discusses a major theme illustrating the unique character of this period in English and world history. Contemporary papers, pamphlets and other writing, including fiction, and, where possible, recent films, are used.

3111A Victorian England: seminar 2 hours, staff. An examination of aspects of political, social and intellectual history, such as the transformation of parties under Gladstone, Disraeli, Joseph Chamberlain or the varied Labour leaders. The rival creeds of imperialism and socialism will be considered in the context of Victorian personalities.

3112B Edwardian England: seminar 2 hours, P. Burroughs. In this crowded period, which for convenience is taken to include the years 1900-1914, there is much action in the fields of naval, military and defence reorganisation, constitutional change, the Labour movement, women's political and social emancipation, and in the controversy over censorship and morality. Topics in political, social and intellectual history include tariff reform, the committee of imperial defence, the monarchy, Ireland, the welfare state and social reform.

3113A Britain in the First World War: seminar 2 hours, staff. Questions of military command, strategy, civilian control, and the overall direction of the war are considered: also matters of civilian morale, war aims, intelligence and propaganda. The great personalities are Asquith, Kitchener, Lloyd George, Balfour, Bonar Law and Henderson. The secret cabinet papers are now accessible and will be given full value.

3114B Britain in the Second World War: seminar 2 hours, P. Burroughs. Centres on the official histories, including air power, the naval war, strategic factors, intelligence and cryptography, and on Anglo-US relations, lend lease, the scientific war, morale and war aims. The dominating personality is Winston Churchill.

North American History

3230 Canadian Working Class History I, 1830-1914: seminar 2 hours, R. Bleasdale. The transition to industrial capitalist society in Canada and the creation of a working class are the general themes of this course. Topics include pre-industrial work, the development of trade unions, strikes, immigration, poverty, violence, women at work, working class culture, labour in politics, and the emergence of socialism. Students write research papers based on primary and/or secondary sources. There are no formal prerequisites but History 2230 or 2270 would be helpful.

3231 Canadian Working Class History II, The Twentieth Century Experience: seminar 2 hours, R. Bleasdale. The development of the Canadian working class movement from 1896 to the present. Topics include the degradation of work, the question of international unions, labour in politics, women and trade unions, the role of the state in industrial relations, and working class culture in mass society. Students write research papers based on primary and/or secondary sources. There are no formal prerequisites but History 2230 or 2270 would be helpful.

3240 Violence and Order in Canada: seminar 2 hours, R. Bleasdale. This class attempts to uncover the causes of violence, to analyze its types and forms, and to assess the responses of authority to different kinds of disorder. Original documents are employed as well as more conventional sources. Useful preparatory reading is Hugh Davis Graham and Ted Robert Gurr, ed., *Violence in America: Historical and Comparative Perspectives* (New York, 1969). Note: also offered as 3241A/3242B.

3250 Canada within the Empire, 1760-1914: seminar 2 hours, P. Burroughs. An examination of the political, commercial and cultural relations of Canada with Britain from conquest to nationhood, the changing attitudes of Canadians and Englishmen to the developing empire, and the interplay of imperial policies and colonial conditions.

3255B The Age of MacDonald and Laurier: seminar 2 hours, P.B. Waite. A seminar course comprehending the society and politics of Canada from Confederation to the First World War. Students will be expected to be able to participate in discussions of men, politics, and have at least begun reading in some Canadian literature. Background texts will be assigned, but it is essential to have had at least one survey course in Canadian history.

3270 Nova Scotian Society, 1750-1945: seminar 2 hours, J. Fingard, D.A. Sutherland. Major themes in the social, economic and political evolution of provincial society are explored in an effort to identify the major forces which, since the mid 18th century, have worked to shape the Nova Scotian identity. Discussion involves both existing historical literature and original student research. No prerequisites exist but participants should have some familiarity with Canadian history.

3272 The Mysterious East: Themes in Regional History: seminar 2 hours, J. Fingard, D.A. Sutherland. This class provides senior students with a chance to broaden their knowledge of historical trends in the region through archival research based on a specific theme. The theme for each session is announced in the Departmental Calendar Supplement.

3281B Disreputable Pleasures: Popular Diversions and Common Vices in Canada: seminar 2 hours, M.S. Cross. Popular diversions tell much about the character and values of society. This class explores the significance of sports, popular music, rioting, prostitution, drinking and other pleasures. As well, it considers the response of the respectable to these activities. Topics considered include: the temperance movement and industrial discipline; religious revivals; the invention of sport; changing attitudes to prostitution; and contemporary technological diversions.

3286A/B The Urban Experience in Canada: seminar 2 hours, D.A. Sutherland. The rise of the city stands as one of the most crucial changes to have taken place in our collective past. This class explores the reasons for and the impact of urbanization within Canada. Emphasis is on developments from the mid 19th century to the present.

3291A/B Wealth and Power in Canada: lecture/seminar 2 hours, G.D. Taylor. The role of business in the development and underdevelopment of Canada, and particularly the Atlantic region, is the focus of this class. Among the subjects covered are the significance of entrepreneurship in regional and national economic growth, the impact of government on business, the rise of big business and managerial organization, and the role of foreign investment in Canada.

3302A/B History of Technology: seminar 2 hours, G.D. Taylor. The effects of technology on our lives are ever-present, from debates over acid rain and nuclear reactors to promises of a glowing future for Cape Breton through high-tech enterprise and supercomputers.The continuing impact of technical innovation has been a central feature of the history of Canada and the U.S. going back even to the period before the Industrial Revolution of the 19th century. The harnessing of science and technology for industrial and military uses in our own era has fuelled both rapid economic growth and controversy over the benefits and costs of technological changes on the household, the workplace, the environment, politics and society in North America.

3330 The United States, Canada and the World: seminar 2 hours, G.D. Taylor. During the past century both nations of North America evolved from sparsely settled agricultural societies to complex industrial nations with increasing influence on, and dependence upon, developments throughout the rest of the world. This class traces the rise of the United States in global political and economic affairs, and reviews the role of the United States in the transformation of Canada since the early 19th century. The class focuses on diplomatic affairs, military conflict and cooperation, the rise of multinational enterprise, and the impact of technology in shaping America's relations with Canada and the world.

3333A/B Regionalism in North America: G.D. Taylor.

3341A/B Revolutionary America, 1760-1815: seminar 2 hours, J.E. Crowley. The origins of the American revolution in colonial society and politics and the alterations of social, economic and political life resulting from the crises. Themes of particular interest are the popularization of politics, the social conflicts resulting in Loyalism, the development of a national political economy and constitutional tradition, and the cultural changes associated with republican government and egalitarian ideology.

3350A/B Family and Community in North America, 1600-1900: seminar 2 hours, J.E. Crowley. The family in North American history from the period when the family was a model for social relations to the time when it was seen as a private refuge from society at large. Among the topics considered are the role of the family in rural and urban communities; the demographic transition from high fertility and mortality; the constriction of the family's responsibilities in economic life and education; the role of ideology in shaping sex roles and childrearing; and the relations of family and community according to ethnic group, class and economic setting.

3360 Enslavement and Emancipation: Afro-Americans in the U.S. South to 1900: seminar 2 hours, J.T. O'Brien. This class examines slavery as a system of racial subordination and economic exploitation. Attention is given to the social, familial, and cultural life of the slaves, the role of slavery in shaping southern nationalism and national racial beliefs, and to reconstruction after the Civil War.

3361A/B The American Civil War and Reconstruction: seminar 2 hours, J.T. O'Brien. The Civil War, occasioned by formation of the Southern Confederacy and the Union government's refusal to recognize the existence of a separate southern nation, was a pivotal moment in the history of the United States. This course will examine the causes of the war, the forces behind slave emancipation, the military fortunes of the two combatants, and the efforts undertaken by the victorious society, and polity of the defeated South.

3366A/B Industry, Unionism, and Workingmen in the United States, 1873-1940: seminar 2 hours, J.T. O'Brien. America's rise to industrial pre-eminence shot forward after the Civil War. By 1900 she had the most productive industrial economy in the world, as well as one of the world's bloodiest labor histories. The growth of unions, however, proceeded much more slowly . Indeed, unionization of mass production industries was not achieved until late in the 1930s with the spread of the CIO and the revitalization of the AFL. This course examines the fitful history of American unions from the beginning of the depression of the 1870s to the end of the Great Depression of the 1930s.

3370 Marxism in the Third World: seminar 2 hours, M. Turner. Revolutionary movements in the twentieth century characteristically use Marxist ideology. This course outlines the fundamentals of Marxist thought and investigates uses by revolutionary movements and societies outside Europe. Case studies will be drawn from Latin America, Asia and Africa.

3380 Chattel Slaves and Wage Slaves: seminar 2 hours, M. Turner. Plantation production in the last 300 years has depended on various forms of labour, slave, contract and wage, sometimes working in conjunction. This course will investigate the interaction of economic and technological change on the workers' legal status and on the forms of labour protest and the methods of control used throughout the history of the plantations. Studies will focus on the Caribbean and comparisons will be made with adjacent areas of the Americas.

3390 The Caribbean: Underdevelopment and Revolution: seminar 2 hours, M. Turner. Caribbean wealth and Caribbean revolutions have made the islands a focus of imperial rivalries for more than three centuries. This class deals with (a) 1750-1880: the chattel slave societies created by mercantile capital and their destruction by the forces of economic and political revolution and (b) 1895 to the present: the impact of 20th century imperialism and the emergence of nationalism and socialism. Particular attention is paid to Cuba and Grenada. Note: also offered as 3391A/3392B.

African History

3440 African History from Oral Tradition: seminar 2 hours, J.B. Webster. For those students who have a keen interest in African history, the class concentrates upon a restricted geographic area and considers myths of origin, allegory and symbolism in oral traditions, how political leaders become national deities through ancestor worship and how feminist movements of the past have been handled by male chroniclers. In addition the class concentrates upon dating oral traditions through genealogies, eclipse-references, famines and cross-referencing.

3450 Southern Africa since 1806: seminar 2 hours, staff. The class examines not only political changes and race relations in Southern Africa but also the effects of mining capital on rural and urban societies. The main themes considered are: the Mfecane and its effects on Southern Africa, the economic transformation of Southern Africa and its impact on political and social developments in the region, the imperial factor, the growth of African and Afrikaaner nationalisms and the development of apartheid, Southern Africa and the wider world.

3461A/B Women and Development in Africa: seminar, J. L. Parpart. This course examines the economic, political and social roles of African women from precolonial to modern times. It analyzes women not as objects, but as actors who participate in the political and economic processes affecting their lives.

3462A/B Distortion or Development: African Economic History: seminar, J.L. Parpart. An examination of economic change in tropical Africa, with particular attention to the question of economic development and underdevelopment. From the premercantilist period to the current crisis.

Other classes

3610A/B Women in Capitalist Society: the North American Experience: seminar 2 hours, J. Fingard. An examination of the impact of industrialization and urbanization on "woman's sphere" in society and of the emergence of various strains of feminism in the 19th and 20th centuries. Note: also offered as 3611R.

3612 Women in Socialist Societies: seminar 2 hours, M. Turner. Investigates the progress made towards the achievement of equal status for women in societies dedicated in principle to equality for all. Case studies will range from Cuba to China.

3750A/B History of Seafaring: lecture/discussion 2 hours, J. Fingard. An examination of our maritime heritage, with the cooperation of the staff of the Maritime Museum of the Atlantic. Within the context of these overlapping periods — the age of discovery, the age of sail, and the age of steam — the focus is on the development of merchant and naval fleets; the roles of the state, capital, and labour, and the features of seafaring culture. Special emphasis is given to the shipping industries and maritime traditions of this region.

3801A/3802B Independent Topic: staff. For students in the qualifying year of an MA program or who have specialized interests not met by the usual classes. Qualifying year students register with the permission of the Graduate Committee; undergraduates register with the permission of the Undergraduate Committee.

3980A/5980A Canadian Historiography: seminar 2 hours, M.S. Cross. The history of English-Canadian historical writing. Historians under consideration include Frank Underhill, Harold Innis, Donald Creighton, Arthur Lower, and W.L. Morton. Other topics include Canadian regional traditions and the development of new historical approaches. This course is primarily for MA students in Canadian history and for honours students in North American history. Others interested should see the instructor.

3990B Great Historians: staff. This is a course in historiography (the history of the writing of history). It will begin an outline of the nature and limits of ancient and medieval historical writing. It will then consider more closely the "modern" tradition of historical writing, beginning with the Renaissance, looking at the impact of the Reformation, and giving attention to Enlightenment historians such as Gibbon, Hume, Voltaire and Turgot. The course will then turn to the revolution in historical thinking carried out by Marx, and may end with an introduction to modern schools of historical writing, such as the Annales school.

4000A/B/C Directed Readings: staff. This class is open to 4th year honours students and honours certificate students only.

4010 Palaeography: seminar 2 hours, R.M. Haines. Prerequisite: Permission of the instructor. Cross-listed with Medieval Studies 3100R. This course is offered from time to time in response to demand. It provides an introduction to Latin palaeography with instruction and practice in the reading of selected manuscripts. An elementary knowledge of Latin is essential.

4990 Honours Essay: staff. All history honours students and those in combined honours courses in which history is their principal subject must write a substantial essay on a topic to be chosen in consultation with the Undergraduate Committee. The essay is related to one of their 3000 or 4000 level classes and is supervised by the appropriate staff member.

Graduate Studies

MA and PhD programs in history are offered. For details of these programs, see the Calendar of the Faculty of Graduate Studies.

Humanistic Studies in Science

Attention is drawn to the following classes, offered in several departments. All of these classes are concerned with the humanistic aspects of scientific thought and its development.

Classes marked * are not offered every year. Please consult the timetable on registration to determine if these classes are offered.

History of the Sciences

***Biology 3402A/Physics 3402A/History 3072A, Religion 3502A, The Rise of Modern Science:** J. Farley (Biology and History), R. Ravindra (Physics, Comparative Religion).

***Biology 3403A/B, A History of Biology:** J. Farley.

***History 2295A/B. The History of Modern Medicine:** J. Farley.
***History 3075A/B, History of Tropical Medicine:** J. Farley.

Biology 4664B, Oceanography 5331B, History of Oceanography: E.L. Mills

Psychology 4580, History of Psychology: J.W. Clark.

Philosophy of the Sciences

***Philosophy 2410A, Philosophy of Psychology:** T. Tomkow.

***Philosophy 2420B, Philosophy of Biology:** R. Campbell.

Biology 3410B, Man in Nature: K.E. von Maltzahn.

***Comparative Religion 3531, Mystical Consciousness and Modern Science:** R. Ravindra.
***Comparative Religion 3503A/B, Nuclear Bombs: Survival and Morality:** R. Ravindra

International Development Studies

Emeritus Professors
K.A. Heard, PhD (Political Science)
P. Ruderman, MBA (Health Administration)

Professors
J.H. Barkow, PhD (Sociology and Social Anthropology)
J. Flint, PhD (History)
E. Gold, PhD (Ocean Studies)
A. Hansen, PhD (Resource and Environmental Studies)
P.B. Huber, PhD (Economics)
L. Kasdan, PhD (Sociology and Social Anthropology)
J.J. Mangalam, PhD (Sociology and Social Anthropology)
E. Mann Borgese, (International Ocean Affairs)
I.R. McAllister, MA (Economics)
L. Osberg, PhD (Economics)
T.M. Shaw, PhD (Political Science) (IDS Coordinator)
M. Turner, PhD (History)

Associate Professors
R. Gamberg, MA (Education)
N.W. Jabbra, PhD (Sociology and Social Anthropology) (IDS Coordinator)
J.M. Kirk, PhD (Spanish)
B. Lesser, PhD (Economics)
J.L. Parpart, PhD (History)
K. Sullivan, PhD (Education)

Assistant Professors
M.E. Binkley, PhD (Sociology and Social Anthropology)
B.M. Jamieson, PhD (Economics and Public Administration)
D.F. Luke, PhD (Political Science)
L. McIntyre, MD (Community Health and Epidemiology)
M. Welton, PhD (Education)

"The interest in preserving peace and abolishing hunger needs no further reasoning. But the interest in mutual survival *must* also be linked to the overriding issues of energy and the environment and the risk of self-destruction.
. . . there *are* growing mutual interests . . . . development in the South also serves people in the North."
— Brandt Commission *North-South: a program for survival* page 20

Changes in the international system including those in the Third World increasingly affect us all. So in association with faculty at Saint Mary's University, Dalhousie offers an interdisciplinary program in International Development Studies. This intercampus, interdisciplinary, international degree program focuses on comparative examples of and explanations for change —economic, environmental, stategic, social and political — in the Third World. In its major and honours degree programs it brings together a set of established Dalhousie disciplinary offerings in this growing field and combines them with three new intercampus courses — one for each year of study — in International Development Studies. These are designed to juxtapose and integrate empirical and conceptual materials drawn from several disciplinary and theoretical traditions represented in the field to provide a coherent yet diverse introduction to the contemporary world of development.

For a listing of Saint Mary's University faculty and classes in IDS, please consult the current Saint Mary's University academic calendar or the IDS brochure and timetable, available from the program coordinators. IDS core and other classes are usually available each summer through the "Halifax Summer School in International Development."

Degree Programs

The Regulations for the major or honours BA degree in International Development Studies require:

(1) Completion of appropriate first-year classes (one of which must be a writing class as per regulation 11.1 (c)) in at least two of the major participating social science or humanities disciplines (i.e. Economics 1100/1120, History 1050/1400, Political Science 1100/1101, Sociology and Social Anthropology 1000 or 1100, or Spanish 1110A/B and 1100A/B).

(2) For the major, at least four and no more than eight Development Studies classes from the following approved list, (see regulation 11.1), of which:

two must be DS2000A/2001B and DS3010A/3011B,

students must take a minimum of one class in at least two established disciplines within International Development Studies,

at least two must be at the 3000 level or above,

(3) For the honours degree, at least nine and no more than eleven International Development Studies classes from the following approved list, (see regulation 11.4), of which:

three must be DS2000A/2001B, 3010A/3011B and 4010,

students must take a minimum of two classes in at least two established disciplines within International Development Studies,

at least five must be at the 3000 level or above,

class selection must be approved by one of the program coordinators.

The International Development Studies degree at Dalhousie is administered by a program committee consisting of one faculty member from each major department with a substantial teaching or research interest in the field chaired by two coordinators drawn from the humanities and the social sciences, Dr. Timothy M. Shaw (Political Science), and Dr. Nancy Jabbra (Sociology and Social Anthropology). All students' programs will have to be approved by one of the Dalhousie coordinators. A joint Dalhousie-Saint Mary's University International Development Studies Committee organises the joint IDS offerings.

Classes Offered

Descriptions of International Development Studies Core Courses

2000A/2001B Introduction to Development Studies: lecture and seminar 2 hours, J. Mugyenyi and H. Veltmeyer. This class will introduce students to the scope and nature of development studies. Its main emphasis will be on various theories of social change in the Third World and on the lines of research associated with these theories. Students will review the contributions that various disciplines have made to development studies and examine ways in which these complement and compete with each other in the explanation of changing conditions and societies in less developed countries.

DS 2100A/2101B Special Topics in Development Studies: staff. A half-year reading course on a particular aspect of international development taught only by special arrangment between individual IDS major or honours students and individual instructors associated with the program. Available in summers as well as regular sessions.

DS 3010A/3011B Seminar in Development Studies: seminar 2 hours, T.M. Shaw and G. Schuyler. In this course students will begin to apply some of the theoretical perspectives and analytical tools of development studies to a selected problem of development in one particular region of the world: selected regions include Southern Africa, Tropical Africa, North Africa and the Middle East, South-East Asia, South Asia, the Caribbean and Latin America. Political and policy implications of case studies will be discussed. Presentations of student work will be preceded by presentations by faculty associated with the development studies program.

DS 3100A/3101B Special Topics in Development Studies: staff. A half-year reading course on a particular aspect of international development taught only by special arrangment between individual IDS major or honours students and individual instructors associated with the program. Available in summers as well as regular sessions.

DS 4010 Honours Essay Practicum in Development Studies: seminar 2 hours, staff.

DS 4001A/4002B and DS 4100R Special Topics in Development Studies: staff.

Listing of International Development Studies Approved Disciplinary Courses

(See respective disciplinary sections of the calendar for class descriptions. Note that not every class is offered each year and some may require permission of the instructor.)

African Studies
2000A Pre-independence Inheritances
2001B Post-independence Issues

Biology
4650 Resource Ecology and Economic Development

Comparative Religion
2001A/B Judaism
2002A/B Christianity
2003A/B Islam
2011A/B Hinduism
2012A/B Chinese Religions
2013A/B Buddhism
3010 Death and Afterlife in World Religions
3011 Religion and Culture in India
3012 Comparative Study of Christianity and Other Religions
3013 Religious Myths, Symbols, and Rites
3531 Mystical Consciousness and Modern Science
3500A/3501B Rise of Science and the Modern World

Economics
2238A Industrial Revolution in Europe
2239B European Economy in Historical Perspective
2241A/B Comparative Economic Systems
2250 Applied Development Economics
3317B Poverty and Inequality
3300A/B International Trade
3333A/B Theories of Economic Development
3334A/B Economic Development: theories and debates
3355R Marxian Economics
3336B Regional Development
3432 Regional Economics
4431A/B International Payments
4440 Applied Development Economics

English
2211 Commonwealth Literature

Geology
2410B Environmental and Resource Geology

Health Services Administration
5200B Principles of International Health

History
2130 British Empire and Commonwealth
2370 Age of Imperialism
2380A/B Latin America: independence and after
2421A Colonial Africa
2422B Independent Africa
2501A/B Middle East before/after WWI
2600 Modern East Asia