2004

University of Windsor Undergraduate Calendar 2004-2006

University of Windsor

2004/2006

undergraduate calendar

UNIVERSITY OF
WINDSOR

STATEMENT OF RESPONSIBILITY OF THE UNIVERSITY

1. The content of this Calendar is provided for the general guidance of the student and is not intended to make any contractual commitments therefor. The Calendar is accurate at the time of printing, but programs, courses, staffing, *etc.* are subject to change from time to time as deemed appropriate by the University of Windsor in order to fulfill its role and mission, or to accommodate circumstances beyond its control. Any such changes may be implemented without prior notice and, unless specified otherwise, are effective when made.

2. This Calendar represents the University of Windsor's best judgment and projection of the course of conduct of the University of Windsor during the periods addressed herein. It is subject to change due to forces beyond the University of Windsor's control or as deemed necessary by the University of Windsor in order to fulfill its educational objectives.

3. Advisors are provided to assist students in planning their academic programs. Advisors are not authorized to change established policy of the University of Windsor. Students are solely responsible for assuring that their academic programs comply with the policies of the University of Windsor. Any advice which is at variance with established policy must be confirmed by the appropriate Dean's Office.

4. Any tuition fees and/or other charges described herein are good faith projections for the academic year. They are, however, subject to change from one academic term to the next as deemed necessary by the University of Windsor in order to meet its financial commitments and to fulfill its role and mission.

5. There are other fees and charges which are attendant upon a student's matriculation at the University of Windsor. These fees or charges may be determined by contacting the University offices which administer the programs or activities in which the student intends to enroll or engage.

6. The University of Windsor reserves the right to terminate or modify program requirements, content, and the sequence of program offerings from term to term for educational reasons which it deems sufficient to warrant such actions.

Further, the University of Windsor reserves the right to terminate programs from term to term for financial or other reasons which it determines warrant such action. The content, schedule, requirements and means of presentation of courses may be changed at any time by the University of Windsor for educational reasons which it determines are sufficient to warrant such action. Programs, services, or other activities of the University of Windsor may be terminated at any time due to reasons beyond the control of the University of Windsor.

7. The course descriptions herein are based upon reasonable projections of faculty and faculty availability and appropriate curriculum considerations. The matters described are subject to change based upon changes in circumstances upon which these projections were based and as deemed necessary by the University of Windsor to fulfill its role and mission.

Notification of Disclosure of Personal Information to Statistics Canada

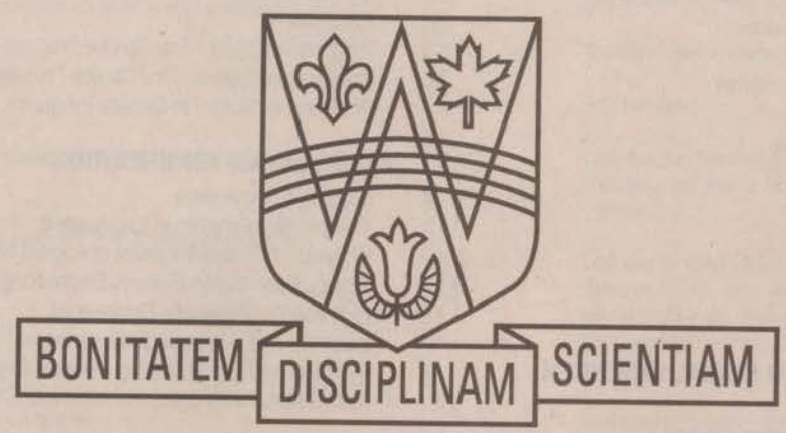
Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education.

It is essential to be able to follow students across time and institutions to understand, for example, the factors affecting enrollment demand at post-secondary institutions. The increased emphasis on accountability for public investment means that it is also important to understand 'outcomes'. In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrollment information, previous education, and labour force activity.

The Federal *Statistics Act* provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the *Statistics Act* prevent the information from being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database.

Further information on the use of this information can be obtained from Statistics' Canada's web site: http://www.statcan.ca or by writing to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R.H. Coats Building, Tunney's Pasture, Ottawa, K1A 0T6.



UNIVERSITY OF WINDSOR

UNDERGRADUATE CALENDAR
2004 - 2006

Federated and Affiliated Institutions

ASSUMPTION UNIVERSITY
HOLY REDEEMER COLLEGE
CANTERBURY COLLEGE
IONA COLLEGE

The University is a full member of

THE ASSOCIATION OF UNIVERSITIES AND COLLEGES OF CANADA
THE INTERNATIONAL ASSOCIATION OF UNIVERSITIES

Published by the Office of the Senate Secretariat

Windsor, Ontario, Canada N9B 3P4
519-253-4232, or 519-253-3000

TABLE OF CONTENTS

1 CALENDAR OF THE ACADEMIC YEAR 2004-2006

29 CALENDAR OF THE ACADEMIC YEAR

(Dates of specific interest to graduate students appear in italics.)

2004

April 8	Last day of classes for Winter term. Field work ends in Social Work.
April 9	Good Friday (statutory holiday) (no examinations)
April 11	Easter Sunday
April 12	Winter term final examinations begin.
May 3	Intersession, 12-week session, Summer Session and Summer Co-op fees are due.
May 14	*Last day for oral defense of dissertations, theses and major papers for Spring Convocation*
May 17	Intersession, 12-week session and Summer Co-op terms begin. Consolid-ation begins for the Faculty of Nursing.
May 21	*Last day to deposit dissertations, theses and major papers for Spring Convocation.*
May 21	Last day for late registration and change of course for Intersession. Last day for full tuition refund for Intersession courses.
May 24	Victoria Day (statutory holiday) (no classes).
May 26-28, 31 and June 1	May Headstart
May 28	Last day for registration and change of course, 12-week session and Summer Co-op. Last day for full tuition refund for 12-week session and Summer Co-op courses. Last day for reversal of incidental fees for 6-week Intersession courses.
June 4	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
June 4,5,6	Spring Convocation.
June 11	Last day to withdraw voluntarily from Intersession courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Intersession courses.
June 25	Intersession classes end.
June 28	Intersession examinations begin. Mid-term break for 12-week and Summer Co-op.
June 30	Last day to file application for Fall graduation.
July 1	Observance of Canada Day. University offices closed.
July 2	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
July 5	Summer Session classes begin.
July 5-9	July Headstart
July 9	Last day for Summer Session late registration and course changes. Last day for full tuition refund for Summer Session courses.
July 23	Last day to withdraw voluntarily from 12-week session and Summer Co-op term courses. Last day to receive partial refund for 12-week session and Summer Co-op term courses. Last date for reversal of incidentals for 6-week Summer courses.
July 30	Last day to withdraw voluntarily from Summer Session courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Summer Session courses.
August 2	Civic Holiday (statutory holiday) (no classes)
August 6	*Deadline for recommending an external examiner for an oral defense on the last day for Fall Convoncation.*
August 13	Last day of classes for Summer Session, 12-week session, and Summer Co-op term.
August 16	Fall term fees are due and payable. Summer Session and 12-week Session and Summer Co-op examinations begin.
September 6	Labour Day (statutory holiday).
September 5-10	Windsor Welcome Week
September 7	Registration for First Year Law students. Classes begin in Second and Third Year Law.
September 8-10	Orientation for First Year Law
September 9	All classes begin, day and evening, except Law. Field work begins in Social Work
September 13	Classes begin in First Year Law.
September 20	Last day for course changes in Law.
September 22	Last day for late registration and change of course for Fall term day and evening, except Law. Last day for full tuition refund.
September 24	*Last day for the oral defense of dissertations, theses and major papers for Fall Convocation.*

October 1	*Last day to deposit dissertations, theses and major papers for Fall Convocation.*
October 1	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
October 6	Last day for reversal of incidental fees for course withdrawal.
October 11	Thanksgiving Day (statutory holiday) (no classes).
October 16	Fall Convocation
October 22	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
November 10	Last day to withdraw voluntarily from courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund.
December 6	Last day of classes, Law.
December 8	Last day classes, day and evening, except Law. Fall term field work ends in Social Work.
December 9	Examinations begin in Law.
December 11	Fall term examinations begin except Law and Education.
December 15	Winter term fees are due and payable.
December 23 to to December 31	University offices closed for Christmas recess.

2005

January 3	University offices reopen. Classes begin in Law.
January 10	All classes (except Law) begin, day and evening, except Law. Field work begins in Social Work.
January 14	Last date for course changes in Law for Winter term.
January 21	Last day of registration and change of course for Winter term courses, day and evening. Last day for full tuition refund.
January 28	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
February 1	Final day for application to Level 3 in Social Work.
February 4	Last day for reversal of incidental fees for course withdrawal.
February 15	Last day to file application for Spring graduation
February 18	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
February 21-25	Study week for Law.
February 28 to March 4	Study week for all faculties except Law and Education. Field work continues in Social Work.
March 4	University offices closed.
March 18	Last day to withdraw voluntarily from courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund.
March 25	Good Friday (statutory holiday) (no classes)
March 27	Easter Sunday
April 1	*Deadline for recommending an external examiner for a Ph.D. oral defense on the last day for Spring Convocation*
April 8	Last day of classes in Law.
April 11	Winter term final examinations begin in Law.
April 15	Last day of classes, day and evening except Law for Winter term. Field work ends in Social Work.
April 18	Winter term final examinations begin, except Law.
May 2	Intersession, 12-week session, Summer Session and Summer Co-op fees are due and payable.
May 16	Intersession, 12-week session and Summer Co-op terms begin. Consolidation begins for the School of Nursing.
May 20	Last day for late registration and change of course for Intersession. Last day for full tuition refund for Intersession courses.
May 20	*Last day for oral defense of dissertations, theses and major papers for Spring Convocation.*
May 23	Victoria Day (statutory holiday) (no classes).
May 27	*Last day to deposit dissertations, theses and major papers for Spring Convocation.*
May 27	Last day for registration and change of course, 12-week session and Summer Co-op. Last day for full tuition refund for 12-week session and Summer Co-op courses. Last day for reversal of incidental fees for 6-week Intersession courses.
June 3	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
June 10, 11, 12	Spring Convocation.
June 10	Last day to withdraw voluntarily from Intersession courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Intersession courses. Last day for reversal of incidental fees for 12-week and Summer Co-op courses.
June 24	Intersession classes end.

June 27	Intersession examinations begin. Mid-term break for 12-week session and Summer Co-op.
June 30	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
June 30	Last day to file application for Fall graduation.
July 1	Observance of Canada Day. University offices closed.
July 4	Summer Session classes begin.
July 8	Last day for Summer Session late registration and change of course. Last day for full tuition refund for Summer Session courses.
July 15	Last date for reversal of incidentals for 6-week Summer courses.
July 22	Last day to withdraw voluntarily from 12-week session and Summer Co-op term courses. After this date students remain registered in courses and receive final grades as appropriate. Last day to receive partial refund for withdrawal from 12-week session and Summer Co-op term courses.
July 29	Last day to withdraw voluntarily from Summer Session courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Summer Session courses.
August 1	Civic Holiday (statutory holiday) (no classes).
August 5	*Deadline for recommending an external examiner for a Ph.D. oral defense on the last day for Fall Convocation.*
August 12	Last day of classes for Summer Session, 12-week session, and Sum-Summer Co-op term.
August 15	Fall fees are due and payable. Summer Session, 12-week session, and Summer Co-op term examinations begin.
September 5	Labour Day (statutory holiday).
September 4- 9	Windsor Welcome Week
September 6	Registration for First Year Law students. Classes begin in Second and Third Year Law.
September 7-9	Orientation for First Year Law
September 8	All classes begin, day and evening, except Law. Field work begins in Social Work
September 12	Classes begin in First Year Law.
September 19	Last day for course changes in Law.
September 21	Last day for late registration and change of course for Fall term day and evening. Last day for full tuition refund
September 23	*Last day for the oral defense of dissertations, theses and major papers for Fall Convocation.*
September 30	*Last day to deposit dissertations, theses and major papers for Fall Convocation.*
September 30	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
October 5	Last day for reversal of incidental fees for course withdrawal.
October 10	Thanksgiving Day (statutory holiday) (no classes).
October 15	Fall Convocation
October 21	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
November 9	Last day to withdraw voluntarily from courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund.
December 5	Last day of classes, Law.
December 7	Last day classes, day and evening, except Law. Fall term field work ends in Social Work.
December 8	Examinations begin in Law.
December 10	Fall term examinations begin except Law and Education.
December 15	Winter term fees are due and payable.
December 23 to December 31	University offices closed for Christmas recess.

2006

January 3	University offices reopen.
January 3	Classes begin in Law.
January 9	All classes begin, day and evening, except Law. Field work begins in Social Work.
January 16	Last day for course changes in Law for Winter term.
January 20	Last day of registration and change of course for Winter term courses, day and evening. Last day for full tuition refund.
January 27	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
February 1	Final day for application to Level 3 in Social Work.
February 3	Last day for reversal of incidental fees for course withdrawal.
February 15	Last day to file application for Spring graduation
February 17	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
February 20-24	Study week for Law.

February 27 to March 3	Study week for all faculties except Education and Law. Field work continues in Social Work.
March 3	University offices closed.
March 17	Last day to withdraw voluntarily from courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund.
March 31	*Deadline for recommending an external examiner for a Ph.D. oral defense on the last day for Spring Convocation*
April 7	Last day of classes in Law.
April 10	Winter term final examinations begin in Law.
April 13	Last day of classes, day and evening, except Law for Winter term. Field work ends in Social Work
April 14	Good Friday (statutory holiday) (no classes).
April 16	Easter Sunday
April 17	Winter term final examinations begin, except Law.
May 1	Intersession, 12-week session, Summer Session and Summer Co-op fees are due and payable.
May 15	Intersession, 12-week session, and Summer Co-op terms begin. Consolidation begins for the School of Nursing.
May 19	*Last day for late registration and change of course for Intersession. Last day for full tuition refund for Intersession courses.*
May 19	Last day for oral defense of dissertations, theses and major papers for Spring Convocation.
May 22	Victoria Day (statutory holiday) (no classes).
May 25-27, and May 30, 31	May Headstart
May 26	*Last day to deposit dissertations, theses and major papers for Spring Convocation.*
May 26	Last day for registration and change of course, 12-week session and Summer Co-op. Last day for full tuition refund for 12-week session and Summer Co-op courses. Last day for reversal of incidental fees for 6-week Intersession courses.
June 2	*Last day for completion of all requirements for graduate degrees under Phase I (100% tuition refund).*
June 9, 10, 11	Spring Convocation.
June 9	Last day to withdraw voluntarily from Intersession courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Intersession courses. Last day for reversal of incidental fees for 12-week and Summer Co-op courses.
June 23	Intersession classes end.
June 26	Intersession examinations begin. Mid-term break for 12-week session and Summer Co-op.
June 30	*Last day for completion of all requirements for graduate degrees under Phase II (50% tuition refund).*
June 30	Last day to file application for Fall graduation.
June 30	Observance of Canada Day. University offices closed.
July 3	Summer Session classes begin.
July 4 - 8	July Headstart
July 7	Last day for Summer Session late registration and change of course. Last day for full tuition refund for Summer Session courses.
July 14	Last date for reversal of incidentals for 6-week Summer courses.
July 21	Last day to withdraw voluntarily from 12-week session and Summer Co-op term courses. After this date students remain registered in courses and receive final grades as appropriate. Last day to receive partial refund for withdrawal from 12-week session and Summer Co-op term courses.
July 28	Last day to withdraw voluntarily from 6-week Summer Session courses. After this date students remain registered in courses and receive final grades as appropriate. Last day for partial tuition refund for Summer Session courses.
August 4	*Deadline for recommending an external examiner for a Ph.D. oral defense on the last day for Fall Convocation.*
August 7	Civic Holiday (statutory holiday) (no classes).
August 11	Last day of classes for Summer Session, 12-week session, and Summer Co-op term.
August 14	Fall fees are due and payable. Summer Session, 12-week session, and Summer Co-op term examinations begin.

2 ACADEMIC INFORMATION

2.1 Programs of Study

2.1.1 BACHELOR OF APPLIED SCIENCE

Honours and Co-operative Education programs in Engineering lead to the Bachelor of Applied Science (B.A.Sc.) degree, in the following areas: Civil Engineering, Electrical Engineering, Electrical Engineering with Computer Engineering or Communications Engineering or Electronics option, Environmental Engineering, Industrial Engineering, Industrial Engineering with Supply Chain option, Industrial Engineering with Automotive Manufacturing Systems option, Mechanical Engineering, and Mechanical Engineering with an Automotive or Materials option.

2.1.2 BACHELOR OF ARTS

General programs in Anthropology, Art History, Classical Civilization, Communication Studies, Drama, Economics, English Language and Literature, Family and Social Relations, French, History, Labour Studies, Liberal and Professional Studies, Modern Languages (with options in German, Italian, or Spanish), Multicultural Studies, Music (only with combined major), Philosophy, Political Science, Psychology, Sociology, Visual Arts, and Women's Studies lead to the Bachelor of Arts (B.A.) degree.

Honours degree programs are available in most of these areas and in combinations of them and lead to the Honours B.A. degree.

Honours programs in Criminology, Developmental Psychology, Diaspora Studies (combined Major only), Drama in Education and Community, English and Creative Writing, Forensics and Criminology, French Language and Literature, International Relations, Language and Logic (combined Major only), Modern Languages and Second Language Education, also are offered.

A concurrent B.A./B.Ed./Diploma in Early Childhood Education program is offered with St. Clair College.

A concurrent B.A./B.Ed program with a Major in French is also offered.

2.1.3 BACHELOR OF ARTS AND SCIENCE

An Honours program, majoring in a set of core courses that straddle the Arts and the Sciences, leads to the Bachelor of Arts and Science (B.A.S.) degree.

2.1.4 BACHELOR OF COMMERCE

Honours and Co-operative Education programs lead to the degree of Bachelor of Commerce (Honours Business Administration) (B.Comm.). Areas of concentration are Accounting, Management and Labour Studies, Finance, Management Science, and Marketing.

The Joint Business-Computer Science, Honours and Honours Co-operative Education programs lead to the degree of Bachelor of Commerce (Honours Business Administration and Computer Science) (B.Comm.). The Joint Business-Economics, four-year program leads to the degree of Bachelor of Commerce (Honours Business Administration and Economics) (B.Comm.).

A Bachelor of Business Studies (General) - Accounting Track is offered for qualified graduates of Colleges of Applied Arts and Technology (CAAT).

2.1.5 BACHELOR OF COMPUTER SCIENCE

General, Honours, and Co-operative Education programs in Computer Science lead to the Bachelor of Computer Science (B.C.S.) degree.

2.1.6 BACHELOR OF EDUCATION

Programs lead to the Bachelor of Education (B.Ed.) for candidates in the Pre-Service Program (Teacher Training), and to the Bachelor of Education (Honours) for qualified teachers who wish to further their professional studies in education.

The Pre-Service B.Ed. is also offered concurrently in a four-year program with the general B.Sc. (General Science) and is also offered in the concurrent B.A./B.Ed./Diploma in Early Childhood Education program with St. Clair College, the concurrent B.Sc./B.Ed./Diploma in Early Childhood Education program with St. Clair College, the concurrent B.M.A./B.Ed./Diploma in Early Childhood Education program with St. Clair College, and the concurrent B.Math./B.Ed. program, and the concurrent B.A. (French)/B.Ed. program.

2.1.7 BACHELOR OF ENVIRONMENTAL STUDIES

An Honours program in Environmental Studies, with areas of concentration in Resource Management and Environmental Values and Policy, leads to a Bachelor of Environmental Studies (B.E.S.) degree.

2.1.8 BACHELOR OF FINE ARTS

Honours programs in Visual Arts and Acting lead to the Bachelor of Fine Arts (B.F.A.) degree.

2.1.9 BACHELOR OF FORENSIC SCIENCE

An Honours program leading to a Bachelor of Forensic Science (B.F.S.) degree is offered.

2.1.10 BACHELOR OF HUMAN KINETICS

Honours and Co-operative Education programs lead to the degree of Bachelor of Human Kinetics (B.H.K.). Students may major in Movement Science or Leisure and Sport Management.

2.1.11 BACHELOR OF LAWS

The Bachelor of Laws (LL.B.) degree requires full-time attendance for three years or part-time attendance for six years.

A Combined Bachelor of Laws/Master of Business Administration program is also offered.

A Combined Bachelor of Laws/Doctor of Jurisprudence is offered with the University of Detroit Mercy.

2.1.12 BACHELOR OF MATHEMATICS

General and Honours programs in Mathematics lead to the Bachelor of Mathematics (B.Math.) degree. Combined B.Math. (Honours) programs also are offered when Mathematics is combined with a second major.

A concurrent B.Math./B.Ed. program is also offered.

2.1.13 BACHELOR OF MUSIC

Honours programs in Music lead to the Bachelor of Music (B.Mus.) degree in Music Education, Performance, and Individualized areas of specialization.

2.1.14 BACHELOR OF MUSICAL ARTS

The general program in Musical Arts leads to the Bachelor of Musical Arts (B.M.A.) degree.

A concurrent B.M.A./B.Ed./Diploma in Early Childhood Education program is offered with St. Clair College.

2.1.15 BACHELOR OF MUSIC THERAPY

Honours programs leading to a Bachelor of Music Therapy (B.M.T.) are offered, with and without Internship.

2.1.16 BACHELOR OF OPERATIONS RESEARCH

An Honours Co-operative Education program in Mathematics, Statistics, Computer Science, Economics, Industrial and Manufacturing Systems Engineering and Business Administration leading to the Bachelor of Operations Research (B.O.R.) degree is offered.

2.1.17 BACHELOR OF SCIENCE

Honours programs in Biology, Biochemistry, Chemistry, Computer Information Systems, Computer Science with Artificial Intelligence Specialization, Computer Science with Multi-Media Specialization, Computer Science with Software Engineering Specialization, Geology, Environmental Geoscience, Geoinformatics, and Physics and High Technology, lead to the Bachelor of Science (B.Sc. Honours) degree. Combined B.Sc. (Honours) programs also are offered. The interdisciplinary program in Environmental Science also leads to the B.Sc. The Co-operative Education Programs in Environmental Biology, Computer Information Systems, Computer Science with Multi-Media Specialization, Computer Science with Software Engineering Specialization, Environmental Geoscience, Geology, and Physics and High Technology lead to the B.Sc. (Honours) degree.

Also offered are the three-year B.Sc.(General Science) and the three-year B.Sc. (Science, Technology, and Society) degrees. The B.Sc. (General Science) is also offered concurrently in a four-year program leading to both the B.Sc. degree and the Medical Laboratory Science Diploma from St. Clair College. The B.Sc. (General Science) is also offered concurrently in a four-year program with a B.Ed. degree.

A concurrent B.Sc./B.Ed./Diploma in Early Childhood Education program is offered with St. Clair College.

2.1.18 BACHELOR OF SCIENCE IN NURSING

Honours programs in Nursing lead to the Bachelor of Science in Nursing (B.Sc.N.) degree.

2.1.19 BACHELOR OF SOCIAL WORK

Honours programs in Social Work lead to the Bachelor of Social Work (B.S.W.) degree. A combined B.S.W. in Social Work and Women's Studies is also offered.

2.1.20 CERTIFICATE PROGRAMS

Certificate programs are available in Arts Management, Business Administration, Criminology and Criminal Justice, Labour Studies, Primary Care Nurse Practitioner, Public Administration, and Women's Studies.

2.1.21 FACULTY OF GRADUATE STUDIES AND RESEARCH

The Faculty of Graduate Studies and Research offers programs leading to the following degrees:

Master of Arts in Communication and Social Justice, Economics, English, History, Philosophy, Political Science, Psychology, and Sociology;

Master of Science in Biological Sciences, Chemistry and Biochemistry, Computer Science, Earth Sciences, Mathematics, Nursing, Physics, and Statistics;

Master of Applied Science in Civil Engineering, Electrical Engineering, Engineering Materials, Environmental Engineering, Industrial Engineering, and Mechanical Engineering;

Master of Engineering in Civil Engineering, Electrical Engineering, Engineering Materials, Environmental Engineering, Mechanical Engineering;

Master of Business Administration; Integrated M.B.A./LL.B.;

Master of Education;

Master of Fine Arts in Visual Arts;

Master of Human Kinetics in Kinesiology;

Master of Nursing;

Master of Social Work;

Doctor of Philosophy (Ph.D.) in Biological Sciences, Chemistry and Biochemistry, Civil Engineering, Computer Science, Earth Sciences, Educational Studies (Joint Program), Electrical Engineering, Engineering Materials, Environmental Engineering, Mathematics, Mechanical Engineering, Physics, Psychology, Sociology (Social Justice), and Statistics.

2.1.22 STUDENT EXCHANGE PROGRAMS

The University of Windsor is a party to a number of multilateral and bilateral agreements with universities in other countries, which permit University of Windsor students to attend other institutions for periods up to one academic year as part of their degree program at Windsor. Normally, courses taken while participating under one of these agreements are treated as if they were taken at the University of Windsor, and do not require a Letter of Permission.

Many agreements are open as to field of study, while others are intended for students in specific disciplines. In some (but not all) cases proficiency in a second language is required for participation. Other conditions of eligibility also vary from program to program.

Current agreements for exchange study are listed below, with field of study and *language of instruction*; for further information, or for an application form, contact *Windsor International* or go to www.uwindsor.ca/exchange.

Australia
Deakin University - Open (preference to Human Kinetics) - *English*
Victoria University of Technology - Open - *English*

Canada
Université du Québec a Montréal - French, Law - *French*

European Union
EU/Canada Mobility (5 universities) - Social Justice - *English, Flemish, French, German, Spanish*

Finland
Mikkeli Polytechnic - Business - *English*

France
IFI/ESC Rouen - Business - *English, French*
Ontario/Rhône-Alpes Exchange - (14 Universities) - Open - *French*
Université Jean Monnet - Open - *French*
University of Nice - Open - *French*

Germany
Fachhochschule Bielefeld - Business - *German, English*
Ontario/Baden - Württemberg Exchange - (9 Universities) - Open - *German*

Ireland
National University of Ireland, Maynooth - Open - *English*

Italy
Università degli Studi di Udine - Open - *Italian*

Japan
Daito Bunka University - Open (only Japanese language study available) - *English, Japanese*
International Christian University - Open - *English, Japanese*

Mexico
Autonomous University of Guadalajara - Open - *Spanish*

Netherlands
Arnhem Business School - Business - *English*
University of Amsterdam - Philosophy - *English*

New Zealand
Victoria University of Wellington - Open - *English*

People's Republic of China
Hong Kong Polytechnic University - Business - *English*

Sweden
Jönköping University - Business, Communication Studies, Engineering - *English*
University of Karlstad - Open - *English*

United Kingdom
Keele University - Open - *English*
Southampton Institute - Open - *English*
University of Derby - Open - *English*
University of Leicester - Open - *English*
University of Wales, Swansea - Open - *English*

United States of America
University of Akron - Open - *English*
University of Massachusetts - Sport Management - *English*

2.1.23 FLEXIBLE LEARNING

The University of Windsor offers a flexible approach to learning. Credit courses are offered daytime, evening classes, through distance education and partial distance education. Courses may be taken any of these ways or any combination of these ways.

1. **Campus day or evening classes**
   Classes on campus, three hours per week, spread over two or three days, or all on one evening, per week. *Some courses have additional lab hours.*

2. **Distance - Independent Study**
   No classes to attend; learn using print materials, CDs, web sites and online discussion with instructor and classmates

3. **Partial Distance - On-campus Classes + Independent Study**
   Some classes or labs on campus, combined with independent study.

For program information, course offerings, fees, course textbooks and material information visit www.uwindsor.ca/flexible.

2.2 Application Information

2.2.1 APPLICATION PROCEDURES

Applicants for full-time, undergraduate studies must apply through the Ontario Universities' Application Centre (O.U.A.C.). Current Ontario secondary school students must obtain the O.U.A.C. 101 application form from their guidance office. All others use the O.U.A.C. 105 application form, which is available at all Ontario universities or via the web at <www.ouac.on.ca>.

Applicants for part-time studies must use the University of Windsor application form, which is available via the web at <www.windsor.ca/ptapp>.

2.2.2 APPLICATION DEADLINES

Candidates from outside continental North America must apply and submit all supporting documents to the Registrar's Office before March 1 for registration in the Fall term.

All other candidates must apply and submit all supporting documents as follows: August 1 for the Fall term; December 1 for the Winter term; and April 1 for the Summer term (Intersession and Summer Session).

Year III, Program II and, Program III Social Work - March 1
Year III Social Work and Women's Studies - March 1
Year III Criminology - May 1
Year III Forensic Science - May 1
Year III Forensics and Criminology - May 1

2.2.3 ENGLISH LANGUAGE PROFICIENCY

Applicants whose native language is not English must take one of the following English Proficiency Tests:

1) The British Council, University of Cambridge's International English Language Testing System (IELTS). Minimum required score of 6.5.
2) Carleton University's Canadian Academic English Language Assessment (CAEL). Minimum required score of 60.
3) English Proficiency Test administered by the English Language Institute of the University of Michigan (MELAB). Minimum required score of 88.
4) Test of English as a Foreign Language (T.O.E.F.L.). Minimum required T.O.E.F.L. score of 220 with a T.W.E. 4.5. (Reviewed annually)

2.3 Admission Requirements

The admission requirements described in this section define the minimum requirements for specific programs. Possession of the minimum requirements guarantees only that the application will be considered.

2.3.1 FROM ONTARIO SECONDARY SCHOOLS

See chart, pp. 13-16.

2.3.2 FROM OTHER CANADIAN PROVINCES

Applicants completing the following levels of education are considered equivalent to OSS Diploma graduates.

Alberta	Grade 12
British Columbia	Grade 12
Manitoba	Grade 12
New Brunswick	Grade 12
Saskatchewan	Grade 12
Nova Scotia	Grade 12 or First Year at a Nova Scotia university after Junior Matriculation
Prince Edward Island	Grade 12
Newfoundland	Grade 12
Quebec	Grade 12 or completion of the first year of a General Program at a C.E.G.E.P. (minimum of 12 semester subjects)
Northwest Territories	Grade 12
Yukon	Grade 12

Subject requirements for specific programs equivalent to the Grade 12 "U" courses must be included in the above curricula.

2.3.3 FROM THE UNITED STATES

In order to qualify for admission an applicant must present scholastic records indicating good preparation and ability to undertake a university degree program. Graduates of accredited high schools will normally qualify for admission if the cumulative high school grade point average is 2.75 (B-) or above.

Each applicant must present scores from either the American College Testing Program Assessment (ACT) or the Scholastic Aptitude Test (SAT) offered by the College Entrance Examination Board. Advanced Placement Examinations in certain prerequisite subjects may also be required.

Ontario Secondary School Admission Requirements

DEGREE TITLE/OUAC CODE/PROGRAM	LIMITED ENROLLMENT YEAR 1	SUGGESTED ADMISSION AVERAGE	NEW OSS ADMISSION CRITERIA, COURSE REQUIREMENTS SUPPLEMENTAL APPLICATIONS, INTERVIEWS, AUDITIONS
All programs require a minimum admission averages which may change, depending on the number of applicants. A second average is considered for students applying to Computer Science, Forensic Science, Mathematics, Engineering, Science and Nursing programs. The minimum second average is approximately 70%.			• The OSS Diploma and six Grade 12 "U" or "M" courses, including Grade 12 "U" English 1. Other requirements listed below.
Bachelor of Arts, B.A. (General programs) **[NA]** Anthropology, Art History, Classical Civilization, Classics and Modern Languages, Communication Studies, Drama, English Language and Literature, Family & Social Relations, French, History, Labour Studies, Liberal & Professional Studies, Modern Languages (German, Italian, Spanish), Modern Languages and Multicultural Studies, Multicultural Studies, Philosophy, Political Science, Psychology, Sociology, Visual Arts, Women's Studies, Undecided.	no limit	70%	• Grade 12 "U" English 1 required. • French majors require Grade 12 "U" French. • Majors in all other languages do not require prior high school language courses and will be assessed and placed appropriately on program entrance.
Bachelor of Arts, B.A. (Honours programs) **[NAH]** Anthropology, Classical Civilization, Communication Studies, Developmental Psychology, Drama, Diaspora Studies (combined programs only), English Language and Literature, Family & Social Relations, French Language and Literature, History, Labour Studies (combined programs only), Modern languages and Second Language Education, Modern Languages (combined programs only), Music (combined programs only), Philosophy, Political Science, Psychology, Sociology, Visual Arts (combined programs only), Women's Studies, Undecided. **[NCR]** Criminology **[NCS]** Honours Sociology and Criminology **[NDC]** Drama in Education and Community **[NDS]** Drama and Communication Studies **[NAW]** English Literature and Creative Writing **[NJI]** International Relations **[NAL]** Language and Logic (combined programs only) **[NFA]** Visual Arts and Art History **[NFV]** Visual Arts and Communication Studies	no limit 220 no limit 20 no limit	70%	• Grade 12 "U" English 1 required. • French majors require Grade 12 "U" French. • Majors in all other languages do not require prior high school language courses and will be assessed and placed appropriately on program entrance. • Criminology and Social Work students re-apply for admission to Year 3. • Grade 12 "U" Writer's Craft is recommended for Creative Writing majors.
[NFE] Concurrent B.A. French/Bachelor of Education **[NAE]** Concurrent Bachelor of Arts/Bachelor of Education/Diploma in Early Childhood Education	15 36	70% 80% French grade 85%	• Combined B.A.(French)/B.Ed: Admission requires Grade 12 "U" English 1 and Grade 12 "U" French. Individual grades in Grade 12 "U" and Grade 11 French are also used for admission. • Combined B.A./B.Ed./E.C.E. supplemental application materials are sent automatically upon receipt of OUAC application. Admission requires completion and submission of a student profile.
Bachelor of Social Work, B.S.W. **[NW]** Social Work **[NWW]** Social Work and Women's Studies	110	70%	• Grade 12 "U" English 1 required.
Bachelor of Fine Arts, B.F.A. **[ND]** Acting **[NF]** Visual Arts **Bachelor of Music, B.Mus.** **[NM]** Music **Bachelor of Musical Arts, B.M.A.** (3-year program only) **[NL]** Musical Arts **[NME]** Concurrent B.M.A./B.Ed./E.C.E. **Bachelor of Music Therapy, B.Mus.Th.** **[NMT]** Music Therapy	 30 75 35 15 15	70%	• Grade 12 "U" English 1 required, supplemental application is sent automatically upon receipt of OUAC application. • A portfolio is not required for admission to our B.F.A. Visual Arts program. However, admission to Year 3 is based on a successful portfolio evaluation. • April 2005 and 2006 auditions in Windsor and Toronto. Please contact Dramatic Art at Ext. 2804 for final dates. • Music auditions will be held in April and May 2005 and 2006 in Windsor. Please contact Music at Ext. 2780 for final dates.

DEGREE TITLE/OUAC CODE/PROGRAM	LIMITED ENROLL-MENT YEAR 1	SUGGESTED ADMISSION AVERAGE	NEW OSS ADMISSION CRITERIA, COURSE REQUIREMENTS SUPPLEMENTAL APPLICATIONS, INTERVIEWS, AUDITIONS
Bachelor of Forensic Science, BFS **[NFS]** Forensic Science	150	70%	• Grade 12 "U" English I, Biology, Chemistry and, Advanced Functions and Introductory Calculus. Forensic Science students must re-apply for admission to Year 3.
Bachelor of Arts in Forensics and Criminology, B.A. (Honours) **[NAF]** Forensics and Criminology			• Grade 12 "U" English I, Biology and, Advanced Functions and Introductory Calculus. Forensics and Criminology students must re-apply for admission to Year 3.
Bachelor of Arts and Science, BAS **[NAS]** Arts and Science	50	80%	• Grade 12 "U" English I, two from Biology, Chemistry, or Physics, and Advanced Functions and Introductory Calculus.
Bachelor of Applied Science, B.A.Sc. **[NE]** Undecided **[NEB]** Engineering – Civil **[NEN]** Engineering – Electrical **[NEF]** Engineering – Electrical (Communications option) **[NEE]** Engineering – Electrical (Electronics option) **[NEC]** Engineering – Electrical (Computer option) **[NEK]** Engineering – Environmental **[NEH]** Engineering – Industrial **[NEM]** Engineering - Industrial (Automotive Manufactuing Systems option) **[NES]** Engineering - Industrial (Supply Chain option) **[NEJ]** Engineering – Mechanical **[NEA]** Engineering – Mechanical (Automotive option) **[NEL]** Engineering – Mechanical (Materials option)	350	76%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus, Geometry and Discrete Mathematics, Chemistry and Physics required. Co-op available – apply during Year 1 at University of Windsor.
Bachelor of Human Kinetics, B.H.K. **[NP]** Human Kinetics	150	82%	• Grade 12 "U" English 1 and Biology required. Specializations begin in third year in Movement Science or Leisure and Sport Management.
Bachelor of Science in Nursing, B.Sc.N. **[NN]** Nursing	150	72%	• Grade 12 "U" English 1, Biology and Chemistry required. (One Grade 12 "U" Mathematics is recommended).
Bachelor of Arts, B.A. **[NA]** Economics **[NAH]** Economics (Honours program)	no limit	70%	• Grade 12 "U" English 1 required (for Honours Economics, Grade 12 "U" Advanced Functions and Introductory Calculus.
Bachelor of Computer Science, B.C.S. **[NT]** Computer Science (3-year program) **[NTC]** Computer Science Co-op **[NTH]** Computer Science (Honours program)	225	 70% 75% 70%	• Grade 12 "U" English 1, Grade 12 "U" Advanced Functions and Introductory Calculus, Geometry and Discrete Mathematics.
Bachelor of Science, B.Sc. **[NTA]** Computer Science with Arificial Intelligence Specialization. **[NSS]** Computer Science with Software Engineering Specialization **[NSU]** Computer Science with Software Engineering Specialization Co-op **[NSI]** Computer Information Systems **[NSJ]** Computer Information Systems Co-op **[NSA]** Computer Science with Multi-Media Specialization Visual Arts or Communication Studies Emphasis **[NSD]** Computer Science with Multi-Media Specialization Co-op **[NTN]** Computer Science with Networks and Security Specialization **[NTS]** Computer Science with Networks and Security Specialization (Co-op)		 75% 70% 75% 70% 75%	
[NSB] Biology **[NBU]** Biology and Biotechnology **[NSX]** Biology and Psychology **[NSL]** Environmental Biology (Co-op)	no limit 20	70% 75% 75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus, Chemistry and Biology. (Physics is recommended).

DEGREE TITLE/OUAC CODE/PROGRAM	LIMITED ENROLLMENT YEAR 1	SUGGESTED ADMISSION AVERAGE	NEW OSS ADMISSION CRITERIA, COURSE REQUIREMENTS SUPPLEMENTAL APPLICATIONS, INTERVIEWS, AUDITIONS
[NSY] Biochemistry **[NBT]** Biochemistry and Biotechnology	no limit	70%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus, Chemistry and Biology. (Physics is recommended).
[NSC] Chemistry **[NSK]** Chemistry and Physics	no limit		• Grade 12 "U" English 1, Chemistry, Advanced Functions and Introductory Calculus, Geometry and Discrete Mathematics plus one of Physics or Biology. (Physics is recommended.)
[NSV] Environmental Geoscience (Co-op) **[NSG]** Geology	no limit	75% 70%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and Chemistry, and either Biology or Physics. (Geometry and Discrete Mathematics is also recommended. Biology is strongly recommended for Environmental Geoscience students).
[NGI] Geoinformatics	no limit	70%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus, Geometry and Discrete Mathematics; and one of Biology, Chemistry or Physics.
[NS] General Science (3-year program)	no limit	70%	• Grade 12 "U" English 1 and Advanced Functions and Introductory Calculus required, and two of Biology, Chemistry, Geometry and Discrete Mathematics and Physics, Grade 11 "U" Functions and Relations recommended.
[NMH] Honours Mathematics (B.Math) **[NMG]** General Mathematics (B.Math) **[NSM]** Mathematics & Statistics (B.Math) **[NSZ]** Mathematics and Computer Science (B.Math) **[NOR]** B.O.R. Honours Operations Research (Co-op) **[NMS]** Concurrent Bachelor of Math/Bachelor of Education	no limit 20	70% 80% 75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and Geometry and Discrete Mathematics. (Physics is recommended.)
[NSP] Physics and High Technology (Fast-Track) **[NPT]** Physics and High Technology (Co-op) **[NSQ]** Physics and Computer Science	20	75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and Geometry and Discrete Mathematics. (Physics and Chemistry are recommended).
[NSO] Science, Technology and Society (3-year program)	no limit	70%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus required, and two of Geometry and Discrete Mathematics, Biology, Chemistry and Physics.
[NSN] Environmental Science **[NSH]** Physical Geography	no limit	70%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and two of Biology, Chemistry and Physics. • Biology and Chemistry are recommended for Environmental Science.
Bachelor of Environmental Studies, B.E.S. **[NLS]** Environmental Studies	no limit	70%	• Grade 12 "U" English 1
Bachelor of Science, B.Sc.(Gen. Sci.)/ Medical Laboratory Science M.L.S. Diploma **[NST]** General Science/Medical Laboratory Science	30	75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and two of Geometry and Discrete Mathematics, Biology, Chemistry and Physics. (Grade 11 "U" Functions and Relations recommended).
Concurrent Bachelor of Science/Bachelor of Education **[NSE]** Science/Education	20	75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and two of Geometry and Discrete Mathematics, Biology, Chemistry and Physics. (Grade 11 "U" Functions and Relations recommended). • If math is chosen as an area of emphasis, Grade 11 "U" Functions and Relations is required.
Concurrent Bachelor of Science (Gen. Sci.)/Bachelor of Education, E.C.E.Diploma, B.Sc./B.Ed./E.C.E. Diploma **[NSF]** General Science/Education/Early Childhood Education	10	75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and two of Geometry and Discrete Mathematics, Biology, Chemistry and Physics. (Grade 11 "U" Functions and Relations recommended). • If math is chosen as an area of emphasis, Grade 11 "U" Functions and Relations is required.

2 ACADEMIC INFORMATION

DEGREE TITLE/OUAC CODE/PROGRAM	LIMITED ENROLLMENT YEAR 1	SUGGESTED ADMISSION AVERAGE	NEW OSS ADMISSION CRITERIA, COURSE REQUIREMENTS SUPPLEMENTAL APPLICATIONS, INTERVIEWS, AUDITIONS
Bachelor of Commerce, B.Comm.	500		• Grade 12 "U" English 1 and one Grade 12 "U" Mathematics required. (Recommended: Grade 12 "U" Data Management and Advanced Functions and Introductory Calculus.)
[NC] Business Administration		70%	
[NCE] Business and Economics			
[NCC] Business Co-op		75%	
[NCD] Business and Computer Science		75%	• Grade 12 "U" English 1, Advanced Functions and Introductory Calculus and Geometry and Discrete Mathematics are required.
[NCB] Business and Computer Science Co-op		75%	
Bachelor of Education, B.Ed.	815	N/A	No direct admission.
Bachelor of Laws, LL.B.	175	N/A	No direct admission.

The student must receive a favourable recommendation from the high school Principal, and should rank in the upper third of the class.

Highly qualified applicants from the United States will be given acceptance after the second term marks of the final year of high school have been received if the applicant meets the admission requirements at that time, provided that the graduation certificate is presented.

2.3.4 INTERNATIONAL ADMISSIONS

The minimum admission requirements for applicants to First Year are listed below.

Applicants from overseas must send the official documents of their secondary education indicating subjects taken and grades obtained. Notarized English translations are necessary if the documents are not in English. Photocopies are not accepted.

United Kingdom and Commonwealth
Five Passes on the General Certificate of Education including two at the Advanced Level or, four passes on the General Certificate of Education, including three at the Advanced Level. A minimum grade of D is required in the Advanced Levels.

Science must include Advanced Level Mathematics, Physics and Chemistry.

Engineering must include Advanced Level Mathematics, Physics and Chemistry.

Nursing must include Advanced Level English, Biology and Chemistry.

Commerce must include Advanced Level Mathematics.

Bangladesh
Higher Secondary Certificate/Intermediate Certificate.

Central and South America
Senior Matriculation and/or completion of First Year at a recognized university depending upon country.

China (PRC)
Senior High School Graduation Examination + Chinese National University Entrance Examinations.

Europe
The Senior Matriculation Certificate as required by a recognized university in that country.

India
All-India Senior School Certificate awarded by CBSE (after twelve years)/Indian School Certificate (awarded by ICSE).

Malaysia
Sijil Tinggi Persekolahan Malaysia (STPM); Certificate of Unified Examination of the Malaysian Independent Chinese Secondary Schools System (MICSS).

Pakistan
Intermediate/Higher Secondary School Certificate.

Middle East
The Senior Matriculation Certificate as required by a recognized university in that country.

Africa and Asia
Countries following the British System - Advanced level standing on the GCE or equivalent as listed under the United Kingdom.
Other African and Asian Countries - Senior Matriculation and/or completion of First Year at a recognized university depending upon country.

International Baccalaureate
For admission to first Year: Full diploma must be completed with passes in six subjects with at least three at the Higher Level and with a grade total of at least 24 and no mark less than 4. In addition, the candidates must meet the prerequisites specific to the faculty to which they are seeking admission.

For transfer credit: IBD applicants who have successfully completed the full diploma with a grade total of 28 or more (exclusive of additional points which may be awarded for the successful completion of the Extended Essay and Theory of Knowledge) may be granted a general elective course credit, depending on program selection, for each Higher Level subject completed with a score of 5 (80-89%) or better, for a manimum of 4 general elective course credits.

2.3.5 MATURE STUDENT

Applicants who do not meet the minimum academic requirements for admission to the University of Windsor may be eligible for consideration as mature students if they:

1) are Canadian citizens or permanent residents at the time of application,
2) will be at least 20 years of age prior to proposed date of enrollment,
3) have completed an Ontario Secondary School Diploma (OSS Diploma) or equivalent. (Applicants who have not completed an OSS Diploma or equivalent must submit a profile.),
4) have not been in full-time attendance at an educational institution within the previous two years.

Applicants must submit proof of age and official transcripts from their secondary school(s) and from any post-secondary institution which they may have attended. In addition, they must submit a letter of application outlining their career ambitions and why they expect to be successful in university studies, their work experiences, personal and professional development and training, and any other pertinent information, along with supporting documentation (where possible).

If the application and supporting documentation do not appear to suggest a reasonable probability for success in university studies, the applicant will be denied admission. Further consideration will be through the

Office of the Registrar in consultation with the Dean of the applicant's intended Faculty whose decision will be final.

Applicants who previously attended a university and left in good academic standing will be able to apply under the University Transfer Regulations. Applicants who previously attended a university and left on academic probation or were required to withdraw may apply under the University Transfer Regulations or they may apply under the Mature Student policy, provided they fulfill the conditions listed above.

Successful applicants will be admitted as degree students. They are permitted to declare a major for which they are eligible, and they must obtain academic counselling before their initial registration.

Applicants who do not qualify for full-time degree programs may be considered for admission as part-time students.

Admission to many programs is competitive, and the University reserves the right to limit admission to such programs. Direct entry is available to most programs within the Faculty of Arts and Social Sciences, although some require specific grade 12 "U" or equivalent prerequisites. Auditions are required in Acting and Music programs. Programs within the Faculties of Science, Engineering, Human Kinetics, Nursing and the Odette School of Business Administration require prerequisite courses at the Grade 12 "U" or equivalent level and fulfillment of minimum average requirements in these required prerequisite courses.

2.3.6 YEAR III SECOND-ENTRY PROGRAMS

Honours Criminology

The number of places available in the third year of the Criminology Honours program is limited, and admission will be competitive. Entry shall be for the Fall term only. Students are eligible to apply for entry into the criminology program only after completing twenty but no more than thirty courses. Applicants must have successfully completed the following courses: 48-101, 48-102, 48-202, 48-207, 48-260, 48-261, 48-262 and either 34-129 or 34-226. Applications and information sheets are available at the Office of the Registrar and must be returned to that office by May 1st. No late applications will be accepted. Decisions will be rendered by June 1st, with notification shortly thereafter.

Forensic Science

The number of places available in the third year of Forensic Science is limited, and admission will be competitive. Entry shall be for the Fall term only. Students are eligible to apply for entry into the Forensic Science program only after completing twenty but no more than thirty courses. Applicants must have successfully completed the following courses: 48-101, 55-140, 55-141, 59-140, 59-141, 62-130, 65-250, 65-251, 43-287, 48-260, 48-262, 57-201. Applications and information sheets are available at the Office of the Registrar and must be returned to that office by May 1st. No late applications will be accepted. Decisions will be rendered by June 1st, with notification shortly thereafter.

Forensics and Criminology

The number of places available in the third year of Forensic Science is limited, and admission will be competitive. Entry shall be for the Fall term only. Students are eligible to apply for entry into the Double Major program only after completing twenty but no more than thirty courses. Applicants must have successfully completed the following courses: 34-226, 48-101, 48-102 (or 49-213), 48-202, 55-141, 62-130, 65-250, 65-251, 43-287, 48-260, 48-262, 57-201. Applications and information sheets are available at the Office of the Registrar and must be returned to that office by May 1st. No late applications will be accepted. Decisions will be rendered by June 1st, with notification shortly thereafter.

Social Work

Years 3 and 4: A minimum of twenty courses (including four Social Work courses, a statistics course, two Science courses, and ten courses from Arts, Languages and Social Sciences) is required prior to admission to Year 3.

Admission to the professional program in Year 3 requires that students apply to the Office of the Registrar prior to February 1. Applications are available from the Office of the Registrar or the School of Social Work. A minimum average of 8.0 in Social Work courses is required. References must accompany the application. An interview may be required, and early applications are encouraged. Entry is for the next Fall term only, and enrollment is limited. Students who are accepted to Year 3 will be notified by the Office of the Registrar. Selection of candidates for admission will be based on grades and other relevant criteria determined by the Social Work Admissions Committee.

In preparation for application to the professional program in Year 3, students are strongly encouraged to engage in volunteer experiences in human services agencies and organizations in the community.

The Year 3 and 4 Social Work program is intended for full-time study. A full-time course load in years 3 and 4 is defined as 6 courses per term, including 2 placement courses per term. Students who are not able to attend on a full-time basis at any point after admission to the program must obtain written permission and seek advice from the School of Social Work.

Aboriginal peoples, persons with disabilities, and members of visible minorities are encouraged to apply.

Transfer from other programs: Applicants transferring from other programs will be assessed individually by the Office of the Registrar and are subject to the same admission procedure to Year 3 as outlined above.

Admission for University Graduates: University graduates with a three-year or General degree in Arts or Social Sciences with a minimum cumulative G.P.A. of 8.0 (70%), or an average of at least 8.0 in their last twenty courses taken, including at least one course in statistics or research methods, may be considered for admission to a two-year, four-semester program leading to a Bachelor of Social Work (B.S.W.) degree. Applicants should have volunteer or work experience in human service

agencies and community organizations.

University graduates with a four-year Honours degree in Arts or Social Sciences, with a minimum cumulative G.P.A. of 8.0, or an average of at least 8.0 in their last twenty courses taken, including at least one course in statistics or research methods, may be considered for admission to a one-year, three-semester advanced program leading to a B.S.W. degree. Applicants should have volunteer or work experience in human service agencies and community organizations.

2.3.7 RETURNING STUDENTS

Since the overall number of spaces available in a program may be limited, previous registration does not guarantee re-admission to that or any other program if a student has interrupted his or her studies.

Students who have missed the Winter term must apply for re-admission to Intersession by April 1st; to Summer Session by June 1st; or to the Fall term by August 1st. Students who missed the Fall term must apply for re-admission to the Winter term by December 1st.

Individual programs may have other deadlines which will be indicated in the appropriate program section of this calendar.

Students applying for re-admission, and who are also requesting a change in program should refer to 2.4.16.

Students who have had an interruption of studies for a prolonged period will have their previous academic work assessed by the faculty concerned to determine whether credit may be retained in specific courses. Students may apply for re-admission on the web using the Student Self Service page at http://www.uwindsor.ca or may request the Returning Student Application form at the Office of the Registrar.

2.3.8 TRANSFER STUDENTS

An applicant who wishes to transfer (at any level) from another college or university must arrange for a complete transcript of record to be sent to the Office of the Registrar by each institution previously attended.

From Another University

A student will normally be granted credit for any course which has been completed with a minimum C- (60%) standing at another Ontario university. The total number of credits granted will be dependent upon the individual program requirements of each faculty.

A transfer student will be required to complete at least one full year (ten semester courses) or the equivalent at this University before qualifying for a degree. Refer to each faculty section for the appropriate residency requirements.

A student who has been required to withdraw from his/her previous institution will not be accepted to the University of Windsor during the period of his/her disbarment. If a student is eligible to apply to another faculty or program at his/her previous university, the student is eligible to apply to a similar program at the University of Windsor. In any case, should the student's record be such that he/she would have been required to withdraw at the University of Windsor, he/she shall not be eligible for transfer unless authorized by the appropriate Academic Standing Committee.

Students transferring from another university shall not be given credit for those courses in which they have received a grade lower than C- (60%) unless authorized by the relevant Academic Standing Committee.

From a College of Applied Arts and Technology

Applicants who have completed two years of a three-year program with a cumulative average of B (70%) will be considered for admission to First Year of an appropriate program. Applicants who have graduated from a two-year program with a cumulative average of B will be considered for admission to First Year of an appropriate program. Applicants who have graduated from a three-year program with a cumulative average of B will be considered for admission to Second Year of an appropriate program.

2.3.9 ARTICULATION AGREEMENTS WITH COLLEGES OF APPLIED ARTS AND TECHNOLOGY

Formal articulation agreements, which are described below, are in place with Colleges of Applied Arts and Technology.

ALL COLLEGES OF APPLIED ARTS AND TECHNOLOGY

1) *Bachelor of Business Studies (General) - Accounting Track*: Graduates of three-year diploma programs with an accounting major and a minimum cumulative average of B (70%) will receive twenty unspecified semester course equivalents towards this thirty-three course degree.

2) *Business Programs*: *Graduates of three-year diploma programs* in business from any College of Applied Arts and Technology may transfer to the Odette School of Business Administration at the University of Windsor subject to the following:

(a) Applicants will be granted a maximum of four terms' credit towards the Bachelor of Commerce program.
(b) A remedial course in Calculus may be necessary in order for transfer students to pursue the first-year Mathematics course required in the Bachelor of Commerce program.

Graduates of two-year diploma programs in business from any College of Applied Arts and Technology may transfer to the Odette School of Business Administration at the University of Windsor subject to the following:

(a) Applicants will be granted a maximum of two terms' credit towards the Bachelor of Commerce program.
(b) A remedial course in Calculus may be necessary in order for transfer students to pursue the first-year Mathematics course required in the Bachelor of Commerce program.

3) *General Arts and Science Diploma*: Graduates of the two-year Arts and Science diploma programs may receive transfer credit for up to ten

courses. Transfer credit is awarded for approved courses with a minimum grade of B.

4) *Computer Science, or "Computer Programming", or "Information Technology" Diploma* program with a grade point average of 3.0 out of 4.0 or better (or a B grade or better), are eligible, within 10 years of graduation, to apply for admission to any degree program offered by the School of Computer Science at the University of Windsor under the provisions of this agreement, and may receive transfer credit for up to 15 semester courses.

5) *Developmental Services Worker Program*: Graduates of the Developmental Services Worker program who have a cumulative grade point average equivalent to B or better may receive credit equivalent to five courses (15.00 credits) consisting of non-major, introductory-level courses toward a B.A. or B.S.W. degree. Transfer credit is awarded for approved courses with a minimum grade of B.

6) *Diploma in Law and Security*: Graduates of the two-year Diploma in Law and Security program with a cumulative average grade of B or better may receive credit equivalent to five courses (15.00 credits) toward a B.A. or B.S.W. degree. Transfer credit is awarded for approved courses with a minimum grade of B- or better.

7) *Early Childhood Education Program*: A student may enter a Bachelor of Arts or Bachelor of Social Work program after completing the two-year Diploma in Early Childhood Education. Depending upon the selected level and area of study, the student may receive up to ten course equivalents. Transfer credit is awarded for approved courses with a minimum grade of B.

8) *Medical Laboratory Science Program*: Graduates of the three-year Diploma in Medical Laboratory Science with a 2.7 G.P.A. (70% or equivalent) may receive the equivalent of ten semester course credits towards the Bachelor of Science degree in Biological Sciences, Biochemistry, or General Science.

9) *Police Foundations Program*: A graduate of the two-year Diploma in Police Foundations program with a cumulative average grade of B or better and at least a grade of B- in specified College courses may receive up to one year (ten courses) of credit towards a B.A. or B.S.W. degree program in the Faculty of Arts and Social Sciences.

FANSHAWE COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Fine Art Program*: Graduates of Fanshawe College who have completed a three-year Fine Art program may apply for transfer into an appropriate level of the Honours Bachelor of Fine Arts (Visual Arts) program. Transfer students must satisfy University regulations for transfer from CAATs and meet the academic requirements and standards of the B.F.A. program. Completion of the B.F.A. program in Visual Arts will normally require four terms of academic work or the equivalent at the University of Windsor. For further information, contact Visual Arts.

2) *Recreation and Leisure Services Program*: Students who have completed the two-year Recreation and Leisure Services Diploma Program at Fanshawe College with a cumulative average grade of B may receive up to ten Kinesiology credits to be determined by the Faculty of Human Kinetics, provided they passed the respective college courses with a grade of B- or better.

GEORGE BROWN COLLEGE OF APPLIED ARTS AND TECHNOLOGY

Performing Arts Program: Graduates of the George Brown College three-year Diploma program in Performing Arts with a cumulative average of B may gain admission to the third year of the B.F.A. in Acting program. A letter of recommendation from the Coordinating Director of the George Brown Theatre Program and a successful placement audition are also required. Completion of the B.F.A. will normally require four semesters of full-time study. Students may be required to take courses at the first or second year level if their audition indicates a need for such courses. Students who graduated from George Brown two or more years prior to application to the University of Windsor are subject to a placement audition before they can be covered by this agreement.

GEORGIAN COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Fine Arts Program*: Graduates of the three-year Diploma program in Fine Arts with a cumulative average of 2.7 (B) may gain admission to the third year of the B.F.A. Visual Arts program. Two letters of recommendation, a letter of intent and a successful portfolio are also required.

HUMBER COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Theatre Performance Program*: Graduates of the Humber College three-year Diploma program in Theatre Performance with a cumulative average of B may gain admission to the third year of the B.F.A. Acting program. A letter of recommendation from the Artistic Director of the Humber College Theatre Performance program and a successful placement audition are also required. Completion of the B.F.A. will normally require four semesters of full-time study. Students may be required to take courses at the first or second year level if their audition indicates a need for such courses. Students who graduated from Humber College two or more years prior to application to the University of Windsor are subject to a placement audition before they can be covered by this agreement.

LAMBTON COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Chemical Engineering Technology Program*: A student may enter a Bachelor of Science program after completing the three-year Diploma in Chemical Engineering Technology. Depending upon the selected level and area of study, the student may receive the equivalent of seventeen courses from Chemistry and Biochemistry.

2) *Child and Youth Worker*: Students who have completed the two-year Child and Youth Worker Diploma program with a cumulative average grade of B or better may receive up to five university credits from a spe-

cific list of courses, provided they passed the respective college courses with a grade of B- or better. Students will not be restricted to enrolling in a specific program. The course credits received will be applicable to any BA/BSW program in the Faculty of Arts and Social Sciences, and students would have to meet all regular requirements for the respective major of their choice.

3) *Environmental Technology Program:* A student may enter a Bachelor of Science program after completing the three-year Diploma in Environmental Technology. Depending upon the selected level and area of study, the student may receive the equivalent of nineteen courses from Chemistry and Biochemistry.

4) *Industrial Hygiene Technology Program*: A student may enter a Bachelor of Science program after completing the three-year Diploma in Industrial Hygiene Technology. Depending upon the selected level and area of study, the student may receive the equivalent of sixteen courses from Biological Sciences, and twenty courses from Chemistry and Biochemistry.

5) *Medical Laboratory Science Program:* Graduates of the three-year Diploma in Medical Laboratory Science with a 3.0 G.P.A. (75 percent or equivalent) may receive the equivalent of seventeen semester course credits towards the Bachelor of Science degree in Biological Sciences, Biochemistry, or General Science.

6) *Sports Facilities and Recreation Administration Program*: A student may enter a Bachelor of Human Kinetics (Leisure and Sport Management) program after completing the three-year Diploma in Sports Facilities and Recreation Administration with a cumulative average equivalent to a B or better. Students may receive up to the equivalent of fifteen course credits from the Kinesiology core curriculum and up to the equivalent of five course credits from the Leisure and Sport Management major.

7) *Graduates of the One-Year Pre-Health Science-Nursing Program*: A student with a minimum grade point average of 2.7 (B) and a minimum average of 2.7 (B) in BIO 100-5, BIO 220-5, CHM 110-6 and CHM 210-6, will be considered for admission to the B.Sc.N. program.

MOHAWK COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Medical Laboratory Science Program*: Graduates of the three-year Diploma in Medical Laboratory Technology with a 3.0 G.P.A. (75% or equivalent) may receive the equivalent of seventeen semester course credits towards the Bachelor of Science degree in Biological Sciences, Biochemistry, or General Science.

ST. CLAIR COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Journalism and New Media Program*: A student may enter a Bachelor of Arts after completing a two-year diploma with a cumulative average of 2.7 (B) and may receive the equivalent of ten semester courses from Communication Studies.

2) *Chemical Engineering Technology Program*: A student may enter a Bachelor of Science program after completing the three year Diploma in Chemical Engineering Technology. Depending upon the selected level and area of study, the student may receive the equivalent of seventeen semester course credits from Chemistry and Biochemistry.

3) *Medical Laboratory Science Program*: Graduates of the three-year Diploma in Medical Laboratory Science with a 3.0 G.P.A. (75% or equivalent) may receive the equivalent of seventeen semester course credits towards the Bachelor of Science degree in Biological Sciences, Biochemistry, or General Science.

4) *Business Administration Information Systems*: Graduates of this program with a 3.0 G.P.A. or better, who have completed specific courses will be considered for admission to the General Bachelor of Computer Science on an individual basis, subject to the approval of the Dean of Science, and may receive up to fifteen semester course equivalents.

5) *International Trade Management Program*: Students who are admissible to the B.Comm. degree program and who have completed the Six Month Post-Graduate Certificate in International Trade Management with a cumulative G.P.A. of B or better, will be considered for advanced standing in five non-specific 200 level Business semester courses towards an Honours (four-year, 40 course) Bachelor of Commerce degree.

6) *Mechanical Engineering Technology - Automotive Product Design Program*: Graduates of the Mechanical Engineering Technology - Automotive Product Design program in the year 2001 or later, with a cumulative G.P.A. of B or better, with B grades in the fifteen core diploma program subjects, and with no grades below C on their College record, will be granted advanced standing in fifteen-seventeen semester courses towards the Bachelor of Applied Science in Mechanical Engineering (Automotive Engineering Option) degree.

7) *One-Year Pre-Health Science - Nursing Program*: Students at St. Clair College who successfully complete the one-year Pre-Health Science-Nursing certificate with a minimum overall grade point average of 2.7 (B) and a minimum science subject average of 2.7 (B) in GAS 11, GAS 21, GAS 11A and GAS 21A, will be considered for admission to the B.Sc.N. program.

SHERIDAN COLLEGE OF APPLIED ARTS AND TECHNOLOGY

1) *Craft and Design Program*: Graduates of Sheridan College who have completed a three-year Craft and Design program may apply for transfer into an appropriate level of the Honours Bachelor of Fine Arts (Visual Arts) program. Transfer students must satisfy University regulations for transfer from CAATs and meet the academic requirements and standards of the B.F.A. program. Completion of the B.F.A. program in Visual Arts will normally require four terms of academic work or the equivalent at the University of Windsor. For further information, contact Visual Arts.

UNIVERSITY - TO - COLLEGE ARTICULATION AGREEMENTS WITH ST. CLAIR COLLEGE OF APPLIED ARTS AND TECHNOLOGY

University of Windsor graduates may obtain advanced standing into certain diploma programs offered by St. Clair College. More information on these articulation agreements is available at www.stclaircollege.ca.

2.3.10 FORMAL ARTICULATION AGREEMENTS WITH OTHER INSTITUTIONS

ONTARIO

Academy Of Learning

Graduates of selected Academy of Learning diploma programs with a cumulative average of seventy-five percent or better may receive advanced standing (transfer credit) for specified courses in Computer Science and/or Business Administration provided that they qualify for admission under any of the policies listed in section 2.3.

National Theatre School

Graduates of the National Theatre School three-year Certificate program in Acting may gain admission to the third year of the B.F.A. in Acting program. A letter of recommendation from the Head of the National Theatre School and a successful placement audition are required. Completion of the B.F.A. will normally require four semesters of full-time study. Students may be required to take certain academic courses, as well as performance courses at the first or second year level if their audition indicates a need for such courses. Students who graduated from the National Theatre School two or more years prior to application to the University of Windsor are subject to a placement audition before they can be covered by this agreement.

BRUNEI

University Brunei Darussalam (UBD)

Honours Biology and Biotechnology program: Students will be admitted into this program at UBD with three A-levels or equivalent in Chemistry, Biology, and Mathematics with grades of B, C, and C, respectively or higher. Students completing specified UBD courses with a cumulative average of C+ (65%) or higher and who have completed the University of Windsor course 03-59-263-91 (Distance Education version of Organic Chemistry of Biomolecules) with a grade of B- or higher, will be eligible for transfer directly into the third year of the Honours Biology and Biotechnology program at the University of Windsor. Students must meet the University of Windsor's English language competency requirements and admission requirements before enrolling in 03-59-263-91. Successful transfer students will be considered to have all the prerequisites necessary for continuation in the program, and will receive credit for nineteen specified University of Windsor courses.

Honours Biochemistry and Biotechnology program: Students will be admitted into this program at UBD with three A-levels or equivalent in Chemistry, Biology, and Mathematics with grades of B, C, and C, respectively, or higher. Students completing the specified UBD courses with a cumulative average of C+ (65%) or higher and who have completed the University of Windsor course 03-59-263-91 (Distance Education version of Organic Chemistry of Biomolecules) with a grade of B- or higher, will be eligible for transfer directly into the third year of the Biochemistry and Biotechnology program at the University of Windsor. Students must meet the University of Windsor's English language competency requirements and admission requirements before enrolling in 03-59-263-91. Successful transfer students will be considered to have all the prerequisites necessary for continuation in the program, and will receive credit for nineteen specified University of Windsor courses.

CHINA

Anshan University of Science and Technology

Anshan will accept students into a program leading to a degree granted by that institution. This program will be designed so as to provide the Anshan students with the option of transferring to the University of Windsor, to complete 10 or more University of Windsor credits and to be granted a University of Windsor Bachelor of Arts (Economics) or Bachelor of Arts (Honours Economics).

Students who complete at least one year of an undergraduate program at Anshan University of Science and Technology, with a G.P.A. of 7.0 (C+) or its equivalent at Anshan University, can apply for admission to an undergraduate program in Economics at the University of Windsor. Transferring students whose native language is not English must complete an English Proficiency Test administered by either the English Language Institute of the University of Michigan or, Test of English as a Foreign Language (T.O.E.F.L.).

HONG KONG

Hong Kong Baptist University (HKBU)

Students who have completed the two-year Associate Degree program of the College of International Education at HKBU with a cumulative average grade of B and who are otherwise admissible to the University of Windsor, including meeting the University of Windsor's English competency requirements, will receive University of Windsor credits, up to a total of twenty (20) semester courses, provided they passed the respective college courses with a grade of C- or better. Students will not be restricted to enrolling in a specific program but must present the necessary prerequisites for entry into the program of their choice.

UNITED STATES

Broward Community College

Students who have completed a minimum of 60 credit hours in either the Arts or Science streams of the Centre for American Education (CAE) program with a cumulative average grade of B and who are otherwise admissible to the University of Windsor, including meeting the University of Windsor's English competency requirements, will receive University of Windsor credits, up to a total of twenty semester courses, provided they passed the respective college courses with a grade of C- or better. Students will not be restricted to enrolling in a specific program but must present the necessary prerequisites for entry into the program of their choice.

Owens College
A student who completes an Associate degree at Owens Community College with a grade point average of 2.7 or higher will be accepted by the University of Windsor with advanced standing in up to 20 semester courses in a Bachelor's degree program.

MALAYSIA

Kolej Damansara Utama (KDU) College
Students who have completed a minimum of 60 approved credit hours in either the Arts or Science stream of the School of American University Studies program at any campus of KDU (Malaysia) with a cumulative average grade of B and who are otherwise admissible to the University of Windsor, including meeting the University of Windsor's English competency requirements, will receive University of Windsor credits, up to a total of twenty semester courses, provided they passed the respective college courses with a grade of C- or better. Students will not be restricted to enrolling in a specific program but must present the necessary prerequisites for entry into the program of their choice.

Taylor's College
A student who completes the American Degree Program at Taylor's College with a G.P.A. of 2.7 (B-) or higher will be accepted by the University of Windsor with advanced standing in up to 20 semester courses in an appropriate Bachelor's degree program. Excluded from this agreement is any provision for transfer from the Engineering Stream in the American Degree Program to the Bachelor of Applied Science degree at the University of Windsor.

SINGAPORE

Overseas Family College
Students who have completed the two-year Diploma program at Overseas Family College with a cumulative average grade of B and who are otherwise admissible to the University of Windsor, including meeting English competency requirements, will receive University of Windsor credits, up to a total of twenty, provided they passed the respective college courses with a grade of C- or better. Students will not be restricted to enrolling in a specific program. The course credits received will be applicable to any Bachelor's program providing the degree requirements of that program allow it. Students will have to meet all regular requirements for the major of their choice.

2.4 Undergraduate Degree Regulations

Students are responsible for becoming familiar and complying with the general regulations of the University as contained in this section. Additionally, students must be familiar and comply with the regulations of the Faculty in which they are enrolled. These particular requirements may be found in the Faculty and program sections of this Calendar.

Students also are directed to read the "Statement of Responsibility" on the inside front cover, and the calendar of important dates and deadlines in Section 1.

2.4.1 CLASSIFICATION OF STUDENTS

A full-time student is one who is registered in four or more undergraduate courses in a term.

A part-time student is one who is registered in fewer than four undergraduate courses in a term.

A regular student is one who has met the average requirements for admission or the minimum average requirements for continuation in his or her program of studies.

A conditioned student is one who, at the time of admission, does not have standing in a required subject or subjects.

A visiting student is one who registers and takes courses for credit for the purpose of transferring the credit to the university at which he or she was previously registered. Normally, visiting students are advised to have written permission from the home university in order to register for courses.

A special or non-degree student is one who is taking courses for credit but not proceeding to a degree at this University.

An audit student is one who attends (a) course(s) but does not receive any grade(s) or credit for the course(s) towards a degree. Such a student will not be allowed to write examinations and may not be graded in any way, but will be required to pay the regular fees for the course(s).

A student on academic probation is one who has not met the full admission requirements to a program or a student who, once admitted, has shown unsatisfactory progress at the conclusion of the previous term. (See the regulations pertaining to each faculty.)

Academic probation is removed if a student demonstrates satisfactory progress by the end of the probationary period. Normally, a student will be required to withdraw from a faculty if performance is not satisfactory at the conclusion of the academic probationary period.

For regulations pertaining to the possible readmission of students who have been required to withdraw, see the regulations pertaining to each faculty.

2.4.2 ACADEMIC ADVISING

The responsibility for becoming familiar and complying with the requirements for degrees and with academic regulations rests primarily with the student. Every student can access a "Degree Audit Report" on the Student Self Service page at www.uwindsor.ca/sis which reports a student's progress towards fulfilling degree requirements.

In addition, academic advising is strongly recommended for all students. Academic units provide individual assistance to students both in the selection of their programs of studies and in the choice of courses in keeping with program requirements. General questions normally should be addressed to the Associate Dean of the Faculty.

Students are strongly urged to seek course and program advising to ensure that they understand degree requirements. It is recognized that many students may not have decided on their major areas or on their final career goals prior to entering University. Consequently, it is not unusual for students to change their programs of study after taking several courses. Every effort is made to assist such students, within the limits of the requirements of the various programs.

Students who are considering program changes may request assistance from advisors within their proposed area of study. Application forms for a change of program are available on the web on the Student Self Service page at www.uwindsor.ca/sis or from the Office of the Registrar or the Student Information Resource Centre (SIRC); completed forms should be submitted to the Office of the Registrar.

Students are required to have declared a major by the time they have successfully completed ten semester courses.

2.4.3 RESIDENCY REQUIREMENTS

The number of courses required for the attainment of any degree or certificate is indicated in each program. These requirements may be reduced through the transfer of credit from another university. However, a student will be required to complete successfully, at the University of Windsor, a minimum of ten courses (thirty semester hours) numbered 200 or higher to qualify for a degree from the University of Windsor, except in the Faculty of Business (see below). Residency requirements can be met by University of Windsor courses taken either on-campus, at off-campus sites or through Distance Education. These ten courses must include a minimum of six courses from the major course requirements to qualify for a three-year major degree or a minimum of ten courses from the major course requirements to qualify for a four-year Honours or Major or professional degree except in the Faculty of Engineering where a student must complete at least 50% of the total number of weighted units required for the Bachelor of Applied Science at the University of Windsor. Double majors are required to take a minimum of five courses at the 200 level or above from the major course requirements in each of the Majors at the University of Windsor.

In the Faculty of Business Administration a student will be required to complete successfully, at the University of Windsor, a minimum of:

- ten Business courses (thirty semester hours) numbered 300 or higher to qualify for a Bachelor of Commerce (Honours Business Administration) degree.
- eight Business courses (twenty-four semester hours) plus two Computer Science courses (six semester hours) numbered 300 or higher to qualify for a Bachelor of Commerce (Honours Business Administration and Computer Science) degree.
- eight Business courses (twenty-four semester hours) plus two Economics courses (six semester hours) numbered 300 or higher to qualify for a Bachelor of Commerce (Honours Business Administration and Economics) degree.

As above, residency requirements can be met by University of Windsor courses taken either on-campus, at off-campus sites or through Distance Education. These ten courses must include a minimum of six courses from the major course requirements to qualify for a three-year major degree or a minimum of ten courses from the major course requirements to qualify for a four-year Honours or Major or professional degree.

A student will be required to complete successfully at the University of Windsor a minimum of five courses (fifteen semester hours) to qualify for a certificate offered in the Faculty of Arts and Social Sciences and six courses (eighteen semester hours) to qualify for a certificate offered in the Odette School of Business.

To qualify for a Minor, a minimum of three courses counting toward the Minor must be successfully completed at the University of Windsor.

2.4.4 ADVANCED STANDING

The granting of advanced standing reduces the total number of courses a student must complete for a degree.

By Transfer: A student who has successfully completed a course with a minimum grade of C- at a recognized institution of higher learning may be granted credit for that course. The grade will not be shown on the University of Windsor transcript. The transfer of credits from another institution will be evaluated by the Office of the Registrar in consultation with the appropriate academic unit. Students should begin this process as early as possible in order to ensure appropriate placement in their program. An official transcript (and translation, if necessary) and a copy of course descriptions should be submitted to the Office of the Registrar at the time of application. Students who feel that the evaluation of prior academic work is not appropriate must appeal their evaluation to the Office of the Registrar within one term after admission to their program of study.

By Examination: A student may acquire knowledge of the subject matter of a course in a manner which does not provide a basis for credit by transfer. Such a student may request to write an examination for advanced standing within one term after admission to a specific program. If such request is approved and the examination is administered, a minimum grade of C- is required for the granting of advanced standing. Success in such examinations will be recorded as "Advanced Standing by Examination" with the credit value of the course and a grade of "Pass". A student who is unsuccessful in attaining advanced standing after an initial examination will not be permitted a second attempt. Contact the Office of the Registrar for application forms and additional information.

By Prior Learning Assessment: A student may acquire knowledge of the subject matter of a course in a manner which does not provide a basis for credit by transfer. Such a student should contact the Prior Learning Assessment Co-ordinator in the Student Information Resource Centre for application forms and additional information within one term after admission to their program of study.

2.4.5 LETTERS OF PERMISSION

A student who wishes to take one or more courses of his or her program at another university must request a "Letter of Permission" in advance of registration to ensure that the course(s), if completed successfully, will be credited towards his or her degree program.

Application for a "Letter of Permission" will be made at the Office of the Registrar. Approval shall be based on the applicant's overall academic record, the appropriateness of the particular course to the applicant's program and on any other factors deemed relevant. Students on academic probation will not usually qualify for a "Letter of Permission". The appropriate fee will apply.

Following approval of the application, the Registrar shall issue a "Letter of Permission" to the applicant and the university concerned.

Upon completion of the course(s) the student must request the visited institution to submit an official transcript for any course(s) attempted to the Office of the Registrar. The course(s) successfully completed with a grade of C- or better will normally be credited towards the degree, but the grade(s) received will neither be recorded nor used in the calculation of University of Windsor averages.

2.4.6 ADDITIONAL UNDERGRADUATE DEGREES

An individual who wishes to pursue a second undergraduate degree must take the following steps:

1.

(a) If one degree has already been conferred, a student must make application for admission and be admitted to the second degree program. This application is made for approval to pursue the second degree and will inform the student of the total number ofcourses required for it. This may be done by completing an "Application for Returning Students" form on SIS or by completing the form in the Office of the Registrar (Students wishing to rescind their first degree to lessen the number of courses required for the second degree, may do so at this time); OR

(b) If both degrees are being pursued at the same time, a student must complete a "Declaration of Second Degree" form in the Office of the Registrar to determine eligibility for the intended second degree and to be informed of the total number of courses required for it. This form should be completed as soon as the student has the intent to pursue more than one degree; AND

2. Fulfill all the specific requirements of each degree program including residency requirements as described in Section 2.4.3 as well as any program specific requirements (where appropriate); AND

3. Take the appropriate number of courses over and above the first degree by meeting the following additional degree requirements:

(a) Students with one general degree (B.A., B.Sc., B.C.S., B.Math., B.M.A.):
- may count a maximum of twenty courses toward a second general degree in a different area of study*.
- may count a maximum of twenty courses toward a professional degree.**
- may count a maximum of thirty courses toward an Honours degree in the same or different major.

(b) Students with one Honours degree in a single major (B.A., B.A.S., B.Sc., B.C.S., B.Math., B.F.A., B.Mus., B.O.R., B.F.S., B.E.S.)
- may count a maximum of twenty courses toward a general degree in a different area of study*.
- may count a maximum of twenty courses toward a professional degree.**
- may count a maximum of thirty courses toward a second Honours degree in a different area of study*
- may not receive another Honours degree combining the area of study in their first Honours degree with another.

(c) Students with one Honours degree with a double major (B.A., B.Sc., B.Math)
- may not receive a general degree with a major in either area of study from their first Honours degree.
- may count a maximum of thirty courses toward a second Honours degree in one of the same majors as the first degree provided that a minimum of eight courses in that major field are taken over and above the major courses used in the first degree.

(d) Students with one Professional degree (B.A.Sc., B. Comm., B.H.K., B.S.W., B.Sc.N., LL.B.)
- may count a maximum of twenty courses toward a general degree.**
- may count a maximum of twenty courses toward a second professional degree in a different area of study.*
- may count a maximum of thirty courses toward an Honours degree.

(e) Students with one Four Year Major degree (B.A., B.Sc.):
- may not receive an Honours degree in the same area of study. Students who improve their major average to qualify for the Honours designation may apply for the Honours degree provided they rescind their Major degree.

(f) Students who have completed a degree in Education through the consecutive pre-service program, or who have completed Education courses in a Concurrent program, may not count any of the Education courses toward another degree.

(g) Students who have already been granted a second undergraduate degree as listed above, may only count a maximum of ten courses toward a third degree. These courses may not include the ones already counted for the second degree.

(h) Students may not use any courses used toward a minor in a first degree toward the major of a second degree unless the minor is rescinded from the first degree. Please see section 2.4.15 for additional regulations concerning minors.

(i) Students with a graduate degree in one area of study may not receive a general or honours degree (single or combined) in the same area of study as the graduate degree.

* The major of the second degree must be distinct from the major in the first degree. Therefore, in all cases, a student with an Honours degree cannot receive a general degree in the same major (eg if a student has already received an Honours degree in English, that student cannot request admission nor receive a general degree in English). However there are instances where the majors are not the same but the requirements for the major include courses from the same subject area. To determine if two degrees can be awarded in these cases, the general rule is: if the first degree requires six or more courses in a subject area, then a general degree in a major that requires courses from that same subject area will not be allowed OR if the first degree requires eleven or more courses in a subject area, then an Honours degree in a major that requires courses from that same subject area will not be allowed.

** Exceptions to this regulation are as follows: a student with any degree majoring in Economics may not receive an Honours B.Comm. in Business Administration and Economics and a student with any degree in Computer Science (including the B.Sc. degrees offered in Computer Science) may not receive an Honours B.Comm in Business Administration and Computer Science. These students may only be considered for the Bachelor of Commerce for University Graduates program which results in a B.Comm. Degree in Business Administration. Likewise, a student with an Honours degree in Business Administration and Economics or Business Administration and Computer Science may not receive a general degree in Economics or Computer Science respectively.

2.4.7 CERTIFICATE AND DIPLOMA PROGRAMS

Students in the Faculty of Arts and Social Science who wish to apply credits received in a certificate or diploma program toward a degree program may be granted advanced standing for all of the courses from the certificate program towards the fulfillment of graduation requirements for a degree. However, once a student registers in a degree program, only 50% of the courses from subsequent certificates or diploma programs may be counted toward the degree requirements.

All other students who wish to apply credits received in a certificate or diploma program toward a degree program may be granted advanced standing for a maximum of 50% of the courses from the certificate program towards the fulfillment of graduation requirements for a degree. As well, those who wish to apply credits received in a degree program toward a certificate or diploma program may be granted advanced standing for a maximum of 50% of the courses required for the certificate or diploma.

All students who wish to apply credits received in a certificate or diploma program towards an additional certificate or diploma program may be granted advanced standing for a maximum of four courses towards the fulfillment of requirements for the additional certificate or diploma.

2.4.8 DEFINITION OF COURSES AND SESSIONS

The word "course" generally refers to a 3.00 credit hour offering which is given over one term. Each term includes approximately thirteen weeks of classes. During each regular academic year (September to April), the Fall term runs from early September to early December and the Winter term runs from early January to mid-April. Each term concludes with final examinations. Additionally, the University schedules courses in a Summer term which includes Intersession (May - June) and Summer Session (July - August), each of which are approximately six weeks in duration. Courses given in these sessions carry the same credit as those in the Fall and Winter terms. Some courses offered in the Summer Term run from May - August (12 weeks).

In some areas, courses also may be offered for 1.50 credit hours, or for 6.00 credit hours. Courses of any credit hour value may be offered over multiple terms or over a part of a term.

In a few cases a course may be "linked" with another course in the sense that credit is granted only when both courses have been completed successfully. Course descriptions indicate "linked" courses. Unless otherwise indicated, such courses must be taken in successive terms.

The time required to complete programs can vary according to the student's choice. If courses are taken exclusively in the Fall and Winter terms, a general degree normally is completed in three years and a four-year Honours, Major or professional degree in four years of full-time study. Students may choose to accelerate their programs by attending Summer term, Intersession and/or Summer Session, or may spread their programs over a longer period by attending as part-time students. Some programs place a time limit on degree completion. Refer to individual Faculty and program regulations for such limits.

2.4.9 COURSE CONTENT

Information regarding the content and the hours of instruction per week for all courses is to be found in the individual subject area listings. The time schedule for classes can be obtained at the Office of the Registrar.

The University does not attempt to impose uniformity in methods of course presentation. Therefore, methods of course presentation vary and may involve lectures, lectures combined with class discussion, small group or tutorial instruction, seminars, or other combinations of the above. In all cases, the method(s) to be used will be explained early in the course.

2.4.10 COURSE NUMBERING SYSTEM

Each course is identified by a three-part number. The first part refers to the Faculty, the second part to the subject area, the third to the level of

the course. Thus, the course 02-46-220 would be a course in the Faculty of Arts and Social Sciences (02-), in the subject area of Psychology (46-) and would be at a level that places it among courses in the 200 series. The series 100, 200, 300, and 400 numbers are intended to indicate progressively more demanding content and correspondingly increasing background and competence on the part of the students enrolled in the course.

Numbers in the range 100-199 are ordinarily used for the introductory courses in most disciplines. Within the range, however, a lower number does not necessarily signify more elementary content.

It is important that students planning their courses have clearly in mind the significance of these numbers so that they may guard against undertaking course work at levels for which they are insufficiently prepared. A number of courses have stated prerequisites which are prior requirements for entry to a course. Students who do not satisfy the prerequisite for a course, or who in the opinion of the instructor do not possess an equivalent background to that of the stated prerequisite, may not register for the course, and may be removed if they register inappropriately.

Faculty Codes

Faculty of Arts and Social Sciences	01- (Arts)	02- (Social Sciences)
Faculty of Science	03-	
Faculty of Business Administration	04-	
Faculty of Education	05-	
Faculty of Engineering	06-	
Faculty of Human Kinetics	07-	
Faculty of Law	08-	
Faculty of Nursing	11-	
Inter-Faculty Programs	14-	

Program/Course Codes

Note: The Program/Course codes are preceded by the relevant Faculty code.

Arts and Science, 14-56-
Additional Qualification Courses, 05-79-
Biology, 03-55-
Business Administration:
- Accounting, 04-70-
- Business Strategy and Entrepreneurship, 04-75-
- Finance, 04-72-
- Management and Labour Studies, 04-71-
- Management Science, 04-73-
- Marketing, 04-74-

Chemistry and Biochemistry, 03-59-
Civil and Environmental Engineering:
- Civil, 06-87-
- Environmental, 06-93-

Classical and Modern Languages, Literatures and Cultures:
- Aboriginal Studies, 01-06-
- Intercultural Studies, 01-07-
- Multicultural Studies, 01-08-
- Oriental Studies, 01-10-
- Classical Studies, 01-11-
- Greek & Roman Hist., 01-12
- Greek Lang. & Lit., 01-13-
- Latin Lang. & Lit., 01-14-
- German, 01-15-
- Italian, 01-21-
- Spanish, 01-23-

Communication Studies: 02-40-
Computer Science, 03-60-
Dramatic Art: 01-24-
Earth Sciences:
- Geology, 03-61-
- Environmental Science, 03-66-
- Geography, 03-67-

Economics, 02-41-
Education, 05-80-
Electrical and Computer Engineering, 06-88-
English, 01-26-
Environmental Studies, 14-58-
Forensics, 14-57-
French, 01-29-
General Engineering, 06-85-
Geography: 02-42-
History, 02-43-
Industrial and Manufacturing Systems Engineering, 06-91-
Kinesiology, 07-95-
Labour Studies: 02-54-
Law service courses, 08-99-
Law courses, 08-98-
Mathematics and Statistics:
- Mathematics, 03-62-
- Statistics, 03-65-

Mechanical, Automotive, and Materials Engineering:
- Mechanical, 06-92-
- Automotive, 06-94-
- Materials, 06-89-

Music:
- Music Academic Studies, 01-32-
- Music Performance Studies, 01-33-

Nursing, 11-63-
Philosophy: 01-34-
Physics, 03-64-
Political Science: 02-45-
Psychology: 02-46-
Social Work: 02-47-
Sociology and Anthropology:
- Sociology, Criminology, 02-48-
- Anthropology, 02-49-
- Planning, 02-50

Visual Arts:
- Visual Arts, 01-27-
- Art History, 01-28-

Women's Studies, 02-53-

2.4.11 COURSE EQUIVALENCY

With the permission of a program advisor in the major area, a student may substitute one course for another of equivalent content. While this

equivalent course(s) satisfies the requirement, it does not reduce the number of courses required in the major area.

2.4.12 REPETITION OF COURSES

Any failed or passed course may be repeated only once. Students who have twice failed any course which is required for graduation in a particular area of study must withdraw from that program. In the Faculty of Engineering passed courses may be repeated only in the final year of study as may be allowed by the Faculty.

2.4.13 MAXIMUM COURSE LOAD AND OVERLOAD

Overload courses are deemed to be courses taken in addition to the prescribed term load for a given program. These could include a) courses repeated or taken in lieu of failed courses, b) courses taken to accelerate the time to completion of degree requirements or c) courses taken in addition to those required for the program in which the student is registered.

Students in Semesters 1 and 2 may not register in any course overload; entering students in the Faculty of Arts and Social Sciences and in the Faculty of Science who have qualifying averages of 90 or higher may apply for permission to take a course overload to the Associate Dean of their Faculty. Senior students (Years 2 - 4) who are not on academic probation may normally register in only one overload course during each of the Fall and Winter terms. In the Faculty of Science course overload requests must be approved by the Associate Dean of the Faculty of Science. In the Faculty of Engineering course overload requests must be approved by the Associate Dean of the Faculty of Engineering.

Students should not take overload courses unless absolutely necessary since the result may be poorer overall performance.

All three-year programs require the completion of thirty courses and most Honours or four-year Major programs require the completion of forty courses. For such programs, therefore, the normal course load during the Fall and Winter terms is five courses.

Certain Honours or four-year Major programs require more than forty courses for completion of the degree. For these programs the prescribed term load is indicated in the program section of the calendar.

A student may take up to three six-week courses in either Intersession or Summer Session, but no more than a total of five courses over the combined Intersession and Summer Session time period. Students in the Faculty of Arts and Social Sciences who are on academic probation may take no more than two courses during each of Intersession and Summer session and altogether no more than four courses over the combined Intersession and Summer session time period.

The normal course load for Co-op programs which include a summer study term is included in the program section of the calendar (see 2.8.2 Overload Course Fee).

2.4.14 OPTIONS

Options are courses in subjects other than the major subject. For the purpose of meeting option requirements the University categorizes its courses as follows:

ARTS (In addition, all Language courses can satisfy Arts options)

Art History
Oriental Studies
Classical Civilization
Dramatic Art
English and Creative Writing
General Courses, Faculty of Arts and Social Sciences (01)
Intercultural Studies
Multicultural Studies
Music-Academic Studies
Music-Performance Studies
Philosophy
Visual Arts

LANGUAGES

French*
German*
Greek
Hebrew
Italian*
Japanese
Latin
Ojibwe
Spanish*

* The following courses will not satisfy the Languages option: French 29-280, German 15-230, 15-260, 15-261, 15-360; Italian 21-230, 21-260, 21-261, 21-356; Spanish 23-235, 23-260, 23-261 or any other culture courses or courses taught in English. These courses do satisfy Arts options.

Note: Any language course may be used to satisfy a required *Arts option*. Only language courses may be used to satisfy specifically designated *Language option* requirements.

SOCIAL SCIENCES

Anthropology
Communication Studies
Economics
General Courses, Faculty of Arts and Social Sciences (02)
Human Geography (42-)
History
Labour Studies
Planning
Political Science
Psychology

Social Work
Sociology
Women's Studies** (53-106, 53-215, 53-225, 53-240 and 53-280 can satisfy either a Social Science or an Arts option requirement.)

SCIENCE

Biology
Biochemistry
Chemistry
Computer Science
Environmental Science
General Courses, Faculty of Science (03)
Geology
Mathematics
Physical Geography (67-)
Physics
Statistics
Women's Studies**

** Women's Studies 53-220 will satisfy either a Social Science or a Science option requirement.

PROFESSIONAL

Business Administration
Education
Engineering
Kinesiology
Law
Nursing***

***For students in the Faculty of Arts and Social Sciences the following Nursing courses will satisfy a Science option requirement: 63-241, 63-243, 63-245, and 63-391.

2.4.15 MINOR

A minor is not required but is available in most subject areas. See the individual program sections for availability of a minor in a specific discipline. A minor normally requires the completion of six courses as specified by the regulations of individual programs, and a minimum average of C- (5.0) in all minor courses. The exception is the minor in Business Administration which is only available to Engineering and Science students and comprises eight courses. Courses completed to fulfill the major requirements cannot be counted toward a minor, but courses completed for other and option requirements under the major degree can be used to fulfill the minor requirements. [Courses offered by the Faculty of Engineering constitute major requirements for engineering students.] Courses counted toward a minor cannot be counted toward a second minor. An 'Application for Minor Form' is available in the department of the minor program; it should not be completed until a student is applying to graduate.

2.4.16 PROGRAM TRANSFERS

A student who wishes to transfer to a new program may apply on the web on the Student Self Service page at www.uwindsor.ca/sis or may complete the appropriate transfer application form at the Office of the Registrar. All program transfers and conditions for transfer are subject to the approval of the Dean in accordance with regulations established by the Faculty into which the student wishes to transfer.

1) Normally a student who has a cumulative G.P.A. of 5.0 or greater in the previous program, and who meets the admission requirements of the intended program will be permitted to transfer and credit will be granted for all courses completed that apply to the intended program.

2) If a student has been required to withdraw from a program, the student normally will be considered for admission to the new intended program on the same basis as students who have been required to withdraw from the program.

3) All courses that are transferable, whether passed or failed, will be considered in calculating both the cumulative and major averages (where appropriate) in the new program.

2.4.17 COMBINED MAJOR

Students wishing to combine two areas of study from the Arts, Languages, Social Sciences, or Science within a single four-year Honours B.A. or B.Sc. program may do so if the areas of study concerned have provided for this possibility in their respective sections of the Calendar. Such programs require a total of forty courses usually including a minimum of sixteen courses in each area to be selected in accordance with the regulations of each area of study as defined in the appropriate section of the calendar.

2.4.18 SENIOR-LEVEL COURSE REQUIREMENTS

Three-year degree programs require a minimum of sixteen courses at or above the 200 level. All four-year programs require a minimum of twenty-six courses at or above the 200 level. Consequently, no student will be able to count more than fourteen 100-level courses towards a degree.

2.4.19 STANDING REQUIRED FOR CONTINUATION IN PROGRAMS

1) The requirements for continuation "in good standing" are as follows, unless otherwise specified in the program section of the calendar:

A cumulative G.P.A. of 5.0 and a major G.P.A. of 5.0 in all General and Honours B.A. and B.Sc. degree (with major) programs [except for the Honours B.Sc. Degrees offered in Computer Science], in the B.C.S.(General), in the B.Math (General), in the B.Comm.(Honours Business Administration), in the B.Comm. (Honours Business Administration and Economics), in the B.M.A., and in the B.Sc.N.;

A cumulative G.P.A. of 5.0 and a major G.P.A. of 8.0 in the B.Comm.

(Honours Business Administration and Computer Science), B.E.S., B.F.A., B.F.S., B.M.T., B.Mus., B.Sc. (Honours) programs offered in Computer Science, B.S.W., B.C.S.(Honours), B.Math (Honours) and B.O.R.;

A cumulative G.P.A. of 8.0 and a major G.P.A. of 8.0 in the B.A.S.

A cumulative G.P.A. of 5.0 in the following programs: B.A.Sc. and B.H.K.

A cumulative G.P.A. of 5.0 and an average of 5.0 in required Science courses: three-year general B.Sc. degree.

2) An appropriate Academic Standing Committee within each Faculty reviews the academic record of each student and makes academic decisions as appropriate in light of the cumulative and major averages achieved. In most programs this evaluation occurs at the conclusion of the Winter term. In certain programs (such as Co-operative Education programs, all Odette School of Business programs, and Kinesiology), this evaluation may occur at the conclusion of any term, depending upon the structure of the program.

3) A student will automatically be placed on probation if he/she has not met the minimum cumulative and major average requirements at the end of any term in which his/her record is not being formally reviewed,

4) A student's record will be referred to an appropriate Academic Standing Committee within the Faculty for decision if he/she has not met the minimum cumulative or major average at the end of the term when the record is being reviewed.

(a) If the cumulative and major average requirements are 5.0 and if the student has achieved an average between 4.0 and 4.9, the student normally will be allowed to continue on probation until the next evaluation period. By the subsequent evaluation period both the cumulative and major averages must be raised to at least a 5.0 or the student may be required to withdraw from the program.

(b) If the major average requirement is 8.0 and if the student has achieved a major average below 8.0, the student will be placed on probation and will be allowed to continue on probation until the next evaluation period. By the subsequent evaluation period the major average must be raised to at least 8.0 or the student may be required to withdraw from the program.

(c) If the cumulative average is below 4.0 the student will be required to withdraw.

5) Notification of the requirement to withdraw is included on the final grade report, accessible via the web. Students who have been required to withdraw may appeal. The appeal must be in writing to the Office of the Dean of the Faculty and must be submitted with any supporting documentation within six weeks of the web release of final grade reports by the Office of the Registrar. Appeals are considered by the Academic Standing Appeals Committee; only circumstances of an extraordinary nature will result in rescinding the requirement to withdraw. Students should contact the appropriate Office of the Dean for information concerning appeals procedures.

6) A student who has been required to withdraw may not register in the program from which he or she has been required to withdraw for twelve months.

The student must apply for re-admission through the Office of the Registrar by the appropriate deadline date for the term desired and must include with the application a statement of rationale, and documentation of academic success elsewhere.

Re-admission to a program is not automatic and will be dependent upon an assessment of the applicant's prospects for successful completion of the program.

If re-admitted, the student will be placed on probation and must raise the cumulative and major averages to 5.0 or higher by the next evaluation period and must satisfy any additional conditions of readmission which may have been imposed. If the student fails to meet such requirements, he or she normally will be required to withdraw.

A student who has been required to withdraw a second time will not be eligible for re-admission.

2.4.20 STANDING REQUIRED FOR GRADUATION

In order to graduate a student must obtain minimum Grade Point Averages as follows:

A cumulative G.P.A. of 5.0 and a major G.P.A. of 5.0 in all three-year B.A. (General), B.Sc. (General with major), B.C.S. (General), B.Math (General) degree programs, B.Comm. (Honours Business Administration), B.Comm. (Honours Business Administration and Economics), B.M.A., B.Sc.N.;

A cumulative G.P.A. of 5.0 in three-year B.Sc. (General without major) degree programs, B.A.Sc., B.H.K.;

A cumulative G.P.A. of 5.0 and a major G.P.A. of 8.0 in all Honours B.A. and Honours B.Sc. degree programs. (Students completing the Honours degree with a cumulative G.P.A. of at least 5.0 and a major G.P.A. of at least 5.0 but less than 8.0 will be awarded the four-year Major degree, except for Computer Science programs);

A cumulative G.P.A. of 5.0 and a major G.P.A. of 8.0 in Honours B.E.S., B.F.S, B.A. Drama in Education and Community, and the Modern Languages with Second Languages Education programs.

A cumulative G.P.A. of 5.0 and a major G.P.A. of 8.0 in the B.Comm. (Honours Business Administration and Computer Science), B.F.A., B.M.T., B.Mus., B.S.W., B.C.S. (Honours), B.Math. (Honours) and B.O.R.

A cumulative G.P.A. of 8.0 and a major G.P.A. of 8.0 in Honours B.A.S.

Students in first-entry degree programs or certificate programs who graduate with a cumulative grade average from "A-" to "A" (11.0 to 11.99) will receive their degree or certificate "With Distinction". Students

in first-entry degree programs or certificate programs who graduate with a cumulative grade average from "A" (12.0) and above will receive their degree or certificate "With Great Distinction".

2.4.21 INTRODUCTORY STATISTICS COURSES

Credit may not be given for more than one introductory statistics course, regardless of from which faculty they are taken. Students in Arts and Social Science will normally take the General Faculty course 02-250. Students in Business will normally take 73-102 and students in Science will normally take 65-205.

2.4.22 POLICY ON PLAGIARISM

Plagiarism is defined as: "The act of appropriating the literary composition of another, or parts of passages of his or her writing, or the ideas or language of the same, and passing them off as the products of one's own mind." (Black's Law Dictionary)

It is expected that all students will be evaluated and graded on their individual merit and all work submitted for evaluation should clearly indicate that it is the student's own contribution.

Students often have to use the ideas of others as expressed in written or published work in preparing essays, papers, reports, theses and publications. It is imperative that both the data and ideas obtained from any and all published or unpublished material be properly acknowledged and their sources disclosed. Failure to follow this practice constitutes plagiarism and is considered to be a serious offense. Thus, anyone who knowingly or recklessly uses the work of another person and creates an impression that it is his or her own, is guilty of plagiarism.

Plagiarism also includes submitting one's own essay, paper, or thesis on more than one occasion. Accordingly, it is expected that a thesis, essay, paper or a report has not been and is not concurrently being submitted for credit for any other course. In exceptional circumstances and with the prior agreement of the instructor, a student may use research completed for one course as part of his or her written work for a second course.

A confirmed incident of plagiarism will result in a sanction ranging from a verbal warning, to a loss of credit in the course, to expulsion.

2.4.23 POLICY ON UNACCEPTABLE USE OF COMPUTER RESOURCES

Clients within the University community using computing resources are entitled to the basic human rights of privacy and academic freedom. This privacy and academic freedom extends from the security on individual computer accounts and files, to the non-interference in legitimate computer use for University activities.

The holder of a computer user ID and password will protect the campus computing facilities from unauthorized access by keeping his/her password confidential and by changing it regularly.

Notwithstanding the foregoing principle on individual privacy and academic freedom, certain uses of computing resources are unacceptable. In any case, the campus network services are subject to the acceptable-use guidelines established by regional and national networks (*e.g.*,ONet and the Internet); the applicable guidelines are available from Information Technology Services.

In general, six major areas of unacceptable use are identified:

(a) Uses that violate federal or provincial laws, or University bylaws and policies such as those concerning information confidentiality.

(b) Any uses that unduly interfere with the work of others or with the work of host systems. This includes, but is not limited to the unauthorized use of a computer user ID or password; the seeking of information about, or the attempt to modify the University's computer security system; and the knowing propagation of computer viruses or electronic chain letters.

(c) Unauthorized copying of proprietary software, publications, or files.

(d) Uses of commercial software that in any way violates the applicable licensing agreement.

(e) Uses related to commercial activities including, but not limited to the distribution of advertising material, the offering of network information and services for sale or personal gain, or to private enterprises.

(f) Computer information that portrays either men or women or their body parts in a pornographic or derogatory manner.

A confirmed incident of unacceptable use will result in a sanction ranging from a verbal warning, to revocation of computing privileges, to expulsion, and to criminal prosecution.

2.5 Registration

2.5.1 TIME AND PLACE OF REGISTRATION

Each student must register at the beginning of each term/session in the manner designated by the Registrar. Although the courses selected may be offered in different Faculties of the University, all students register through the Registrar's Office only.

Deadline dates for fee payment vary from term to term (see 2.8.1 and 1, "Calendar of the Academic Year"). A student who maintains an active course registration on the first day of term is obligated to make fee payments in accordance with the procedures in section 2.8.1. The non-payment policies in 2.6.4 will be applied to a student who has not made satisfactory fee arrangements with the cashier. (See 2.8.4).

2.5.2 PROVISIONAL REGISTRATION

A student whose application is not complete by the regular registration period may be allowed to register provisionally. All required forms and documents must be submitted before the last day of late registration.

2.5.3 WITHDRAWAL

1) Full-time undergraduate students who intend to withdraw completely from the University are required to undergo an interview, and complete the appropriate forms at the Educational Development Centre.

The status of a student who withdraws from full-time studies is left to the decision of the Faculty in which the student is registered and will be reported to the student through the Office of the Registrar.

Part-time students who find it necessary to withdraw from a course or from the University may drop their courses over the web on the Student Self Service page or must notify the Registrar in person or by registered mail.

2) Students wishing to withdraw from a course or courses may do so over the web using the Student Self Service page or may use the "Course Change Form" which is available from the Office of the Registrar.

Students must withdraw from a course or courses within the withdrawal periods as indicated below. Specific dates vary from term to term and are indicated in the "Calendar of the Academic Year" (see 1). Withdrawal periods for courses in other sessions are normally set at approximately two-thirds of the course length. The withdrawal will be entered on the student's transcript as VW, (Voluntary Withdrawal), which is defined as "Withdrawal in good standing. No academic credit."

Students may not withdraw from a course or courses after the appropriate designated withdrawal period. After the voluntary withdrawal period for a course, students remain registered and will be assigned grades as appropriate.

A student who wishes to drop a course or courses after the appropriate withdrawal period based on medical or compassionate grounds should refer to section 2.6.5 or to Senate Bylaw 51 which is available in the Office of the Registrar or at the University website.

3) The dates for withdrawal from courses which may result in partial tuition refunds vary from term to term. See 1, "Calendar of the Academic Year" for appropriate dates and 2.8.7, "Withdrawal and Refund Policy". The Cashier's Office will make the appropriate adjustment of fees where applicable.

WITHDRAWAL PERIODS

One-term course offered during Fall or Winter term - within nine weeks of beginning of the term.
Two-term course offered during Fall and Winter term - within four weeks of beginning of the Winter term.

Summer term (Intersession/Summer Session):
Three-week course - within two weeks of beginning of the session.
Six-week course - within four weeks of beginning of the session.
Eight-week course - within five weeks of beginning of the session.
Twelve-week course - within nine weeks of beginning of the session.

2.6 Examination and Grading Procedures

2.6.1 TESTING PROCEDURE

The following applies to all undergraduate programs except in the Faculty of Law and the Faculty of Education.

It is expected that all courses will have some type of non-optional, meaningful, final testing procedure (written test, oral interview, essay, take-home test, *etc.*) during the examination period.

Three-hour evaluation periods will be scheduled in the formal final examination periods in each term of the regular year for all courses which terminate in that term. All final testing procedures as indicated above will take place or fall due during the three-hour period so scheduled. The actual duration of testing procedures during the scheduled period may be less than three hours at the discretion of the individual instructor.

If oral or other special types of examinations can not be accommodated in the three-hour period, notice will be given to the Registrar by the Dean (or delegate) of the Faculty involved, and special arrangements will be made.

The Office of the Registrar will complete the foregoing scheduling for the Fall term prior to September 1, and for the Winter term prior to January 1, so that it is available to students before they finalize their course selections.

The last week of lectures in each term must be free from any type of testing procedures. This regulation does not apply to routine laboratory tests or normal field work evaluations which are part of a series. Courses that are presented by a specialized teaching method such as self-paced methods or modularized methods where the testing procedures are an integral part of the instructional process shall be exempt from this regulation subject to approval of the Dean of the Faculty in which the course is given.

If the final testing procedure takes the form of an oral interview, a take-home test, an essay, *etc.*, it must take place or become due during the examination period.

It is left to each academic area to set the range of the weights of the final testing procedures.

The following applies to all undergraduate faculties.

Each instructor must inform his or her students, by the end of the second week of each course, concerning the following:

(a) all procedures for determining the final grade in a course, including those for the conversion of raw scores into letter grades and the procedures by which students are evaluated by observers or supervisors, rather than by written examinations or submitted assignments;
(b) the approximate dates for tests, essays, *etc.*

Alterations of the announced dates under (b) above may be made by the instructor with the consent of the majority of the registered class. Instructors may not alter the date of final examinations if scheduled by the Office of the Registrar.

Students with three examinations scheduled on the same day may petition to have one of the examinations rescheduled by completing the appropriate request form available at www.uwindsor.ca/sis.

2.6.2 OFF-CAMPUS EXAMINATIONS

A student with a cogent reason may be granted permission to write an examination at an off-campus centre. Application forms are available in the Registrar's Office. To allow sufficient time for arrangements and mailing, approved applications must be submitted, along with the appropriate fee, to the Registrar's Office at least one month prior to the date on which the examination is to be written.

2.6.3 GRADING

Percentage Grade Conversion Scale

Grade Point	Letter Grade	Range
13	A+	93-100
12	A	86-92.9
11	A-	80-85.9
10	B+	77-79.9
9	B	73-76.9
8	B-	70-72.9
7	C+	67-69.9
6	C	63-66.9
5	C-	60-62.9
4	D+	57-59.9
3	D	53-56.9
2	D-	50-52.9
1	F	35-49.9
0	F-	0-34.9

Grades assigned and their significance are as follows:

A+, A, A-	Excellent
B+, B, B-	Good
C+, C, C-	Fair
D+, D, D-	Pass
F, F-	No Credit
Inc	Incomplete
IP	In Progress
NR	No Report

For the purpose of calculating a grade point average, the following numerical equivalents are used:

A+	13	A	12	A-	11
B+	10	B	9	B-	8
C+	7	C	6	C-	5
D+	4	D	3	D-	2
F	1	F-	0	NR	0

A student's progress within a program will be evaluated on the basis of the grade point average. For purposes of calculation, the grade point earned in a 6.00 credit hour course will be double the weight of that earned in a regular 3.00 credit hour course. A grade point earned in a 1.50 credit hour course will be given one-half the weight earned in a 3.00 credit hour course.

Example:

Letter Grade	Grade Points		Credit Weight		
A	12	x	1.5	=	18
B	9	x	3	=	27
B-	8	x	6	=	48
C+	7	x	3	=	21
F-	0	x	1.5	=	0
			15		114

Average: (114/15) = 7.6

Some programs calculate weighted averages based upon the number of contact hours for each course. In these programs, the average is calculated as follows:

Letter Grade	Grade Points		Credit Weight		
A	12	x	2.50	=	30.00
B	9	x	3.00	=	27.00
B-	8	x	4.25	=	34.00
C+	7	x	6.00	=	42.00
F-	0	x	8.00	=	0.00
			23.75		133.00

Weighted Average: (133.00 / 23.75) = 5.6

Courses in which an F or F- grade is received will be recorded on the student's transcript and may be factored into the Grade Point Average but will carry no credit toward a degree. A grade of IP is recorded at the end of the first term of a two-term course.

A grade of NR is assigned to students who although registered in a course have neither attended regularly nor submitted assignments. In computing a student's average, NR is equivalent to F-.

Subject to regulations laid down by the faculty or school, a grade of "Incomplete" may be assigned to a student who so requests at the discretion of the instructor and academic unit head. Such a grade may be granted to a student who has not been able to complete all course requirements by the date of the final evaluations. The grade of "Incomplete" could be used in situations such as:

(i) the missing of an examination or test for a valid reason,

(ii) the failure to complete required projects or assignments in the allocated time owing to circumstances beyond the student's control.

A grade of "Incomplete" must be changed to a letter grade not later than six weeks after the last date of the examination period. If no grade has been assigned by that date, a final grade of F is automatically entered in the student's record by the Office of the Registrar.

2.6.4 CALCULATION OF AVERAGES

The marks obtained in all courses taken at the University of Windsor are used to calculate a cumulative average. Similarly, all marks obtained in courses in the major area of study are used to calculate major averages. Provided that the course is available in a subsequent registration period, a student may repeat a course only once for purposes of upgrading a major or cumulative average. Both the original mark and the upgraded mark obtained will remain on the student's official record. However, only the mark received in the second attempt is used in calculating the cumulative and major averages.

Bachelor of Arts and Science: The calculation of the major average for the Bachelor of Arts and Science program consist of grades obtained in the subject area of the Major Concentration plus the following courses: 56-301, 56-310, 56-401, 56-421, 56-410 and 56-420.

2.6.5 APPEALS

Before exercising their right of appeal against a grade, students should consult Senate By-Law 51, Examination Procedures, copies of which are available at the Office of the Registrar or at the University website. Students registered in the LL.B. program should consult the Academic Status regulations of the Faculty of Law.

All appeals must be made in writing to the appropriate Faculty through the Office of the Registrar, no later than three weeks after the final mark has been released by the Registrar. The official release dates are posted on the web. The appeal must be accompanied by a $20 fee which will be refunded to the student if the appeal is successful. Students must submit a letter of rationale for the appeal, including relevant supporting documents.

Aegrotat Standing: A student who wishes to receive consideration on medical or compassionate grounds should communicate with the Office of the Registrar as soon as possible. A letter of rationale and supporting documents (*e.g.*, the attending physician's letter) must be submitted to the Registrar forthwith.

2.7 Graduation

Registration in any program does not constitute an application for a degree, certificate, or diploma.

An official application for graduation must be filled out online at www.uwindsor.ca/registrar approximately three months prior to the Convocation at which the applicant hopes to graduate (see 1, "Calendar of the Academic Year").

Applications received after the deadline dates will be held for the next Convocation.

In cases where credit is sought for work done elsewhere, all official transcripts or other documents as required by the Registrar's Office, but not already submitted, must be conveyed to the Registrar's Office no later than six weeks before Convocation. Failure to comply with these regulations will disqualify the student from graduation at the Convocation concerned (see 2.4.20 "Standing Required for Graduation").

2.8 Fee Regulations and Schedule

The University reserves the right to make changes without prior notice in the various fee schedules, as well as changes in rules and regulations and the revision or cancellation of particular courses and programs. The acceptance of fees does not necessarily imply approval of registration.

The following regulations apply to all students.

2.8.1 PAYMENT OF FEES

Fees are due and payable before the commencement of regular term classes. (see 1, "Calendar of the Academic Year" for specific dates). As a convenience, students may pay their tuition fees at any time prior to the appropriate due date. It is the responsibility of the student to ensure that deadlines are met. It is the student's responsibility to be familiar with and understand all the University regulations contained in the Calendar; to understand how adding and dropping a course or courses, withdrawal, *etc.*, affects a tuition fee account; and to ensure that tuition fees are paid in full **without any notice** from the University. Further, failure to receive a statement of account through the mail does not constitute a valid reason for nonpayment of fees. It is the responsibility of the student to check their fee account balance details and all available methods of payments on-line at www.uwindsor.ca/sis. You will need your student number and PIN to access this information.

Cheques or other remittances must be made payable to The University of Windsor and must be received by the Cashier's Office prior to the due date. The student's name, identification number, address and telephone number should be recorded in the upper portion of the form of the remittance to ensure that the records are properly credited.

Students may pay their fees at any chartered bank in Canada by using a bank payment form available at the Cashier's Office. If a student has a grant and/or loan (*e.g.*, OSAP), the loan must be assigned to the University to pay the fees. Any known difference between the amount of the award and the fees must be paid on or before the due date.

Students who are unable to complete payment of fees by the prescribed due date must arrange a fee deferment. Daily interest charges and academic sanctions (*see section 2.8.3*) may apply. Deferments are permitted under the following circumstances:

(a) a student has evidence of having been awarded a Canada Student Loan or an Ontario Student Loan.

(b) a student has evidence of having been awarded a scholarship, bursary or similar award, which may be used to pay the fees.

Students who are sponsored and require invoices to be sent for collection of fees must bring the appropriate documentation to the Cashiers' Office, 1st Floor, Chrysler Hall North.

Notes:

1) It is the responsibility of the student to accurately report his or her academic status and correctly calculate the amount owing to the University for fees and other charges. Where calculations are incorrect or full payment is not made, daily interest will be charged on balances outstanding after the payment due date. Students should check all calculations thoroughly.

Any errors in a student's academic program, level, and status in Canada must be reported to the Office of the Registrar. Any errors which result in the incorrect calculation of fees owing do not relieve the student of the responsibility for payment of these fees. Students will be responsible for any additional charges incurred as a result of changes in their academic profile for all terms that are applicable.

2) It is the responsibility of the student paying his or her fees by cheque to ensure that sufficient funds are available to cover any cheques made payable to the University of Windsor. Cheques returned by the student's bank for any reason will incur return cheque penalties plus other penalties.

3) Every effort is made to process payments in a timely manner; however, cheques are valid for a period of six months and may be cashed at any time during that period.

2.8.2 OVERLOAD COURSE FEE

Students who enroll in a course overload as defined in 2.4.13 will be assessed an overload course fee.

2.8.3 INTEREST CHARGES ON OUTSTANDING ACCOUNTS

A daily interest charge will be calculated on all outstanding accounts. The interest will be compounded monthly.

A student who has failed to comply with the above regulations may have his or her registration cancelled as of the date on which the unpaid fees were due.

2.8.4 NON-PAYMENT OF FEES AND CHARGES

Information concerning academic results of any student who has an overdue debt owing to the University shall be withheld until the debt is settled. This includes transcripts, tuition tax receipts and diplomas. Overdue accounts which are not settled in a timely manner may be referred to an external collection agency as deemed necessary by the Cashiers Office.

Students who are graduating and who have an outstanding debt will be permitted to attend Convocation, but they will not receive their diplomas until all their debts are settled.

Any student who has an overdue debt owing to the University may not be permitted to re-register until the debt is settled in full by cash, certified cheque, debit card, a money order, bank draft, electronic back transfer. Students who are settling an overdue account who pay with a personal cheque will have the hold remain on their account for 30 days (45 days for foreign cheques and drafts) to ensure the cheque clears the bank. The hold may be lifted upon presentation of a copy of the front and back of the cancelled cheque.

A student who has not made a satisfactory fee arrangement by the appropriate fee payment due date (see above, 2.8.1) may be subject to cancellation of his/her registration. Students will be notified by mail of any cancellations due to non-payment using the most recent address available. Appropriate charges will be assessed effective the date of cancellation.

Note: Non-payment of fees does not automatically result in the cancellation of registration in a course or courses.

Any student whose registration has been cancelled for default of payment is required to apply for reinstatement of registration at the Office of the Registrar. If the application is approved, a $50.00 reinstatement fee is added to any other assessable charges.

Overdue accounts must be paid by cash, certified cheque, or money order.

Any student who has an unresolved grievance concerning fees or other charges may present an explanatory letter with appropriate official documentation (*e.g.* doctor's notes, *etc.*) to the Credit Manager, Cashier's Office.

2.8.5 TUITION AND EDUCATION CREDIT CERTIFICATE (T2202A)

A tuition and education tax certificate (T2202A) in a form acceptable to the Canadian Customs and Revenue Agency (CCRA) is available via the Student Information System at www.uwindsor.ca/sis. This certificate is made available to all students whose accounts were paid in full by December 31 of the previous year. Student accounts that are not paid in full will show zero dollars for any semester which remains unpaid. If a student subsequently pays the semester, revised figures will be made available to them.

2.8.6 SCHOLARSHIPS

Undergraduate scholarships and other awards paid to students through the Finance Office are usually credited to the student's account on the basis of one half payable in each term. A refund cheque for any credit balance up to the value of all scholarships applied to the account for that term will be available to the student at the Cashiers' Office and Awards Office. This date will be posted on the Cashiers' website (www.uwind-

sor.ca/awards). In order to pick up these cheques in the Cashiers' Office, photo ID will be required, with no exceptions.

2.8.7 WITHDRAWAL AND REFUND POLICY

Graduate students who, for any reason, wish to withdraw from the University must notify, in writing, the Office of Graduate Studies and Research, as otherwise resumption of graduate study at this University may be difficult or impossible.

Full-time undergraduate students who intend to withdraw completely from the University are required to undergo an interview and complete the appropriate forms at the Office of Student Development and Support.

Notice by telephone is not acceptable. Failure to attend classes does not constitute a withdrawal. Full refund will be given to part-time students enrolled in a course that has been cancelled by the University. Full- and part-time students withdrawing from regular courses during the periods indicated below will be assessed fees as indicated.

WITHDRAWAL DURING FALL OR WINTER TERM	FEE PAYABLE
Week(s) One and Two	None
Week(s) Three through Nine	Partial Fees Payable
After Week Nine	Full fees for the appropriate program payable

Refunds resulting from withdrawals will be available on request.

2.8.8 FREE TUITION FOR STUDENTS 60 YEARS OF AGE AND OVER

The University of Windsor offers an incentive of free tuition and incidental fees for students sixty years of age and over. It is felt that people in this group might wish to avail themselves of the University facilities, not only for degree purposes, but perhaps for personal enrichment and the fuller utilization of their leisure time. If you feel that your needs can be served according to this program, we encourage and invite you to contact the Student Information Resource Centre. This applies to Canadian citizens or Permanent Residents of Canada only.

2.8.9 SCHEDULE OF FEES

The Board of Governors reserves the right to make changes without notice in the published schedule of fees and charges if, in its opinion, circumstances so require. Any such changes will be reflected in the Self-Assessment form issued through the Cashier's Office before registration. It is the responsibility of the student to obtain this information.

The schedule of fees changes annually. Contact the Cashier's Office for information on the current schedule of fees, which outlines tuition, incidental, and other fees.

The following miscellaneous fees and charges are payable as incurred:

Undergraduate part-time studies application fee	$25.00
Letter of Permission	$27.00
Undergraduate change of course	$5.00
Overload course	Part-time per course tuition fee
Special and supplemental exam(per course)	
Regular time, on campus	$10.00
Outside regular time, on campus	$20.00
Off campus	$40.00
Evaluation of documents	$40.00
Transcript of record	$8.00
Duplicate T2202A	
Current year -First duplicate is free, each duplicate thereafter	$3.00
Previous years	$5.00
Late registration (full-time students)	$30.00
Returned cheque charge	$25.00 per cheque
Registration reinstatement	$50.00
Application to graduate fee	
Before deadline	$25.00
After deadline	$45.00

For information regarding residences, meal plan, residence deposits, deposit refund policies, and University houses, please contact the Office of Residence Services, Room 49, Vanier Hall, University of Windsor, Windsor Ontario, N9B 3P4, telephone 519-253-3000, ext. 3379 or 3380.

3 INTER-FACULTY PROGRAMS

Coordinator

Bruce E. Tucker; B.A., M.A. (Toronto), Ph.D. (Brown)-1988.

3.1 Degree Programs

3.1.1 Honours Bachelor of Arts and Science

The Bachelor of Arts and Science program provides substantial education in the disciplines of both arts and sciences, and it puts an emphasis on critical thinking and argument. Throughout, students will take course designed to foster the skills of inquiry and, in the third and fourth years, they will take courses in the methods of inquiry and applied inquiry. In addition to developing students' research skills and involving them with topics of public concern, these courses develop their abilities and confidence as writers and speakers.

Total courses: forty.

Major Core requirements: A set of core courses that straddle the Arts and Sciences; a Major Concentration of 12 courses from a discipline in the Faculties of Arts/Social Sciences or Science, as determined by each Department; a Minor concentration of 6 courses from a discipline in the other Faculty.

Other requirements:

(a) At least 15 courses from each of the Faculty of Arts and Social Sciences and the Faculty of Science.
(b) Specific course requirements as specified in the Program Sequencing, below.
(c) To continue in the program, and to receive the Honours BAS degree, students must maintain an Honours (B-) average in all courses and in their Major concentration.
(d) It is intended that students obtain all required courses within any four-year sequence.

Major concentration requirements will have the following structure:

Twelve (12) courses as follows:

(a) no more than two (2) 100-level courses in the Major subject;
(b) at least four (4) 300-level or 400-level courses in the Major subject.

Minor concentration requirements will have the following structure:

Six (6) courses as follows:

(a) no more than two (2) 100-level courses in the Minor subject;
(b) at least one (1) 300-level or 400-level course in the Minor subject.

When a requirement in the Major or Minor Concentration is taken as part of the core BAS program course requirements, another course must be selected from within the area of concentration and substituted with the approval of the Coordinator of Inter-Faculty programs.

Required courses for Major and Minor concentrations are listed in the relevant program section of the calendar.

PROGRAM SEQUENCING

Students must select a Major and a Minor Concentration at the time of registration. Consultation is available from the Director of the program. The selection of electives in Years 2, 3 and 4 must satisfy the requirements for the Major and the Minor concentrations, and the general program requirement that students must complete at least 15 courses in each of the two Faculties.

Year 1: 11-161, 34-162, 43-102, 62-130, two courses selected as needed to satisfy major or minor requirements in Arts and Social Sciences, four courses consisting of any two of the following pairs: 55-140 and 55-141, 62-140 and 62-141, 59-140 and 59-141, 60-140 and 60-141, 61-140 and 61-141, 64-140 and 64-141, 41-110 and 41-111.

Year 2: one of 26-120, 26-260, 26-270, 29-141, or 14-230 (or 15-230 or 21-230); one of 24-111, 24-130, 24-230, 24-330, 24-335, 26-105, 28-214, 32-106, 32-107; one of 53-220, 64-203, 61-214, 61-213, 66-201, 03-59-201; 65-205 or 55-208; plus any six additional courses, at least 2 from each of the Faculty of Arts and Social Sciences and the Faculty of Science, and consistent with satisfying the requirements for the Major and the Minor concentrations.

Year 3: 34-221, 50-298, *56-310, **56-301; Plus any six additional courses, at least 2 from each of the Faculty of Arts and Social Sciences and the Faculty of Science, and consistent with satisfying the requirements for the Major and the Minor concentrations.

Year 4: ** 56-401, *56-421,** 56-410, **56-420 (or other departmental requirement for the student's Major concentration); plus any six additional courses as needed to satisfying the remaining requirements for the Major concentration, the Minor concentration and/or the Program.

* To be introduced in the 2005/2006 calendar.
** To be introduced in the 2006-2007 calendar.

COURSE DESCRIPTIONS - BACHELOR OF ARTS AND SCIENCE

56-301. Introduction to Non-Western Civilizations I
(To be introduced in Fall 2006)

56-310. Modes and Methods of Inquiry
(Open only to students in the BAS program) (To be introduced in Fall 2005)

56-401. Introduction to Non-Western Civilizations II
(To be introduced in Winter 2007)

56-410. Inquiry and Communication
(Open only to students in the BAS program) (To be introduced in Fall 2006)

56-420. Research Project
(Open only to students in the BAS program) (To be introduced in Winter 2007)

56-421. Science, Ethics and Social Policy
(Open only to students in the BAS program) (To be introduced in Fall 2006)

3.1.2 Honours Bachelor of Environmental Studies

This program is truly interdisciplinary in approach and will introduce students to the social, cultural, economic, political, legal, and ethical factors affecting human interaction with the environment while at the same time ensuring they acquire a basic literacy in the physical and biological sciences. Graduates will understand the human dimensions of environmental issues and will be knowledgeable, skilled individuals capable of analyzing complex human-environmental situations and formulating effective political and social strategies to address human impact.

Total courses: forty

Major requirements:

(a) twenty-one courses consisting of, 34-227, 34-228, 34-322, 42-131, 42-200, 45-212, 49-340, 50-393, 55-101, 55-201, 61-141, 61-213, 61-246, 67-100, 67-102, 67-210, 67-246, 67-280, 67-332, 67-334, 99-218;
(b) plus eight courses from one of the following areas of concentration: Resource Management or, Environmental Values and Policy.

Other requirements:

(a) 02-250, 41-110, 45-100, 48-101, 48-102, 48-308 (or 42-231 or 50-231);
(b) five courses from any area of study.

Area of Concentration: Resource Management

At least 3 of the following must be taken: 67-220, 67-221, 67-310, 67-320, 67-402, and 67-410.

66-201. Science, Technology and Society
42-249. Agricultural Geography
55-140. Biological Diversity (prerequisite: Grade 12"U" Biology or equivalent)
55-208. Plants and Society
59-201. Chemistry in the Marketplace
61-110. Natural Hazards and Disasters
61-210. Introduction to Oceanography
61-214. Geology and International Development
61-247. Environmental Auditing in Mineral Resource Development
64-203. Physics, Society and the Environment
67-220. Climatology
67-221. Advanced Geomorphology
67-310. GIS Problem Solving & Spatial Modelling
67-320. Watershed Hydrology
67-370. Climate Change
67-402. Remote Sensing
67-410. G.I.S. and Spatial Decision Support Systems
71-140. Principles of Management
67-499. Environmental Studies Research Project

Area of Concentration: Environmental Values and Policy

34-330. Theories of Nature
40-101. Introduction to Communication Studies
40-367. Communication, Environment and Development
42-249. Agricultural Geography
45-160. Issues in World Politics
45-220. Introduction to Public Administration
45-221. Canadian Public Administration and Policy
45-268. International Organizations
45-275. Introduction to Research Methods
45-326. (Municipal) Urban Administration
45-360. International Conflict and its Resolution
45-363. Principles of International Law
48-228. Class, Wealth and Power in Canada
48-327. Social Movements
50-320. Women, Power, and the Environment
54-204. Worker Health & Safety
71-140. Principles of Management
67-499. Environmental Studies Research Project

PROGRAM SEQUENCING

Year 1
45-100. Introduction to Canadian Government and Politics
48-101. Principles and Methods of Sociology
42-131. Introduction to Cultural Geography
67-100. Introduction to Geomorphology
Option. (60-104 recommended for an introduction to basic computing skills.)

34-228. Technology, Human Values and the Environment
48-102. Social Institutions and Social Change
55-101. Organisms and the Environment
67-102. Atmosphere and Climate
Option/Elective or area of concentration

Year 2
02-250. Basic Statistics for the Social Sciences
34-227. Environmental Ethics
41-110. Introduction to Economics
67-246. Aerial Photography and Cartography
Option/Elective or area of concentration

42-200. Introduction to Resource Management
45-212. Environmental Policy and Politics
61-141. Earth Systems II: the Earth's Surface
61-213. Geology and the Environment
67-210. Introduction to GIS

Year 3
34-322. Globalization and Social Justice
48-308. Intermediate Statistics
61-246. Environmental Decision Analysis
55-201. Applied Ecology
Option/Elective or area of concentration

50-393. Environmental Planning
67-280. Field Measurement and Mapping Techniques
67-332. Principles of Resource Management
Option/Elective or area of concentration
Option/Elective or area of concentration

Year 4
48-340. Food and Global Sustainability
67-334. Environmental Impact Assessment
Option/Elective or area of concentration
Option/Elective or area of concentration
Option/Elective or area of concentration

99-218. Environmental Law
Option/Elective or area of concentration
Option/Elective or area of concentration
Option/Elective or area of concentration
Option/Elective or area of concentration

COURSE DESCRIPTIONS - BACHELOR OF ENVIRONMENTAL STUDIES

67-499. Environmental Studies Research Project
Each student will be required to carry out an original research project in environmental studies and write a report under the supervision of one or more faculty members. The research topic can be in any area relevant to Environmental Studies (*e.g.* physical geography, sociology, philosophy, political science *etc.*) or be interdisciplinary. (Prerequisite: Restricted to students in the program with a minimum G.P.A. of 8.0 and who are in their 7th or 8th semester of enrollment in the environmental studies program. Students must consult with an Environmental Studies counselor prior to enrolling in this course.)

3.1.3 Honours Bachelor of Forensic Science

Forensic Science is the study of evidence in modern criminal investigation for presentation in courts of law. The Bachelor of Forensic Science (Hons) program will provide students with an education in both the Arts and the Sciences, with a focus on acquiring the skills and knowledge essential to the practice of professional Forensic Science. The program will enable students to develop as inquisitive researchers, have an understanding of scientific processes and protocols, lab procedures, criminality, judicial systems, (physical) evidence, the significance of high ethical standards, sophisticated interpersonal skills, and effective report writing and public speaking skills.

Admission will take place for the beginning of the third year. The number of places available in the third year of the Bachelor of Forensic Science Honours program is limited, and admission will be competitive. Students are normally eligible to apply for entry into the Forensic Science program only after completing twenty but no more than thirty courses. Applicants must have successfully completed the following courses: 48-101, 55-140, 55-141, 59-140, 59-141, 62-130, 65-250, 65-251, 43-287, 48-260, 48-262, 57-201.

Total courses: forty.

Major requirements: thirty-five courses consisting of 24-210, 34-160, 01-209, 43-287, 48-101, 48-260, 48-262, 49-111, 49-112, 49-215, 49-323, 50-298, 55-140, 55-141, 55-210, 55-211, 55-213, 55-202, 59-140, 59-141, 59-230, 59-261, 62-140, 62-141, 65-250, 65-251, 27-244, 99-xxx, 57-201, 57-301, 57-302, 57-303, 57-400, 57-401, 57-402.

Other requirements: Five options, including at least two courses in Arts.

PROGRAM SEQUENCING

Year 1
48-101. Principles and Methods of Sociology
49-111. Introduction to Physical Anthropology and Archaeology
55-140. Biological Diversity
55-141. Cell Biology
59-140. General Chemistry I
59-141. General Chemistry II
62-140. Differential Calculus
62-141. Integral Calculus
43-287. History of Crime
57-201. Introduction to Forensic Science

Year 2
65-250. Introduction to Probability
65-251. Introduction to Statistics
01-209. Ethics in the Professions
48-260. Introduction to Criminology
48-262. Administration of Criminal Justice
49-112. Culture in Comparative Perspective
49-215. Principles of Physical Anthropology
50-298. Technology and Social Values
57-201. Introduction to Forensic Science
2 Options or restricted electives

Year 3
34-160. Reasoning Skills
24-210. Speech Communication to Inform
27-244. Digital Photographic Technologies in Forensics
55-211. Genetics

49-323. Forensic Anthropology
99-xxx. Law of Evidence for Forensics
57-301. Laboratory in Forensic Science
57-302. Pro-seminar in Forensic Science
57-303. Forensic Identification
Option or restricted elective

Year 4
57-400. Research and Issues in Forensic Science
57-401. Practicum in Forensic Science
57-402. Research Paper in Forensic Science
55-213. General Physiology
55-202. Human Anatomy
55-210. Ecology
59-230. Introductory Organic Chemistry
59-261. Organic Chemistry of Biomolecules
2 options or restricted electives

Recommended Option Courses
64-140. Introduction to Physics I
64-141. Introduction to Physics II
59-235. Introductory Organic Chemistry II

3.1.4 BA (Honours) in Forensics and Criminology

Admission will be competitive and will take place at the beginning of the third year. Students are normally eligible to apply for entry into the Double Major program only after completing twenty but no more than thirty courses. Applicants must have successfully completed the following courses: 34-226, 48-101, 49-112, 48-202, 55-141, 62-130, 65-205 (or 02-250), 43-287, 48-260, 48-262, 57-201.

Total courses: forty.

Major requirements: thirty-one courses consisting of 01-209; 34-226; 43-287; 48-101; 48-202; 48-207; 48-210; 48-260; 48-261; 48-262; 48-302; 48-308; 48-310 or 49-355; 48-363; 49-111; 49-112; 49-215; 49-323; 50-298; 55-140; 55-141; 55-211; 62-130; one of 02-250 or 65-205; 57-201; 57-303; 57-400; three of 46-220, 48-361, 48-362, 48-367, 48-368, 48-369, 48-370, 48-375 or 49-375; one of 48-410 or 49-410, 48-460, 48-461, 48-464, 48-465,48-466;

Other requirements: nine open options

COURSE DESCRIPTIONS - FORENSIC SCIENCE

27-244. Digital Photographic Technologies in Forensics
Students will have the knowledge and skills to create and manipulate state of the art computer enhanced photographic images documenting scenes of crime, forensic evidence, and forensic exhibits for courtroom presentation. They will also have a critical understanding of the fine line between computer enhancement and computer forgery. (Prerequisite: Open only to students in the Bachelor of Forensic Science program.)

57-201. Introduction to Forensic Science
This course will survey the many specialties of Forensic Science. including forensic pathology, entymology, anthropology, biology, botany, geology, *etc.* Special guest lectures by practicing forensic scientists will give students direct contact with the role they play in the extraction and meaning of evidence.

57-301. Laboratory in Forensic Science
Laboratory methods used by forensic scientists are very broad. This course is a survey of the instruments used and the interpretation of the results. The goal of the course is to familiarize the student with not only the instruments, but also their limitations, and the range of practices employed by professionals for the analysis of evidence. (Prerequisite: 57-201 and enrollment in this course is limited to Bachelor of Forensic Science Program Majors.)

57-302. Pro-Seminar in Forensic Science
Students and faculty will explore current publications and research in forensic science. It is expected that students will, through reports and discussions, develop a viable research problem for their final year as a Forensic Science Major. (Prerequisite: 57-201 and enrollment in this course is limited to Bachelor of Forensic Science Program Majors.)

57-303. Forensic Identification
Practical application of principles and protocols used in forensic identification. Topics range from the expectations of the public in forensic practices to the legal responsibilities of crime scene specialists for evidence identification. Fingerprint theory and practice, image capture and enhancement, crime scene protocols and management, biometrics, and identification as contrasted to systematics are studied. (Prerequisite: 57-201 and enrollment in this course is limited to Majors in Forensic Science and Forensics and Criminology.)

57-400. Research and Issues in Forensic Science
Examination of current controversies in the collection, preservation, and analysis of forensic evidence. Precedent-setting legal cases and judicial enquires. Impact of new technologies. Court challenges to handwriting, DNA, fingerprint, lie detector evidence, *etc.* (Prerequisite: 57-201 and enrollment in this course is limited to Majors in Forensic Science and Forensics and Criminology.)

57-401. Practicum in Forensic Science
Students will be assigned a mentor in the world of forensic science. It is expected that they will work one day a week with their mentor developing their skills in a laboratory setting or related facility. An oral and written presentation of their work will be required at the end of the course. (Prerequisite: 57-302 and enrollment in this course is limited to Bachelor of Forensic Science Program Majors.)

57-402. Research Paper in Forensic Science
Normally, this course will be based on the development of a research problem in 99-302. Research on an approved topic should be original and make a contribution to the body of knowledge known generally as forensic science. (Corequisite: 57-401 and enrollment in this course is limited to Bachelor of Forensic Science Program Majors.)

4 FACULTY OF ARTS AND SOCIAL SCIENCES

Dean

Cecil J. Houston; B.A., M.A., Ph.D. (Toronto).

Associate Deans

Kai Hildebrandt; M.A. (Hamburg), M.A., Ph.D. (Michigan).

Richard Householder; B.A. (Hastings College), M.M. (Colorado).

Students are directed to become familiar and to comply with the general regulations of the University as described in 2.2 which apply to all students. Additionally, programs within the Faculty of Arts and Social Sciences may have particular regulations. Students enrolled in programs in the Faculty of Arts and Social Sciences also must comply with these particular requirements as found in this Calendar.

Students are also directed to read the "Statement of Responsibility" on the inside front cover.

4.1 Degree Programs

Three-year General programs provide a moderate concentration in a specific subject, as well as a broad educational background. Students in these programs are encouraged to extend their studies over a wide range of subjects. Students are also encouraged to take courses which specifically address diversities of human experience, including culture, ethnicity, gender, or sexual orientation.

Four-year Honours programs require the completion of a larger number of courses with greater concentration in a specific subject area than do three-year General programs.

4.1.1 BACHELOR OF ARTS - FOUR-YEAR HONOURS PROGRAMS

Total courses: A student will qualify for the Honours B.A. degree by passing forty courses, with standing as specified in 2.4.20.

Major requirements: Specific major requirements for the four-year Honours programs vary depending upon the area of study. Individual programs, which may provide for specialization in a single subject or in a combination of related subjects, are outlined under the heading "Programs of Study" in each subject area.

Other requirements: Honours and combined Honours programs in each area of study may identify courses in areas of study other than the major that must be completed. These are specified under the heading "Programs of Study" in each subject area.

4.1.2 BACHELOR OF ARTS - THREE-YEAR GENERAL PROGRAMS

Total courses: A student will qualify for the General B.A. degree by passing thirty courses with standing as specified in 2.4.20.

Major requirements: At least ten and not more than sixteen courses must be chosen from one subject, which constitutes the major field. The specific requirements for a major are listed separately for each area of study. Normally, at least two courses from the major field should be included among the first ten courses taken.

Other requirements: General B.A. degree programs in each area of study may identify courses in areas of study other than the major that must be completed. These are specified under the heading "Programs of Study" in each subject area.

Students are advised to fulfill these requirements by the end of their second year.

4.1.3 CONCURRENT BACHELOR OF ARTS (OR BACHELOR OF MUSICAL ARTS, OR BACHELOR OF MATHEMATICS OR BACHELOR OF SCIENCE)/BACHELOR OF EDUCATION/DIPLOMA IN EARLY CHILDHOOD EDUCATION

The Concurrent Bachelor of Arts (or Bachelor of Musical Arts, or Bachelor of Mathematics or Bachelor of Science)/Bachelor of Education/Diploma in Early Childhood Education Program is offered jointly over five years by the Faculty of Arts and Social Sciences (or the Faculty of Science), and the Faculty of Education, and in co-operation with St. Clair College. The aim is to provide the opportunity and training to individuals who wish to teach at the preschool and Primary-Junior levels.

Graduates of this program will receive two degrees and a diploma and will acquire the necessary skills and knowledge to fulfill the requirements for certification by the Ontario College of Teachers.

PROGRAM REQUIREMENTS

All students are required to complete the thirty-course requirement of the University of Windsor General B.A. (or B.Sc.) degree program, in addition to the Education courses 80-203 (48 hours), 80-204 (48 hours), 80-205 (48 hours), and 80-301 (144 hours), and 45 days (225 hours) of Practice Teaching (80-499). The St. Clair College Early Childhood Education component will consist of eleven courses, ED 117, ED 120, ED 130, ED 209, ED 210F, ED 310, ED 402F, ED 408, ED 409, and 640 hours of Field Placement. Requirements can also be met for teaching in the Roman Catholic school system. With additional study in the University's Summer Session, students may be able to accelerate the completion of their B.A., B.M.A. or B.Math. or B.Sc. program. With Summer and/or additional Fall/Winter studies, they may pursue four-year B.A., B.M.A. or B.Math. or B.Sc. programs as well.

COURSE SEQUENCE

FIRST YEAR

Fall Term: five B.A. (or B.M.A. or B.Math. or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; plus the B.Ed course 80-301 (Language Arts and Math.); and the E.C.E. course ED 210F (Curriculum Methods).

Spring Term: two weeks of E.C.E. Preschool and two weeks of B.Ed. Primary Grades practice teaching (150 hours total).

SECOND YEAR

Fall Term: five B.A. (or B.M.A.or B.Math. or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed. course 80-203 (Educational Psychology); and the E.C.E. course ED 120 (Child Behaviour Management).

Spring Term: four weeks of B.Ed. JK/SK practice teaching (150 hours total).

THIRD YEAR

Fall Term: five B.A. (or B.M.A. or B.Math. or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed. course 80-301 (Art/Music/Phys.Ed.); and the E.C.E. course ED 130 (Child Development).

Spring Term: four weeks of B.Ed. Primary Grades practice teaching (150 hours total).

FOURTH YEAR

Fall Term: the E.C.E. courses ED 310 (Infant/Toddler) and ED 402F (Atypical Child); and the B.Ed. course 80-204 (Exceptional Child).

Winter Term: three B.A. (or B.Math. or B.Sc.) courses; the B.Ed. course 80-301 (Social Studies/Science/Computers); and the E.C.E. course ED 117 (Introduction to E.C.E.).

Spring Term: four weeks of E.C.E. Infant/Toddler practice teaching (150 hours total).

FIFTH YEAR

Fall Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed. course 80-205 (Educational Administration); and the E.C.E. course ED 409 (Parent Ed.).

Winter Term: the E.C. E courses ED 209 (Curriculum Development) and ED 408 (Assessment); the B.Ed. Primary Grades Practice Teaching course 80-499 (45 days/225 hours).

Spring Term: four weeks of E.C.E. Infant/Toddler practice teaching (150 hours total).

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19), and with the academic regulations of their particular B.A., B.M.A. or B.Math. or B.Sc. program. In addition candidates who obtain a final grade of less than a C in (a) practice teaching, or (b) three or more Education courses in the program, will not be recommended for certification. Students may repeat only one B.Ed. course for upgrading throughout the program, excluding 80-499.

GRADUATION

Graduates of the program receive both the Bachelor of Arts (or the Bachelor of Musical Arts or the Bachelor of Science) and the Bachelor of Education (General) degrees from the University of Windsor, and the Diploma in Early Childhood Education from St. Clair College.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate. Under certain conditions, the Ontario College of Teachers may grant a non-Canadian citizen a Interim Certificate of Qualification.

4.1.4 CONCURRENT BACHELOR OF ARTS/BACHELOR OF EDUCATION IN FRENCH

Concurrent Bachelor of Arts/Bachelor of Education in French

The Concurrent Bachelor of Arts/Bachelor of Education Program is offered jointly over four or five years by the French Studies Program and the Faculty of Education. The aim is to provide the opportunity and education to individuals who wish to teach at the junior and intermediate levels (grades 4 to 10), with a particular emphasis on teaching French as a Second Language in grades 4 to 8.

Graduates of this program will receive two degrees and will acquire the necessary skills and knowledge for teaching French as a second language and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can qualify for the Bachelor of Arts (French) degree while concurrently studying education and doing practice teaching in schools. Practice teaching begins in year one of the program. All students should see an advisor in the French Studies Program and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

PROGRAM REQUIREMENTS

CONCURRENT BACHELOR OF ARTS (GENERAL)/BACHELOR OF EDUCATION IN FRENCH

Total courses: forty-two

The Bachelor of Arts (General) degree with a major in French requires thirty courses of which 16 courses must be in French Language and Literature (see sequence below).

All students must complete the requirements of the Bachelor of Arts (General or Honours) degree program in French in addition to seven Education courses: 80-203, 80-204, 80-205, 80-302 and 80-358; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200.

CONCURRENT BACHELOR OF ARTS (HONOURS)/BACHELOR OF EDUCATION IN FRENCH

Total courses: fifty-two

All students must complete the requirements of the Bachelor of Arts (General or Honours) degree program in French in addition to seven Education courses: 80-203, 80-204, 80-205, 80-302 and 80-358; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200.

Students who wish to complete the Bachelor of Arts (Honours) degree program, should make this decision during their second year of studies. Students pursuing an honours degree will take a 'stop-out' year from Education, normally in year 3, to focus entirely on their non-Education studies. This permits students to complete required French and minor courses for prerequisite purposes. For an Honours BA, an additional 10 courses are required which must include: 29-357, 29-328 or 29-329, 29-332, 29-400 level - special topics, 2 additional courses from any area of French, and 1 additional Franco-Canadian course. The stop-out year also enables students to participate in the Third-Year Exchange Program with the Université de Nice or Université du Québec à Montreal.

RECOMMENDED COURSE SEQUENCES

CONCURRENT BACHELOR OF ARTS (GENERAL)/BACHELOR OF EDUCATION IN FRENCH

Year 1
French: 29-121, 29-122, 29-141, and a 29-200 level course in Literature
Option/others: 5 courses
Education: 80-203 (32 hours over 2 semesters).
Intersession: 80-499 (ten days).

Year 2
French: 29-221, 29-222, 29-230, 29-231, 29-215 or 29-315 or a 29-200 level course in Literature or Culture*
Options/others: 2 courses
Education: 80-302 (96 hours over 2 semesters)
Intersession: continuation of 80-499 (twenty days).

Year 3
French: 29-325, 29-330, two courses at the 29-200 or 29-300 level in Literature or Culture*
Options/others: 3 courses
Education: 80-204 and 80-358 (Part 1) (32 hours each over 2 semesters)
Intersession: continuation of 80-499 (twenty days).

Year 4
French: 3 courses in Literature or Culture*
Options/others: 4 courses
Education: 80-205 and 80-358 (Part 2), plus 80-200 (16 hours, optional for Catholic teacher candidates)
Intersession: completion of 80-499 (twenty days).

** Students will be required to take both culture courses (29-260 and 29-270.)*

PRACTICE TEACHING

Directed observation and practice teaching will be arranged by the Faculty of Education to include practical experience in appropriate schools and programs from grade four to grade eight, inclusive.

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19). In addition, at the end of the first year of their program, all students are required to pass a French Proficiency Test, administered by the Faculty of Education in collaboration with the French Studies Program. Students whose performance on the test is marginal will be given a second chance to pass the test at the beginning of their second year. Students who fail the test will be required to withdraw from the concurrent program.

Normally candidates complete all requirements of the Concurrent Program in four years, unless they are taking an honours degree, in which case they will complete it in five years. Any variation to the normal schedule must be approved by the Dean of Education.

Students who obtain three or more final Education course grades below C will not be recommended for certification. Students who are unsuccessful in practice teaching or obtain a final grade of F in any Education course will not be recommended for either a B.Ed. degree or certification.

GRADUATION

For the Standing Required for Graduation, see 2.4.20. Graduates of the program will receive both the Bachelor of Arts (General or Honours) and the Bachelor of Education (General) degrees.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate.

4.1.5 OTHER DEGREE PROGRAMS

In addition to the Bachelor of Arts degree, several other degrees are offered by areas of study within the Faculty. Inter-Faculty programs are also offered. Specific requirements for these degrees will be found as follows:

Bachelor of Musical Arts (see 4.15.2);

Bachelor of Music (see 4.15.2);

Bachelor of Music Therapy (see 4.15.2);

Bachelor of Fine Arts:
-Acting (see 4.5.2);
-Visual Arts (see 4.21.2);

Bachelor of Social Work (see 4.19.2);

Bachelor of Arts and Science (B.A.S.) (see 3.1.1);

Bachelor of Environmental Studies (B.E.S.) (see 3.1.2);

Bachelor of Forensic Science (B.F.S.) (see 3.1.3);

Bachelor of Arts in Forensics and Criminology (see 3.1.4);

4.1.6 LETTER OF EQUIVALENCY

A student completing a second major area of study in a three-year General Bachelor of Arts program may not receive an additional B.A., but may request a "Letter of Equivalency" upon completion of the program requirements for the major as well as at least five courses beyond the thirty courses required for the B.A. degree.

4.2 General Courses, Faculty of Arts and Social Sciences

The following courses are offered through the Office of the Dean of Arts and Social Sciences. The content and focus of the courses listed span several disciplines, rather than being confined to a single area.

01-101. Language and Reading for Liberal Arts
Basic study of language and reading skills. (Must be taken concurrently with 01-102 and 02-102.)

01-102. Writing and Reasoning for Liberal Arts
Basic study of writing and reasoning skills. (Must be taken concurrently with 01-101 and 02-102.)

01-110. Ways of Knowing
This course investigates a topic through the lens of a variety of perspectives representing the range of learning at the university. Students will see the way specific viewpoints, for example from the arts, sciences, or social sciences, provide very different insights into our world. This course combines classroom instruction with a workshop component in which students will develop the skills of inquiry to explore the world around them. They will have the opportunity to work with senior student mentors and a variety of community and university resources. The topic for each year will be announced in advance and might include: space, time and place; identity and voice; isolation and community; or creativity and invention. (Restricted to students in Semesters 1 and 2 of programs in the Faculty of Arts and Social Sciences.) (Also offered as 02-110.) (1.5 lecture/1.5 tutorial hours a week.)

01-120. Introduction to Biblical Hebrew I
An introduction to the alphabet, orthography, vocalization, and basic grammar of biblical Hebrew. Emphasis on elementary reading skills.

01-121. Introduction to Biblical Hebrew II
A study of biblical Hebrew grammar and reading of selected prose passages from the Hebrew bible. (Prerequisite: 01-120 or consent of the instructor.)

01-150. Effective Writing
A basic course designed to develop effective writing skills for communicating ideas in academic and other tasks. Topics will include: the audience; the writing process; conventions of different prose forms. This is not an ESL course. (Also offered as 02-150.) (1 lecture/2 lab hours a week.)

01-190. First-Year Seminars
First-Year Seminars delve deeply into particular problems or topics related to the research interests of the instructor. The Seminars are designed to provide closer interaction with an instructor in a challenging intellectual environment in which students are introduced to the issues, literature, and study methods of the topic area. (Restricted to students in Semesters 1 and 2 of programs in the Faculty of Arts and Social Sciences.) (May not be used to satisfy Major requirements for programs in the Faculty of Arts and Social Sciences.) (May not be repeated for credit.) (Also offered as 02-190.) (3 lecture hours a week.)

01-204. Health-Care Ethics through the Life-Span
Explores ethical issues of general interest which arise during the lifespan, from conception until death, including methods to prevent contraception, methods to aid in reproduction, medical treatment for children, organ transplantation, research on human subjects, foregoing life-sustaining treatment, advance directives, assisted suicide, and euthanasia. This course is not directed specifically to health professionals.

01-207. Health-Care Ethics: Professions and Health Policy
The relationships of individuals, professions, and governments to the health-care system and to public health policy are explored. Normative concepts and dominant metaphors are examined, as well as factors which support ethically responsible individuals and organizations. These factors include the commitment to ethical standards, the role of ethics consultation, organizational ethics policies, and on-going ethics education.

01-208. The Ethics of Everyday Life
Examines the ethical dimensions of how we conduct ourselves in our family life, workplace, and as citizens. Topics may include: the food we eat; conceiving and raising children; consumer/business issues; sports; employment; and care of the elderly.

01-209. Ethics in the Professions
Examines what constitutes a profession, its legitimacy, and its authority from society. The responsibilities of professionals to their clients, professions, and society are mapped. Codes of ethics and other statements of ethical standards, conflict of interest, and the roles of regulatory bodies and governments are examined and related to practice through relevant case studies.

01-212. Science and Technology: Religious Perspectives
Issues raised by the impact of science and technology in the modern world. In judging the benefits and detriments, the advantages and disadvantages of science and technology, what role do religious perspectives play? Why do science and technology take the direction they do? Can we effectively influence their direction for greater human benefit?

01-250. Exploring the Hebrew Scriptures
An introduction to reading Hebrew biblical literature. Develops the basic skills for investigating literary, historical, and religious dimensions of the text and uses these skills to explore passages selected from the Torah, Prophets, and Writings.

01-252. The Social World of Ancient Israel
An examination of the society of ancient Israel, focusing on the role of religion in the formation and development of the community from the exodus and the tribal confederacy, through the monarchy, to the emergence of Judaism in the post-exilic period. (This course is recommended to be preceded or accompanied by 01-250.)

01-360. Principles and Practices of Arts Administration
Structures of arts organizations. Examination of core competencies as applied to arts organizations: fund raising, board and volunteer management, labour-management issues, program and publicity design, marketing and promotion, computer applications.

01-400. Mentorship and Learning
An intensive exploration of the theory and practice of learning and leadership by mentoring first year students. Students will mentor first-year students taking the Ways of Knowing interdisciplinary course. They will meet regularly with a group of first-year students and help them complete assignments involving various activities to assist in developing their problem-solving skills. They will also study theories of learning and leadership and engage in seminar discussions. The course will run over two semesters. (Restricted to students in the Faculty of Arts and Social Sciences with at least Semester 5 standing, with consent of the instructor.) (A two-semester, 6-credit course.) (Also offered as 02-400.) (2 lecture/4 lab hours a week.)

02-100. Introduction to Canadian Studies
This course emphasizes the transition of Canada from a European colonial society to an immigrant, multicultural society. A multidisciplinary approach will be taken in dealing with the specific problems facing Canada today.

02-101. The Transition to University
An introduction to the purposes and processes of university education, emphasizing the skills and strategies needed to make a successful transition to the academic and cultural environment of the University of Windsor. (Open to Semester 1 and Semester 2 students only.) (3 lecture hours a week.)

02-102. Quantitative Reasoning for Liberal Arts
Basic study of quantitative operations and logic. (Must be taken concurrently with 01-101 and 01-102.)

02-110. Ways of Knowing
This course investigates a topic through the lens of a variety of perspectives representing the range of learning at the university. Students will see the way specific viewpoints, for example from the arts, sciences, or social sciences, provide very different insights into our world. This course combines classroom instruction with a workshop component in which students will develop the skills of inquiry to explore the world around them. They will have the opportunity to work with senior student mentors and a variety of community and university resources. The topic for each year will be announced in advance and might include: space, time and place; identity and voice; isolation and community; or creativity and invention. (Restricted to students in Semesters 1 and 2 of programs in in the Faculty of Arts and Social Sciences.) (Also offered as 01-110.) (1.5 lecture/1.5 tutorial hours a week.)

02-150. Effective Writing
A basic course designed to develop effective writing skills for communicating ideas in academic and other tasks. Topics will include: the audience; the writing process; conventions of different prose forms. This is not an ESL course. (Also offered as 01-150.) (1 lecture/2 lab hours a week.)

02-190. First-Year Seminars
First-Year Seminars delve deeply into particular problems or topics related to the research interests of the instructor. The Seminars are designed to provide closer interaction with an instructor in a challenging intellectual environment in which students are introduced to the issues, literature, and study methods of the topic area. (Restricted to students in Semesters 1 and 2 of programs in the Faculty of Arts and Social Sciences.) (May not be used to satisfy Major requirements for programs in the Faculty of Arts and Social Sciences.) (May not be repeated for credit.) (Also offered as 01-190.) (3 lecture hours a week.)

02-250. Basic Quantitative Methods in the Social Sciences
Introduction to measurement of variables, organization and description of numerical data, testing hypotheses, inference, and interpretation of findings in the Social Sciences. Topics include descriptive statistics, normal distribution, probability, sampling, hypothesis testing, t-tests, correlation, and chi-square tests. (Antirequisite: 65-205, 65-250, 65-251, 73-105, 73-205, and 85-222.)

02-260. Creating with the Computer
Introduction to creating graphics, music, and interactive applications. Students will learn the basics of each type of application and then produce work in an area of interest in a studio environment. (Open to Arts and Social Science students only.)

02-300. Remembering Canada in the Global Village
An examination of how Canada was constructed as a modern technological society. The course explores how this has been critically analyzed in terms of dependency, both economic and cultural, challenges the analysis, and presents other images and possibilities for being Canadian in the emerging global technological order.

02-400. Mentorship and Learning
An intensive exploration of the theory and practice of learning and leadership by mentoring first year students. Students will mentor first-year students taking the Ways of Knowing interdisciplinary course. They will meet regularly with a group of first-year students and help them complete assignments involving various activities to assist in developing their problem-solving skills. They will also study theories of learning and leadership and engage in seminar discussions. The course will run over two semesters. (Restricted to students in the Faculty of Arts and Social Sciences with at least Semester 5 standing, with consent of the instructor.) (A two-semester, 6-credit course.) (Also offered as 01-400.) (2 lecture/4 lab hours a week.)

4.3 Classical and Modern Languages, Literatures, and Civilizations

(Ext. 2873)

OFFICERS OF INSTRUCTION

Professors Emeriti

Fantazzi, Charles; A.B., M.A. (Catholic U. of America), Ph.D. (Harvard)-1960. (Classics and Italian)

Bertman, Stephen; B.A. (New York), M.A. (Brandeis), Ph.D. (Columbia)-1967. (Classics)

Bird, Harry W.; B.A., Dipl.Ed., M.A. (Cambridge), M.A. (McMaster), Ph.D. (Toronto)-1969. (Classics)

Mehta, Mahesh; B.A., M.A., LL.B., Ph.D. (Bombay)-1969. (Asian Studies)

Sarkar, Kalyan Kumar; B.A., M.A. (Calcutta), Ph.D. (Paris)-1970. (Oriental Studies)

Professors

Whitney, Barry L.; B.A. (Carleton), Ph.D. (McMaster)-1976. (Religion and Culture)

Associate Professors

Temelini, Walter J.; B.A., M.A., Ph.D. (Toronto)-1970. (Italian)

Wendt-Hildebrandt, Susan; B.A., M.A., Ph.D. (Michigan)-1977. (German)

Lage, Dietmar; B.A. (Manitoba), M.A., Ph.D. (McGill)-1983. (Religion and Culture) (Head of the Department of Languages, Literatures, and Cultures/Langues, littératures et cultures)

Feldman, Linda; B.A., M.A., Dipl.Ed., Ph.D. (McGill)-1991. (German)

Vitale, Rosanna; B.A. (Loyola of Montreal), M.A. (Western Ontario), Ph.D. (California, Santa Barbara)-1992. (Italian and Spanish)

Assistant Professors

Nelson, Max; B.A. (Windsor), M.A. (Ottawa), Ph.D. (British Columbia)-2002. (Classics)

Weir, Robert; B.A. (British Columbia), M.A., Ph.D. (Princeton)-2002. (Classics)

Fagan, Patricia; B.A., M.A., Ph.D. (Toronto)-2002. (Classics)

4.3 CLASSICAL AND MODERN LANGUAGES, LITERATURES, AND CIVILIZATIONS (01-)

Lecturer

Gutierrez, Xavier; B.A., M.A. (Barcelona), A.B.D. (New Brunswick)-2002. (Spanish)

4.3.1 PROGRAM REGULATIONS

Classical Studies are devoted to the examination, analysis, and understanding of the languages, literatures, and history of the ancient Near East, Greece and Rome, and to an exploration of their cultural and linguistic legacies to modern society.

The Modern Languages program is devoted to the study and analysis of world languages in the context of their literary and cultural traditions. In addition to providing the opportunity to learn a new language and explore another culture, the Modern Languages Program focuses on Second Language Education, which explores the process through which a second language is learned. Such knowledge enables our students to become more effective language students and language teachers.

The Multicultural Studies program is based on the study of world languages, literatures, and civilizations in the context of Canadian diversity and world pluralism.

Not all courses listed (see below, 4.3.3 to 4.3.10) will be offered in each term. The programs reserve the right to limit enrollment in language courses and to place students in courses deemed appropriate to their level of language competence.

Native speakers must consult a program advisor for placement. All majors should plan their programs in consultation with an advisor.

Language courses numbered 100/101, 200/201, 220/221, and 300/301 must be taken in sequence unless special permission is obtained from a program advisor.

4.3.2 PROGRAMS OF STUDY

Minor, general, combined general, Honours, and combined Honours degree programs are offered in Classical Studies.

Minor, general, combined general, Honours and combined Honours degree programs are offered in Modern Languages, with German, Spanish, and Italian language options.

In Multicultural Studies, a minor, a combined general degree, and a general degree program are offered.

A minor in Latin American Studies is offered jointly with History and Sociology and Anthropology.

Minor Requirements

Modern Languages: four language courses in one language area plus two civilization and/or literature courses in the same area.

Classical Studies: six courses in Classical Studies, with no more than four at the 100-level.

Minor in Latin American Studies

Required: six courses, including two of 23-261, 43-272, 48-330 (or 49-330); two of 23-331, 43-271, 43-462, 48-226 (or 49-226), 48-227, 48-232 (or 49-232), 48-352 (or 49-352), 48-411 (or 49-411); and 23-100 and 23-101, or two higher level courses in Spanish language (as appropriate).

CLASSICAL STUDIES

Requirements for degree programs in Classical Studies make reference to the following groups of courses:

Classical Civilization: 11-160, 11-161, 11-162, 11-211, 11-212, 11-221, 11-222, 11-229, 11-265, 11-266, 11-280, 11-330, 11-350, 11-370, 11-371, 11-460.

Greek and Roman History: 12-262, 12-263, 12-271, 12-272.

Greek Language: 13-100, 13-101, 13-200, 13-201.

Greek Literature: 13-450.

Latin Language: 14-100, 14-101, 14-200, 14-201.

Latin Literature: 14-450.

Philosophy 34-270 and 34-271 (Greek Philosophy) will be accepted toward the B.A. degree in Classical Civilization in lieu of courses in Classical Studies.

General Classical Civilization

Total courses: thirty.

Major requirements: thirteen courses in Classical Civilization (11-), Greek and Roman History (12-), Greek Language and Literature (13-), or Latin Language and Literature (14-), including 07-220, 11-161, 11-162; plus two of 13-100, 13-101, 13-200, 13-201, 14-100, 14-101, 14-200, and 14-201; and at least one course in each of any three of the following four areas:

(a) Art and Archaeology: 11-265, 11-266;
(b) Greek and Roman History: 12-262, 12-263, 12-271, 12-272;
(c) Literature: 11-211, 11-212, 11-221, 11-222, 11-350;
(d) Mythology and Religion: 11-229, 11-370, 11-371.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) three other courses from Arts, Languages, Social

Sciences, or Science, including Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature;
(b) two more courses from Arts, Languages, Social Sciences, or Science, excluding Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature;
(c) six courses from any area of study excluding Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature.

Honours Classical Civilization (Greek or Latin Option)

Total courses: forty.

Major requirements: twenty courses, consisting of four Greek or Latin Language and Literature courses; plus 07-220, 11-161, 11-162; and thirteen additional Classical Civilization (11-), Greek and Roman History (12-), Greek Language and Literature (13-), or Latin Language and Literature (14-) or Greek Philosophy courses (34-270 and/or 34-271), including at least one in each of the following four areas:
(a) Art and Archaeology: 11-265, 11-266;
(b) Greek and Roman History: 12-262, 12-263, 12-271, 12-272;
(c) Literature: 11-211, 11-212, 11-221, 11-222, 11-350;
(d) Mythology and Religion: 11-229, 11-370, 11-371.

Option requirements (see 2.4.14 for subject areas): six courses including
(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:
(a) four other courses from Arts, Languages, Social Sciences, or Science, including Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature;
(b) four more courses from Arts, Languages, Social Sciences, or Science, excluding Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature;
(c) six courses from any area of study, excluding Classical Civilization, Greek and Roman History, Greek Language and Literature, and Latin Language and Literature.

Combined Honours Classical Civilization

Total courses: forty.

Major requirements-Classical Studies: seventeen courses in Classical Civilization (11-), Greek and Roman History (12-), Greek (13-) or Latin (14-) Language and Literature or Greek Philosophy (34-270 and/or 34-271), including 07-220, 11-161 and 11-162; plus four of 13-100, 13-101, 13-200, 13-201, 14-100, 14-101, 14-200, and 14-201; and at least one course in each of the following four areas:
(a) Art and Archaeology: 11-265 or 11-266;
(b) Greek and Roman History: 12-262, 12-263, 12-271, 12-272;
(c) Literature: 11-211, 11-212, 11-221, 11-222, or 11-350;
(d) Mythology and Religion: 11-229, 11-370 or 11-371.

Major requirements-Other Subject: as prescribed by that program.

Option requirements (see 2.4.14 for subject areas): six courses including
(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements: plus additional options, if necessary, to a total of forty courses.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 11-162, 07-220, two of 13-100, 13-101, 13-200, 13-201, 14-100, 14-101, 14-200, 14-201, at least one course each in any three of the following areas:
Art and Archeology: 11-265, 11-266
Greek and Roman History: 12-262, 12-263, 23-271, 12-272
Literature: 11-212, 11-221, 11-350, 11-351
Mythology and Religion: 11-229, 11-370, 11-371
Plus, any five Classics courses (prefix 11-, 12-, 13-, 14-)

Minor Concentration: six courses in Classics (prefix 11-, 12-, 13-, 14-) with no more than four at the 100-level; and at least one at the 300-level or above.

MODERN LANGUAGES

General Modern Languages

Total courses: thirty.

Major requirements: thirteen courses, including

(a) 07-120, 07-220, 08-160;
(b) 07-234 or 15-230 or 21-230 or 23-230 (these are cross-listed);
(c) seven language courses in one language option area, including 15-210 and 15-211 for German, 21-225 and 21-226 for Italian, and 23-205 and 23-206 (to be introduced for 2004/05) for Spanish; native speakers may not take 15-210, 15-211, 21-225, 21-226, 23-205, 23-206 and will substitute courses in consultation with a program advisor;
(d) one civilization courses in the language option area;
(e) one further language or civilization courses in the language option area.

4.3 CLASSICAL AND MODERN LANGUAGES, LITERATURES, AND CIVILIZATIONS (01-)

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) four more courses from Arts, Languages, Social Sciences, or Science, including German, Italian, or Spanish;
(b) two more courses from Arts, Languages, Social Sciences, or Science, excluding the area of the language option;
(c) five courses from any area of study, excluding the area of the language option.

Combined General Modern Languages

Total courses: thirty.

Major requirements: twenty-three courses, including 07-120, 07-220, and 08-160, and ten courses in each of two language areas as outlined above for the General Modern Languages degree.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) one more course from any area of study, including Classical and Modern Languages.

Combined General Modern Languages and Multicultural Studies

Total courses: thirty.

Major requirements: twenty-three courses, including 07-120 and the twelve courses prescribed below for the General Multicultural Studies degree; plus ten courses in one language area as prescribed above for the General Modern Languages degree. Courses in the chosen language area may not be used to satisfy the requirements of the Multicultural Studies component.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) one more course from any area of study, including Classical and Modern Languages.

Combined General Classics and Modern Languages

Total courses: thirty.

Major requirements: twenty-four courses, including 07-120, and ten courses in one language area as prescribed above in the General Modern Languages degree; plus the thirteen courses prescribed above for the General Classical Civilization degree.

Option requirements (see 2.4.14 for subject areas):

(a) two courses from Social Sciences;
(b) two courses from Science;
(c) two courses from Arts, Languages, Social Sciences, or Science. These need not be selected from the same category.

Honours Modern Languages and Second-Language Education with Two Language Options

Total courses: forty

Major requirements: thirty-one courses, including:

(a) 07-120, 07-220, 07-320, 07-321*, 07-420*, and 08-160;
(b) Eighteen language courses (nine language courses in each of two option areas) including 15-210 and 15-211 for German, 21-225 and 21-226 for Italian, and 23-205 and 23-206 for Spanish, and at least two language courses at the 300-level. Native speakers may not take 15-210, 15-211, 21-225, 21-226, 23-205, 23-206 and will substitute courses in consultation with a program advisor; native speakers of Spanish will substitute 23-320 for 23-205 and a 300-level language course for 23-20;.
(c) two civilization courses in each language option area;
(d) three literature courses: 07-234; 07-334*; 07-434*.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) three further courses from any area of study, including Classical and Modern Languages.

*To be introduced in the 2006/2008 calendar.

Suggested Program Sequencing

Year 1: two language courses each in language option area; 08-160; 07-120; Civilization course in a language option area; options to a total of 10 courses for the year.

Year 2: two language courses in language option area; 07-234; 07-220;

Civilization course in a language option area; options to a total of 10 courses for the year.

Year 3: two or three language courses in each language option area; 07-320; 07-334; options to a total of 10 courses for the year.

Year 4: two or three language courses in language option area; 07-321; 07-420; 07-434; further required or free options as necessary to a total of 10 courses for the year.

Honours Modern Languages and Second-Language Education

Total courses: forty

Major requirements: twenty-four courses, including:

(a) 07-120, 07-220, 07-320, 07-321*, 07-420*, and 08-160;
(b) Nine language courses in area of language option including 15-210 and 15-211 for German or 21-225 and 21-226 for Italian, or 23- 205 and 23-206 for Spanish and at least two language courses at the 300-level. Native speakers may not take 15-210, 15-211, 21-225, 21-226, 23-205, 23-206 and will substitute courses in consultation with a program advisor; native speakers of Spanish will substitute 23-320 for 23-205 and a 300-level language course for 23-206;
(c) two civilization courses in the area of the option;
(d) three literature courses: 07-234; 07-334*; 07-434*
(e) two further courses in another language offered in Languages, Literatures, and Cultures;
(f) two courses from any area of Modern Languages.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) ten courses from any area of study, excluding the area of the language option.

*To be introduced in the 2006/2008 calendar.

Suggested Program Sequencing/Progression

Year 1: two language courses in language option area; 08-160; 07-120; Civilization course in language option area; a required option; four further options.

Year 2: two language courses in language option area; 07-234; 07-220; Civilization course in language option area; a required option; four further options.

Year 3: two or three language courses in language option area; 07-320; required or free options to a total of 10 courses for the year.

Year 4: two or three language courses in language option area; 07-321; 07-420; 07-434; further required or free options as necessary to total 10 courses for the year.

Combined Honours Modern Languages

Total courses: forty.

Major requirements: seventeen courses, including

(a) 07-120, 07-220, 07-320, 08-160;
(b) 07-234 or 15-230 or 21-230 or 23-230 (these are cross-listed);
(c) eight language courses in one language option area, including 15-210 and 15-211 for German, 21-225 and 21-226 for Italian, and 23-205 and 23-206 for Spanish; native speakers may not take 15-210, 15-211, 21-225, 21-226, 23-205, 23-206 and will substitute courses in consultation with a program advisor;
(d) two civilization courses in the language option area;
(e) two literature courses in the language option area.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) additional options, if necessary, to a total of forty courses.

Combined Honours Modern Languages with Two Language Options

Total courses: forty.

Major requirements: thirty-two courses, including

(a) 07-120, 07-220, 07-320, 08-160;
(b) 07-234 or 15-230 or 21-230 or 23-230 (these are cross-listed);
(c) eight language courses in each of two language option areas, including 15-210 and 15-211 for German, 21-225 and 21-226 for Italian, and 23-205 and 23-206 for Spanish; native speakers may not take 15-210, 15-211, 21-225, 21-226, 23-205, 23-206 and will substitute courses in consultation with a program advisor;
(d) two civilization courses in each language option area;
(e) two literature courses (one each at the 300- and 400-level);
(f) five further language, literature, or civilization courses from any area in Modern Languages (does not need to be from one language option area only).

4.3 CLASSICAL AND MODERN LANGUAGES, LITERATURES, AND CIVILIZATIONS (01-)

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) two additional courses from any area of study, including Classical And Modern Languages.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 07-120, 07-220, 08-160; seven language courses in one language option area (including for German option, 15-210 and 15-211; for Italian option, 21-225 and 21-226; for Spanish, 23-205 and 23-206. Native speakers of these languages will not be allowed to take these courses and will substitute courses in consultation with a program advisor.); two civilization courses in the area of the language option. At least four courses must be at the 300-level or above.

Minor Concentration: four language courses in one language option area, plus two civilization and/or literature courses in the area of the language option.

MULTICULTURAL STUDIES

Minor in Multicultural Studies

Required: 08-160 and one of 07-235 or 11-350, plus four civilization courses chosen from Classics, French, German, Italian, and Spanish (in any combination).

General Multicultural Studies

Total courses: thirty.

Major requirements: twelve courses, including:

(a) 08-160 and one of 07-235 or 08-260;
(b) six courses in a single area of concentration (*i.e.*, Classical Studies, German language, Italian language, Spanish language, or French language), consisting of four courses in the same language and two courses in its civilization (Note: In the case of French, 29-260, 29-270, four language courses above the 29-114 or Grade 12"U" level or equivalent are required.);
(c) two additional civilization courses in an area of study other than that chosen in (b);
(d) two more civilization courses in an area of study other than as taken in (b) or (c); or a civilization course from an area other than as taken in (b) or (c) and 08-350/11-350/21-350, "The Classical Tradition."

Civilization courses are listed separately in each area and are numbered in the ranges 160-189, 260-289, and 360-389.

Option requirements (see 2.4.14 for subject areas): six courses including:

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) five courses from Arts, Languages, Social Sciences, or Science, including any of the offerings in Classical and Modern Languages, Literatures, and Civilizations (06- through 23-), with 08-260 being strongly recommended in addition to the minimum requirement as stated above in "Major requirements," subsection (a);
(b) two more courses from Arts, Languages, Social Sciences, or Science, excluding any of the offerings in Classical and Modern Languages, Literatures, and Civilizations (06- through 23-);
(c) five courses from any area, excluding any of the offerings in Classical and Modern Languages, Literatures, and Civilizations (06- through 23-).

Note: Multicultural Studies majors should consult an advisor for a list of suggested options.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration:

(a) 08-160, and one of 07-235 or 08-260;
(b) six courses in one single area of concentration (*i.e.*, Classical Studies, German, Italian, Spanish, French) consisting of four courses in the language option and two civilization courses in the area of the language option;*
(c) two civilization course outside the area of concentration chosen;
(d) two other civilization courses in an area of study other than as taken in b) and c); or, one civilization course from an area of study other than as taken in b) and c), plus 08-350/11-350/21-350.

*(Note: in the case of French, 29-260, 29-270, and four language courses above the 11-114 or grade 12"U" level or equivalent are required)

Minor Concentration: 08-160, 07-235 or 08-350 or 11-350 or 21-350, plus four civilization courses (Classics, German, Italian, Spanish, French). At least one course must be at the 300-level or above.

4.3.3 COURSE DESCRIPTIONS - ABORIGINAL STUDIES

06-100. Introduction to Ojibwe I

Introduces the basic elements of Ojibwe language structure. Students will learn to converse at a basic level using present, past, and future tenses. The emphasis is on using language for describing typical activities and experiences. Extensive oral practice is provided. One specific orthography will be taught.

06-101. Introduction to Ojibwe II
A continuation of 06-100. (Prerequisite: 06-100 or consent of instructor.)

4.3.4 COURSE DESCRIPTIONS - INTERCULTURAL STUDIES

Culture and Ideas: 07-202, 07-203;
Linguistics: 07-120, 07-220, 07-320;
Literature: 07-234, 07-235;
Religion and Culture: the following courses may be taken as credit toward Religion as teachable subject for the Faculty of Education - 07-100, 07-101, 07-221, 07-222, 07-225, 07-227, 07-228, 07-229, 07-230, 07-231, 07-232, 07-233, 07-322, 07-323, 07-326, 07-360, 07-371.

07-100. Religion and Culture
An introduction to the nature and important functions of religion and religious beliefs in contemporary culture.

07-101. Critical Issues in Religion and Western Culture
Critical issues in religion and religious beliefs in contemporary Western Culture.

07-120. Universals of Language
An introduction to the study of language, including theories on the origin of language, types of language, language families and classification, and sounds systems. (Required of all Modern Languages majors; should be taken in the first year of study.)

07-202. Culture and Ideas: From the Black Death to the Enlightenment
An interdisciplinary, team-taught survey course focussing on major issues and achievements in European civilization from the late Middle Ages to the era of the Enlightenment, including literary, religious, and philosophical writings as well as art and music.

07-203. Culture and Ideas: From the French Revolution to the Present
An interdisciplinary, team-taught survey course focussing on major issues and achievements in Europe and North America in the nineteenth, twentieth, and twenty-first centuries, including development in the visual arts, music, architecture, philosophy, literature and science.

07-220. How Words Work
An introduction to morphology, syntax, and etymology in selected Indo-European languages. (Prerequisites: For Modern Languages majors: 07-120. For Classics majors and other non-language majors: second-year standing.)

07-221. Introduction to Philosophy of Religion
Introduction to some of the issues and debates in religion and culture, such as: traditional religions versus new religions, cults, and the New Age; the dialogue between Christianity and other world religions; challenges to religious belief; the justification of religious beliefs; the problem of evil; religion and science; miracles, immortality, parapsychology.

07-222. Special Topics in Religion and Culture
An examination of important contemporary religious themes and issues. Since content varies from year to year, students may repeat the course for credit, with prior permission.

07-225. Christianity and Contemporary Culture
An examination of major Christian thinkers and movements of the twentieth century.

07-227. Christianity: The Modern Age
Resistance, confrontation, adoption, and adaptation by Christianity of new cultural movements, trends, and ideas during the nineteenth and twentieth centuries.

07-228. Religious Belief in Contemporary Culture
An examination of contemporary theological and philosophical understandings of the attributes and nature of God.

07-229. Ancient Christianity
An examination of the origins of Christianity within Judaism, including the founding of the primitive Church, the spread of the movement during the apostolic period, its transformation by Greek culture, and its persecution by the Roman Empire until the adoption of Christianity as the official state religion. (Also offered as 11-229.)

07-230. Christianity: Early Church to the Reformation
From the fall of the Western Roman Empire, the conversion of Europe, relations between Eastern Greek and Western Latin churches, struggle for supremacy between church and state, rise of monasticism, mysticism, and scholasticism, to the pre-reformation period.

07-231. Christianity: Reformation to the Modern Age
The break-up of Christendom and the founding of new religious denominations during the Protestant Reformation of the sixteenth century; the spread of European culture through colonialism; the impact of new cultural developments in the political, scientific, and economic realms to the nineteenth century.

07-232. Religion in a World of Science
An examination of selected religious themes in literature.

07-233. Religion and Modern Literature
An examination of ultimate human questions concerning life, death, meaning, value, and God, as expressed in selected short stories, novels, popular literature, and/or poetry.

07-234. Introduction to Literature
A general introduction for foreign language students to forms and structures of literary language including a study of genres, styles, and rhetorical figures. Readings will be in English. (Also offered as 15-230, 21-230, 23-230.)

07-235. To Auschwitz and Beyond: Reflections on the Meaning of the Holocaust
An examination of responses to key issues raised by the Holocaust as reflected in postwar culture both in Canada and abroad. (Also offered as 15-235.)

07-236. Surviving Survival: Reflections on Genocide, War and Trauma
An examination of the impact of war, genocide, and trauma on individuals and communities, as reflected in film, literature, and the arts.

07-238. Themes in German Thought and Culture III
The impact of globalization as reflected in literary and non-literary texts and other media. Texts will be read in English. (Prerequisite: 07-234 or 15-230.) (Also offered as 15-338 with texts read in German.)

07-320. Theories of Second Language Education
An introduction to current theories regarding how languages are learned, with a special focus on second language education. (Prerequisites: 07-120 and 07-220,or equivalent; non-majors must have taken 4 courses in one of German, Italian, or Spanish, or obtained consent of instructor.)

07-322. God and Atheism in Western Culture
An examination of claims for belief in God, atheism, and postmodern skepticism, including the nature of religious faith, rational arguments for God's existence, revelation, and religious experience.

07-323. God and Evil in Western Culture
An examination of traditional and contemporary attempts to reconcile the world's suffering and anguish with the existence of God.

07-326. Major Figures in Modern Religious Thought
An examination of religious themes in the thought of significant nineteenth and twentieth-century authors. (Since content varies from year to year, students may repeat this course for credit, with permission.)

07-360. The Reformation
An examination of the religious reformations and counter-reformation of the sixteenth century. (Also offered as German 15-360.)

07-371. Religion in the Ancient World
An introduction to the religions of ancient Greece, Rome, and the Mediterranean world. (Prerequisite: 11-161 or consent of instructor.) (Also offered as 11-371.)

4.3.5 COURSE DESCRIPTIONS - MULTICULTURAL STUDIES

08-160. Foundations of Civilization
A study of the origin and meaning of civilization, including an examination of the values and achievements of the earliest civilizations of the Mediterranean and the Orient in the context of Canadian multicultural reality and policy.

08-260. Perspectives on Multicultural Studies
Guided readings and discussion with a faculty tutor on topics specific to the student's areas of concentration. (Prerequisite: 08-160 or consent of a program advisor in Multicultural Studies.)

08-350. The Classical Tradition
A study of the continuity of the Classics through the ages, the evolution of the various genres, and the impact of the Classics upon the modern world in art, literature, and language. (Prerequisites: Two courses in Classical Civilization or consent of a program advisor in Multicultural Studies.) (Also offered as 11-350 and 21-350.)

4.3.6 COURSE DESCRIPTIONS - ORIENTAL STUDIES

Language: 10-100, 10-101, 10-200.
Oriental Literature, Culture, and Religion: 10-226, 10-317, 10-409.

10-100. Japanese for Beginners I
Provides a co-ordinated approach to the basic language skills of listening, speaking, reading, and writing. The elements of the writing system, Hiragana and Katakana, and a limited number of Chinese characters (Kanji) are progressively introduced. (Laboratory work.) (Only for students with no prior knowledge of Japanese.)

10-101. Japanese for Beginners II
Continuation of 10-100. (Prerequisite: 10-100 or equivalent.)

10-200. Intermediate Japanese I
Review and further study of grammar. Emphasis on mastery of new characters (Kanji) and reading of selected texts. (Laboratory work.) (Prerequisite: 10-101 or equivalent.)

10-226. Yoga
An introduction to the theory and practice of India's greatest achievement in the area of physical, mental, and spiritual awareness. Topics include: psychology of Yoga, postures, breathing practices, relaxation techniques, diet, concentration and meditation, Kundalini, and also Bhakti Yoga, and Karma Yoga (ways of devotion and social action).

10-317. World Religions: Eastern
A comparative introduction to the doctrines, rituals, and ethics of Hinduism, Buddhism, Taoism, Confucianism, Shinto, Zen Buddhism, and selected tribal religions. (Slides and field trips.) (Also offered as Political Science 45-260.)

10-409. Directed Readings in Oriental Studies
(May be repeated for credit with approval of Classical and Modern Languages.)

4.3.7 COURSE DESCRIPTIONS - CLASSICAL STUDIES

CLASSICAL CIVILIZATION

11-160. Land of the Pharaohs
An introduction to the civilization of ancient Egypt. Topics will include Egyptian tombs and their treasures, hieroglyphic writing, the mystery of the pyramids, mummification, religious beliefs, and famous personalities from the Egyptian past.

11-161. Introduction to Greek Civilization
An introduction to the cultural values and achievements of the ancient Greeks. Topics will include geography, history, mythology, and religion, language and literature, art and daily life. (Recommended for prospective Classical Civilization majors.)

11-162. Introduction to Roman Civilization
An introduction to the cultural values and achievements of the ancient Romans. Topics will include geography, history, mythology and religion, language and literature, art and daily life. (Recommended for prospective Classical Civilization majors.)

11-211. Greek Prose
An introduction to ancient Greek prose literature from the fifth century BC to the second century AD, with selected readings in translation. Authors may include historiographers, orators, philosophers, or novelists. Topics may vary from year to year. (May be repeated for credit if content changes.)

11-212. Greek Poetry
An introduction to ancient Greek poetry from the eighth century BC to the second century AD, with selected readings in translation. Authors may include Homer, Hesiod, other early Greek poets, and dramatists (including those of tragedy, comedy, and the satyr play). Topics may vary from year to year. (May be repeated for credit if content changes.)

11-221. Latin Prose
An introduction to ancient Latin prose literature from the 3rd century BC to the 2nd century AD, with selected readings in translation. Authors may include orators, historiographers, novelists, or philosophers. Topics may vary from year to year. (May be repeated for credit if content changes.)

11-222. Latin Poetry
An introduction to ancient Latin poetry from the third century BC to the fourth century AD, with selected readings in translation. Authors may include dramatists, epic poets, elegists or satirists. Topics may vary from year to year. (May be repeated for credit if content changes.)

11-229. Ancient Christianity
An examination of the origins of Christianity within Judaism, including the founding of the primitive Church, the spread of the movement during the apostolic period, its transformation by Greek culture, and its persecution by the Roman Empire until the adoption of Christianity as the official state religion. (Also offered as 07-229.)

11-265. Greek Art and Archaeology
A study of the artistic masterpieces and monuments of ancient Greece. Topics will include the search for Troy, the spirit of Greek sculpture, and Athens in the Golden Age. Presented with colour slides. (Prerequisite: 11-161 or consent of instructor.)

11-266. Roman Art and Archaeology
A study of the artistic masterpieces and monuments of ancient Rome. Topics will include the tombs of the Etruscans, the treasures of Pompeii and Rome in the days of the Caesars. Presented with colour slides. (Prerequisite: 11-162 or consent of instructor.)

11-280. Topics in Classical Culture
A thematic examination of a single social historical topic in Greco-Roman antiquity. Topics may vary from year to year. (May be repeated for credit if content changes.)

11-330. The Ancient World on the Screen
An exploration of modern depictions of ancient Greece and Rome in movies and/or on television. (Prerequisite: two courses in Classical Civilization or consent of instructor.)

11-350. The Classical Tradition
A study of the continuity of the Classics through the ages, the evolution of the various genres, and the impact of the Classics upon the modern world in art, literature, and language. (Prerequisites: Two courses in Classical Civilization or consent of instructor.) (Also offered as 08-350 and 21-350.)

11-370. Greek Mythology
The myths and legends of ancient Greece, with particular attention to the heroic, tragic, and erotic elements. Modern theories about the nature and function of myths are employed in analyzing the Greek tales. (Prerequisite: 11-161 or consent of instructor.)

11-371. Religion in the Ancient World
An introduction to the religions of ancient Greece, Rome, and the Mediterranean world. (Prerequisite: 11-161 or consent of instructor.) (Also offered as 07-371.)

11-460. Directed Readings in Classical Civilization
Designed for the advanced student who wishes to explore a special area of interest with the aid of a faculty advisor. (May be repeated for credit if content changes.) (Hours by arrangement.)

GREEK AND ROMAN HISTORY

12-262. Greek History I: to the End of the Classical Period
This course is an illustrated survey of the historical and social development of Greek civilization from the Neolithic period (circa 6000 BC) to the death of Alexander the Great (323 BC), with particular emphasis on the political history of Athens in the 6th through 4th centuries BC. Selected readings of Greek texts in translation examine particular events or themes in greater depth. (Prerequisite: 11-161 or consent of instructor.)

12-263. Greek History II: To the End of the Hellenistic Period
This course is an illustrated survey of the historical and social development of Greek civilization from the time of Alexander the Great's conquests (326-323 BC) to Rome's annexation of the last major Greek kingdom, Cleopatra's Egypt, in 30 BC. The continuing role of Greek cities under the Roman Empire can also be examined. Selected readings of Greek texts in translation examine particular events or themes in greater depth. (Prerequisite: 11-161 or consent of instructor.)

12-271. Roman History I: To the End of the Republic
An exploration of Roman social and political history from Rome's earliest foundations to the collapse of the Republic (1000-27 BC). (Prerequisite: 11-162 or consent of instructor.)

12-272. Roman History II: To the End of the Empire
An exploration of Roman social and political history from the establish-

ment of the Empire by Augustus to its fall (27 BC - AD 576). (Prerequisite: 11-162 or consent of instructor.)

GREEK LANGUAGE AND LITERATURE

13-100. Introduction to Ancient Greek I
Designed to equip the beginner with the basic skills needed for reading ancient Greek literature, including the New Testament.

13-101. Introduction to Ancient Greek II
Designed to equip the beginner with the basic skills needed for reading ancient Greek literature, including the New Testament. (Prerequisite: 13-100.)

13-200. Intermediate Greek I
Review of vocabulary and grammar. Readings from classical prose, poetry, or the New Testament. (Prerequisite: 13-101.)

13-201. Intermediate Greek II
Continuation of 13-200. (Prerequisite: 13-200.)

13-450. Directed Readings in Greek Literature
Designed for the student who wishes to explore a special area of interest with the aid of a faculty advisor. (May be repeated for credit if content changes.) (Hours by arrangement.)

LATIN LANGUAGE AND LITERATURE

14-100. Introductory Latin I
Designed for the student with little or no background in Latin. Emphasis on attainment of reading skills prerequisite for Latin courses numbered 200- and above, and for practical use in theology, philosophy, medieval studies, linguistics, and comparative literature.

14-101. Introductory Latin II
Continuation of 14-100. (Prerequisite: 14-100 or consent of an advisor in Classics.)

14-200. Intermediate Latin I
Designed for students who have previously studied Latin at school or have completed Latin 14-101. Review of forms, syntax, and grammar. Selected passages from the works of Latin authors may be read.

14-201. Intermediate Latin II
Review of forms, syntax, and grammar. Selected passages from the works of Latin authors. (Prerequisite: 14-200 or consent of an advisor in Classics.)

14-450. Directed Readings in Latin Literature
Designed for the student who wishes to explore a special area of interest with the aid of a faculty advisor. (May be repeated for credit if content changes.) (Hours by arrangement.)

4.3.8 COURSE DESCRIPTIONS - GERMAN LANGUAGE OPTION

Requirements for degree programs in German make reference to the following groups of courses:

German Language: 15-100, 15-101, 15-200, 15-210, 15-211, 15-220, 15-221, 15-300, 15-301, 15-310, 15-311, 15-312, 15-329. (Laboratory work may be required in language courses.)

German Literature: 07-234, 07-235, 15-230, 15-235, 15-336, 15-337, 15-338, and 15-490. (Certain literature courses may be taken twice for credit, provided that the subject matter differs. 15-211 or consent of a program advisor are prerequisite for 300- and 400-level literature courses. Unless otherwise noted in the Calendar or course outline, all literature courses at the 300 or 400 level will be taught in German.)

German Civilization: 15-260, 15-261, 15-360.

15-100. German for Beginners I
Basic skills of listening, speaking, reading, and writing. (Only for students with no prior knowledge of German.)

15-101. German for Beginners II
A continuation of 15-100. Basic skills of listening, speaking, reading, and writing. (Prerequisite: 15-100 or consent of a program advisor.)

15-103. German for Reading Knowledge
A skill-based introductory course that conveys a reading knowledge of German in one semester. Ideal for students seeking a one-term foreign language option or rapid access to German-language texts in their field of study. Students taking this course can proceed to 15-210. (Antirequisites: 15-100 or a German language course at a more advanced level or prior knowledge of German.)

15-200. Intermediate German I
Review and further development of basic skills. (Prerequisite: 15-101 or equivalent.)

15-210. German Conversation
A course to develop oral and aural skills. (Prerequisite: 15-200 or consent of a program advisor.)

15-211. An Introduction to German Texts
A course to develop reading and writing skills. (Prerequisite: 15-200 or consent of a program advisor.)

15-220. Intermediate German III
Continued development of written and spoken German. (Prerequisite: 15-200, or Grade 12"U" German, or equivalent.)

15-221. Intermediate German IV
Continuation of 15-220. (Prerequisite: 15-220, or consent of a program advisor.)

15-230. Introduction to Literature
A general introduction for foreign language students to forms and struc-

tures of literary language including a study of genres, styles, and rhetorical figures. Readings will be in English and in German. (Also offered as 07-234, 21-230, 23-230.) (Prerequisite: 15-200, or Grade 12"U" German, or equivalent, or consent of a program advisor.)

15-235. To Auschwitz and Beyond: Reflections on the Meaning of the Holocaust
An examination of responses to key issues raised by the Holocaust as reflected in postwar culture both in Canada and abroad. (Also offered as 07-235.)

15-260. German Culture and Civilization I: From Ancient Tribes to 1650
An interdisciplinary introduction to political, social, and cultural developments in Germanic territories from ancient times to the 1650's. (Taught in English. No prerequisites.)

15-261. German Culture and Civilization II: From 1650 to the Present
An interdisciplinary introduction to political, social, and cultural developments in Germanic territories from the 1650's to the present. (Taught in English. No prerequisites.)

15-300. Advanced German I
Further study of grammar and syntax. (Prerequisite: 15-221 or equivalent.)

15-301. Advanced German II
Continuation of 15-300. (Prerequisite: 15-300, or consent of a program advisor.)

15-310. German for Business Purposes
(Prerequisite: 15-221 or consent of a program advisor.)

15-311. Translation for Business Purposes
(Prerequisite: 15-221 or consent of a program advisor.)

15-312. History and Development of the Germanic Languages
(Taught in English.)

15-329. Special Topics in German Language
(May be repeated for credit if content changes.)

15-336. Themes in German Thought and Culture I
The individual and society as reflected in literary and non-literary texts and other media. (Prerequisite: 15-230.)

15-337. Themes in German Thought and Culture II
Visions of the nation in the German-speaking world as reflected in literary and non-literary texts and other media. (Prerequisite: 15-230.)

15-338. Themes in German Thought and Culture III
The impact of globalization as reflected in literary and non-literary texts and other media. (Prerequisite: 15-230.) (Also offered as 07-238)

15-360. The Reformation
An examination of the religious reformations and counter-reformation of the sixteenth century. (Also offered as 07-360.)

15-490. Directed Readings in Germanic Studies
(Prerequisite: 15-211 or consent of a program advisor.)

4.3.9 COURSE DESCRIPTIONS - ITALIAN LANGUAGE OPTION

Requirements for degree programs in Italian make reference to the following groups of courses:

Italian Language: 21-100, 21-101, 21-200, 21-220, 21-221, 21-225, 21-226, 21-300, 21-301, 21-310, 21-311. (Laboratory work may be required in language courses.)

Italian Literature: 07-234, 21-230, 21-231, 21-331, 21-348, 21-350, 21-356, 21-450, 21-490. (Certain literature courses may be taken twice for credit, provided that the subject matter differs. Either 21-200 or consent of a program advisor is a prerequisite for 300-and 400-level literature courses taught in Italian.)

Italian Civilization: 21-260, 21-261.

21-100. Italian for Beginners I
Basic language skills of listening, speaking, reading, and writing. (Only for students with no prior knowledge of Italian.)

21-101. Italian for Beginners II
Continuation of 21-100. (Prerequisite: 21-100 or consent of a program advisor.)

21-200. Intermediate Italian I
Review of grammar and further development of basic language skills. Written work, conversation, and readings. (Prerequisite: 21-101 or equivalent.)

21-220. Intermediate Italian III
Continued development of written and spoken Italian. Grammar review and readings. (Prerequisite: 21-200, or Grade 12"U" Italian, or equivalent, or consent of a program advisor.)

21-221. Intermediate Italian IV
Continuation of 21-220. (Prerequisite: 21-220 or equivalent.)

21-225. Italian Conversation: The Personal Sphere
Focuses on Italian vocabulary and language techniques necessary for conducting and discussing in Italian the student's daily, personal life, with pronunciation review as needed. (Prerequisite: 21-200 or permission of the instructor. Native speakers must consult with the instructor.)

21-226. Italian Conversation: The World Around Us
Focuses on Italian vocabulary and language techniques for reacting to and interacting with the world around us, with pronunciation review as needed. (Prerequisite: 21-200 or permission of the instructor. Native speakers must consult with the instructor.)

21-230. Introduction to Literature
A general introduction for foreign language students to forms and structures of literary language including a study of genres, styles and rhetorical figures. Readings will be in English and in Italian. (Also offered as 07-234, 15-230, 23-230.) (Prerequisite: Grade 12"U" Italian or equivalent, 21-200, or consent of a program advisor.)

21-231. Introduction to Italian Literature
A survey of major literary and intellectual movements, with readings of some representative literary works in Italian. Various aspects of genre, style, rhetorical devices and metrics will also be studied. (Prerequisite: 21-200 or equivalent.)

21-260. Italian Culture and Civilization I
The cultural traditions of Italy from early times to the end of the Middle Ages. (Taught in English.) (Italian majors will be expected to do assigned work in Italian.)

21-261. Italian Culture and Civilization II
The cultural traditions of Italy from the Renaissance to modern times. (Taught in English.) (Italian majors will be expected to do assigned work in Italian.)

21-300. Advanced Italian I
Further study of phonology, morphology, and syntax. (Prerequisite: 21-221 or equivalent.)

21-301. Advanced Italian II
Continuation of 21-300. (Prerequisite: 21-300 or equivalent.)

21-310. Italian Translation
(Prerequisite or Corequisite: 21-300.)

21-311. From the Text to the Rule
The reading and analysis of representative texts chosen from a variety of sources (literature, journalism, advertising, *etc.*). (Prerequisite: 21-221 or consent of a program advisor.)

21-331. Literature and Thought of the Twentieth Century
Readings from Verga, Pirandello, Svevo, D'Annunzio, Moravia, Pratolini, Pavese, Calvino, and selections from modern poetry. Focus of the course may vary. (May be repeated for credit once if content changes.)

21-348. Literature and Thought from the Seventeenth to the Nineteenth Century
Focus of the course may vary. (May be repeated for credit with permission.)

21-350. The Classical Tradition
A study of the continuity of the Classics through the ages, the evolution of the various genres, and the impact of the Classics upon the modern world in art, literature, and language. (Prerequisites: Two courses in Italian Literature or consent of a program advisor.) (Also offered as 08-350 and 11-350.)

21-356. Renaissance Thought and Literature
Focus of the course may vary. (Students may repeat this course for credit with permission.) (May be taught in English if indicated on the course outline.)

21-450. Literature of the Middle Ages
The dolce stil novo poets; Dante Alighieri, Vita Nuova, Convivio, Divina Commedia; F. Petrarca, Canzoniere; G. Boccaccio, Decaneron. Selected readings to illustrate the transition from a God-centered world to a human-centered world and the birth of Renaissance humanism. May be offered in English if indicated in the course outline. Focus of the course may vary. (May be repeated for credit once if content changes.)

21-490. Directed Readings
Designed for the advanced student who wishes to explore a special area of interest in Italian literature. (May be repeated for credit if content changes.)

4.3.10 COURSE DESCRIPTIONS - SPANISH LANGUAGE OPTION

Requirements for degree programs in Spanish make reference to the following groups of courses:

Spanish Language: 23-100, 23-101, 23-200, 23-205, 23-206, 23-220, 23-221, 23-300, 23-301, 23-310, 23-311, 23-320, 23-330, 23-331, 23-450. (Laboratory work may be required in language courses.)

Spanish Literature: 07-234, 23-230, 23-235.

Spanish Culture and Civilization: 23-260, 23-261.

23-100. Spanish for Beginners I
Basic language skills of listening, speaking, reading, and writing and an introduction to Hispanic cultures. (Only for students with no prior knowledge of Spanish.)

23-101. Spanish for Beginners II
Basic skills of listening, speaking, reading, and writing and an introduction to Hispanic cultures. (Prerequisite: 23-100 or equivalent.)

23-200. Intermediate Spanish I
Review and further study of grammar. Written work, conversation, readings and an introduction to Hispanic cultures. (Prerequisite: 23-101 or equivalent.)

23-205. Reading in Spanish I
Discussion in Spanish based on graded readings focussing on vocabulary and language techniques. Review of phonetics and grammar. (Not open to native speakers who must consult a program advisor regarding course alternatives.) (Prerequisite: 23-200 or equivalent.)

23-206. Reading in Spanish II
Discussion and writing in Spanish based on graded readings focussing on vocabulary and language techniques. (Not open to native speakers, who should consult with a program advisor regarding an alternate course.) (Prerequisite: 23-200 or equivalent.)

23-220. Intermediate Spanish III
Continued development of written and spoken Spanish. Grammar review. (Prerequisite: 23-205, 23-206, or equivalent.)

23-221. Intermediate Spanish IV
Continuation of 23-220. (Prerequisite: 23-220 or equivalent.)

23-230. Introduction to Literature
A general introduction for foreign language students to forms and structures of literary language including a study of genres, styles and rhetorical figures. Readings will be in English and in Spanish. (Also offered as 07-234, 15-230, 21-230.) (Prerequisite: Grade 12"U" Spanish or equivalent, 23-200, or consent of a program advisor.)

23-235. Hispanic Literature in Translation
Topics may vary from year to year. (May not count toward a Spanish major.) (Taught in English.)

23-260. Culture and Civilization of Spain
Readings and discussion, in English, of topics from the history and culture of Spain.

23-261. Culture and Civilization of Spanish America
Readings and discussion, in English, of topics from the history and culture of Spanish America.

23-300. Advanced Spanish I
Further study of grammar and syntax. Written and oral exercises emphasizing subtle and/or particularly difficult grammar points. (Prerequisite: 23-221 or equivalent.)

23-301. Advanced Spanish II
Continuation of 23-300. (Prerequisite: 23-221 or equivalent.)

23-310. Spanish Translation I
Training in translation from Spanish to English and English to Spanish. (Prerequisite: 23-221 or equivalent.)

23-311. Spanish Translation II
Continued training in translation from Spanish to English and English to Spanish. (Prerequisite: 23-221 or equivalent.)

23-320. Written Expression
Study of prose models, such as letters and essays, and practice in writing Spanish. (Prerequisite: 23-205 or 23-206, or equivalent.)

23-330. Literary Readings from Spain
Study of texts from Spain as a means to improve language mastery and gain knowledge and understanding of the culture through its literature. (May be repeated for credit if content changes.) (Prerequisite: 23-205 or 23-206, or equivalent.)

23-331. Literary Readings from Spanish America
Study of texts from Spanish America as a means to improve language mastery and gain knowledge and understanding of the cultures through their literatures. (May be repeated for credit if content changes.) (Prerequisite: 23-205 or 23-206, or equivalent.)

23-450. Directed Study
(May be taken more than once if content changes.) (Prerequisites will vary depending on the focus of the course.)

4.4 Communication Studies

(Ext. 2896)

OFFICERS OF INSTRUCTION

Professors Emeriti

Cunningham, Stanley B.; B.A. (Manitoba), M.S.L. (Pontif. Inst. of Mediaeval Studies), M.A., Ph.D. (Toronto), Honoris Causa: LL.D. (Assumption)-1961.

Romanow, Walter I.; B.A. (Saskatchewan), M.A. (Windsor), Ph.D. (Wayne State)-1965.

Selby, Stuart A.; B.A. (Hamilton College, N.Y.), M.A., Ed.D. (Columbia)-1970.

Edmunds, Hugh H.; B.A. (Saskatchewan), M.Ed. (Wayne State)-1971.

Linton, James M.; B.A. (York), M.A. (Pennsylvania)-1972.

Cuthbert, Marlene L.; B.A. (Queen's), M.A. (Columbia), Ph.D. (Syracuse); Dip. Communication Policy and Planning for Development (The Hague)-1986.

Professors

Winter, James P.; B.J., M.J. (Carleton), Ph.D. (Syracuse)-1981.

Associate Professors

Gold, Mary; B.A., M.A. (Windsor), M.A. (Wayne State), J.D. (Detroit)-1967. (Associate Dean, Faculty of Law).

Goldman, Irvin; B.A. (Winnipeg), M.S. (Purdue), Ph.D. (Iowa)-1981.

Lewis, Richard F.; B.A. (Loyola College), M.S., M.S., Ph.D. (Syracuse)-1983.

Hildebrandt, Kai; M.A. (Hamburg), M.A., Ph.D. (Michigan)-1985. (Associate Dean, Faculty of Arts and Social Sciences)

Ruggles, Myles A.; M.A., Ph.D. (Simon Fraser)-1994.

Virdi, Jyotika; B.A. (St. Stephen), M.A. Social Work (Delhi), M.A. (Cornell), Ph.D. (Oregon)-1998.

Assistant Professors

Machiorlatti, Jennifer A.; B.A., M.A. (Michigan State), Ph.D. (Wayne State)-1999.

Scatamburlo-D'Annibale, V.; B.A., M.A. (Windsor), Ph.D. (York)-2000.

Morris, Martin; B.A., M.A. (Canterbury, N.Z.), Ph.D. (York)-2002.

Talreja, Sanjay; B.Law (Bombay), Dip.-Audio-Visual Production (Xavier Inst. of Communications), Certi.-Film Appreciation (Film & TV Inst. of India), M.F.A. (Ohio)-2002.

Bae, Sung Min; B.F.A. (Kjung Pook National U.), Dip. Creation of Cinematography (Ecole Supérieur d'Etudes Cinématographiques, Paris), M.F.A. (Concordia)-2003.

Adjunct Assistant Professor

Bryant, Susan E.; B.A., M.E.S, (York), Ph.D. (Simon Fraser)-2001.

4.4.1 PROGRAMS OF STUDY

Communication Studies is devoted to the study, analysis, and understanding of the role of communication and media in contemporary cultures and societies.

Minor, as well as general, Honours, and combined Honours degrees are available.

Minor in Communication Studies

Required: six Communication Studies courses, consisting of 40-101, any two of the following: 40-200, 40-202, 40-225, 40-234, 40-257, 40-275, plus three additional courses, with at least one at the 300 level or above.

General Communication Studies

Total courses: thirty.

Major requirements: ten courses, including 40-101, four of six foundations courses [Foundations courses:40-200, 40-202, 40-225, 40-234, 40-257, 40-275], plus 5 additional courses, at least two of which must be at the 300 or 400 level.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) six courses from any area of study, including Communication Studies;
(b) six courses from any area of study, excluding Communication Studies.

Honours Communication Studies

Total courses: forty.

Major requirements: twenty courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus thirteen additional courses, at least five of which must be at the 300 or 400 level, and at least two of those

must be at the 400 level. (40-398, 40-399, 40-498 and 40-499 do not count as fulfilling the 300 and 400 level requirements.)

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) four courses from Arts, Languages, Social Sciences, or Science, including Communication Studies;
(d) twelve courses from any area of study, excluding Communication Studies.

Combined Honours Programs

Total courses: forty.

Major requirements-Communication Studies: sixteen courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus nine additional courses, at least three of which must be at the 300 or 400 level, and at least two of those must be at the 400 level. (40-398, 40-399, 40-498 and 40-499 do not count as fulfilling the 300 and 400 level requirements.)

Major requirements-Other subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements: additional options (if required) to a total of forty courses.

Note:

Students interested in taking the first-year prerequisite for film making and video production courses (or any other film making or video production courses) must be Communication Studies General or Honours degree students. The Communication Studies Department may also limit or prevent enrollment of the same student in both video and film course sequences, depending on the overall availability of seats in production courses in relation to demand by Communication Studies General and Honours degree students. Entry into advanced film making and advanced video production courses will be based on academic performance and portfolio review after the completion of introductory film and/or video production courses. Advanced production students must successfully complete 40-310 in their first semester after admission to the advanced film and video production courses.

Bachelor of Arts (Honours Drama and Communication Studies)

Total courses: forty.

Major requirements-Dramatic Art: sixteen courses, including 24-100 and 24-200, 24-421, plus one course from each of groups A, B, and C; and ten additional Dramatic Art courses as chosen in consultation with a Dramatic Art program advisor.

Major requirements-Communication Studies: sixteen courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus nine additional courses, at least one of which must be at the 300 level, and at least two must be at the 400 level.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Languages or Science;
(b) English 26-122 and 26-123, or two options as recommended by a Dramatic Art program advisor;
(c) three additional options;
(d) one course at the 300 level or above from any area of study, including Dramatic Art and Communication Studies.

B.A. Honours in Visual Arts and Communication Studies

Total courses: forty.

Major requirements-Visual Arts: seventeen courses, consisting of 27-105, 27-106, and 27-107, plus eleven other studio courses numbered 27-203 through 27-390 (at least four courses must be at the 300 level), plus 28-150, 28-214, and 28-215.

Major requirements-Communication Studies: sixteen courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus nine additional courses, at least three of which must be at the 300 or 400 level, and at least two of those must be at the 400 level.

Other requirements: at least two Language or Science courses; plus five additional options.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275, plus five additional Comm. Studies courses three of which must be at the 300-level or above (excluding 40-398, 40-399, 40-498, 40-499).

Minor Concentration: 40-101, four of 40-200, 40-202, 40-225, 40-234, 40-257, 40-275, one 300-level or above course (excluding 40-398, 40-399, 40-498, 40-499).

4.4.2 COURSE DESCRIPTIONS

Communication Studies 40-101 is required of all majors and is to be taken in the first year. For non-majors, this course is recommended prior to taking even those upper-level Communications Studies courses for which no specific prerequisites are listed. This introductory study of the media and its operations, within a rich context of history, theory, and cultural policy, is designed to enhance media literacy.

Students may register in upper-level courses if specific prerequisites are met, or with consent of the instructor or program advisor.

Not all courses listed will necessarily be offered each year. All courses are three hours per week (3.00 credit hours) unless otherwise indicated.

40-101. Introduction to Communication Studies
An overview of the major themes, issues and schools of thought informing the field of communication studies. Topics include: the political, economic, historical, and cultural contexts of communication; policy issues and concerns; communication technology; media representation; the role of media in the social construction of reality; and the broad interaction between media and society. (2 lecture, 1 tutorial hour per week.)

40-110. Introduction to Production Planning and Design
An introduction to the process of production planning and design, including how ideas are created, developed, expressed, proposed, and acted upon in various media. Through lectures, laboratory activities, and class assignments students will gain skills and knowledge in the techniques of outlines, treatments, storyboards, budgets, and resource management. (Restricted to first and second year students in Communication Studies or combined four-year Honours programs with Communications Studies.) (2 lecture, 2 laboratory hours a week.)

40-111. Introduction to Production Practice
Practical implementation of concepts and skills learned in 40-110. Through lectures and laboratory activities, students will further develop script writing skills, visual storytelling styles and aesthetics, and produce a basic media production. Along with 40-110, this course is required for students pursuing advanced courses in film and video and is recommended for students planning to take sound/audio courses. (Prerequisite: 40-110; limited to first and second year Communication Studies majors and majors in Combined Communication Studies Honours programs.) (2 lecture, 2 laboratory hours a week.)

40-200. Foundations of Communications History
Relations between evolving media of communication and changing political-economic and socio-cultural structures and practices, from a social justice perspective. Addresses the various media (oral communication, writing, print, electronic media) of various societies (ancient Greek, Egyptian, Sumerian, modern industrial and postmodern societies). (Prerequisite 40-101.) (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-202. Foundations of Cultural Studies
An introduction to contemporary theories and methods of cultural studies which focuses on the study of society's communicative practices, artistic productions, beliefs, and institutions. This approach incorporates a variety of theoretical and methodological perspectives, including semiotics, social constructionism, structuralism, neo-Marxism, psychoanalysis, postmodernism, ritual analysis, and ethnography. Particular attention is paid to the ways in which race, class, and gender are constituted in a variety of cultural texts. (Students must have a 35mm adjustable camera to complete this course.) (Prerequisite: 40-101.) (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-205. Introductory Photography
This introductory course in chemical and digital photographic processes provides an opportunity for students to explore techniques and concepts within the medium of photography. Students will learn the basic technical skills of operating cameras, processing film, making black and white prints, and digital imaging. Through a series of assigned projects discussions and readings, students will be exposed to a variety of concerns specific to photography. (Prerequisite: 40-101 and 40-110 and Communication Studies Major; students must have a 35mm adjustable camera to complete this course.) (Cross-listed as Visual Arts 27-253.)

40-211. The Film Making Process I
Theoretical and practical examination of the technical, communicative and aesthetic considerations in black-and-white 16mm film making. Topics include optics and exposure, cinematography, picture editing, and double-system, non-synchronous sound recording, and editing. (Credit for this course will be allocated only after successful completion of 40-212.) (Prerequisites: 40-101, and 40-110.) (2 lecture, 2 laboratory hours a week.)

40-212. The Film Making Process II
A continuation of 40-211 with increased emphasis on practical exercises and an examination of aesthetic and communicative factors. Included will be a study of the basic approaches to film and their implications for the film making process. (Prerequisite: 40-211.) (Credit for this course will be allocated only after successful completion of 40-211.) (2 lecture, 2 laboratory hours a week.)

40-214. Sound in Media
The course deals with three major topic areas: writing for the ear, voice improvement, and sound production technology. Students will write and deliver short messages, learn how to operate radio equipment, and produce audio messages. Other topics covered include audiovisual synchronization, MIDI, the digitizing process, and copyrights. (Prerequisites: 40-101 and 40-110.) (2 lecture, 2 laboratory hours a week.)

40-216. Video Production I
This project-based course, integrating theory and practice, introduces students to studio and location work with emphasis on the knowledge and skill essential to produce a program. A variety of production techniques are presented appropriate for fiction, non-fiction, education, and training programs. (Credit for this course will be allocated only after successful completion of 40-217.) (Prerequisites: 40-101, and 40-110.) (2 lecture, 4 laboratory hours a week.)

40-217. Video Production II
Post-production editing and the creative integration of sound and image are explored. Emphasis is on the constraints imposed and the enhancements made possible by technology and the consequences for the effectiveness of the program. (Credit for this course will be allocated only after successful completion of 40-216.) (Prerequisite: 40-216.) (2 lecture, 4 laboratory hours a week.)

40-225. Media Literacy
An introduction to important concepts concerning news media and popular culture. The intent is to help students to develop the skills, knowledge, and background necessary to interpret how the media contribute

to the social construction of reality. (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-234. Foundations of Research Methods in Communication Studies
An introductory overview of research approaches, methods, and designs in communication studies. Students will learn about the theoretical grounding of quantitative, qualitative, and interpretive methods, and practice various methods to explore communication issues. (Prerequisite: 40-101.) (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-240. Cinema History I (Pre-War)
The course charts the early history of the cinema from its inception to World War II: film shorts at the turn of the century, the silent film era, the introduction of sound, and the decline of the studio system. Films are examined as technical, industrial, commercial, artistic, and, most importantly, as historical artifacts. Industry, audience, and the development of cinematic language are viewed within an international framework and their local cultural context.

40-241. Cinema History II (Post-War)
The course examines films from the post-War period to the present: the heyday of the classical Hollywood narrative and challenges to its dominance from European neo-realism and the avant-garde film movement are considered. Films are viewed as influenced by and reflective of social upheaval of the sixties, as well as their consolidation within distinct but mutually influencing categories of mainstream and alternative cinema. An important consideration is how films can either paper over or expose social fractures along the lines of gender, race, sexuality, and nationalism.

40-243. Media Aesthetics
The course provides a basic set of principles and tools to understand the formal qualities of visual signification. Students learn aesthetic and technical terms, rules, conventions, and social assumptions used to construct meaning through sound, images, or graphics in stills, film, and television. The course offers a grounding useful for both the producers and consumers of still and moving images. (Prerequisite: 40-101 or 40-110.)

40-245. Communication and Cultural Policy in Canada
The history and development of cultural policy and cultural production in Canada. Topics include: the role of the State in cultural production; national culture, citizenship, identity and multiculturalism; the structure, performance and regulation of the culture industries; globalization and the new technologies. (Prerequisite: 40-101.)

40-250. Basic Processes in Media Writing
The practice of fundamental media writing and organizational skills, research methods and information-gathering techniques for the preparation of copy and/or scripts for print, broadcast, film and/or new media. Students will use microcomputers in this course but previous typing experience is not necessary. (Prerequisite: 40-101) (1 lecture hour and 2 lab hours a week.)

40-257. Foundations of Political Economy of Communications
Communication, democracy, and the public interest; political economy of mass media; frameworks and models for media and telecommunications policy and regulation; international trade and national culture; patterns of media ownership; audiences and marketing systems. (Prerequisite: 40-101.) (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-262. Intercultural Communication
Intercultural communication is explored through attention to issues such as race, ethnicity, nationality, language, non-verbal codes, class, gender, sexual orientation, and religion. Students explore local and global perspectives on peace and conflict, social justice, and intercultural ethics, employing both critical and interpretive approaches.

40-272. Theory of Message Design
An exploration of theories affecting message analysis and communication. Topics include persuasion, ethics, perception, attention, memory, and message analysis. Students will learn how to recognize formal features of messages and how to apply theory to practical message design situations. (Prerequisite: 40-101. Recommended: prior completion of a first-year Psychology course.)

40-275. Foundations of Communications Theory
Introduces theoretical approaches to communication forms, processes and contexts, and explores a variety of underlying philosophical perspectives, assumptions and paradigms of inquiry in communication theory. (Prerequisite: 40-101.) (3 lecture hours or 2 lecture hours and 1 tutorial hour a week.)

40-302. Popular Culture
Examines the relationship between popular culture and questions of economics and social and cultural politics, through an exploration of struggles over knowledge, power and authority manifest in popular cultural artifacts and processes. Intended to provide students with tools for critical evaluation of contemporary popular culture, including the constitution of social ideologies, values and representations through cultural artifacts. (Prerequisite: 40-202.)

40-303. Studies in Popular Music Culture
This course explores the culture, production history, economics, and critical approaches to popular music - for instance, the popular music springing from the Windsor-Detroit region that includes the influences of Motown, garage rock, funk, folk, soul, R&B, gospel, rap, and electronic music. The course is intended to provide students with tools to contextualize contemporary music historically and critically and includes exploration of issues such as identity, counterculture, popular culture in a local/global context, social values, and representations. (Pre-requisite: 40-202 and semester 4 standing, or consent of instructor.)

40-310. Digital Media for Advanced Production
An Introduction to historical, aesthetic, theoretical and practical issues in digital media production. Class will emphasize hands-on practice with digital graphics and editing through directed exercises. (Prerequisites: admission to advanced production courses or permission of instructor.) (1 lecture hour, 2 laboratory hours a week.)

40-315. Radio Broadcasting
An examination of current and future trends in radio broadcasting, with the focus on the social implications. Lab exercises will deal with the production of radio programs in various formats. (Prerequisite: 40-214.) (2 lecture, 2 laboratory hours a week.)

40-321. Organizational Cultures and Communication
A detailed examination of the relationship of communication and culture in organizational settings. Several theoretical approaches are used, including social constructionist, semiotic, interactionist, and interpretive. Several aspects of organizational communication and culture are considered, including: verbal and nonverbal behaviour; entering and adjusting to organizational cultures; creating, maintaining, and changing organizational cultures; sub-cultures and super-cultures; foreign organizational cultures; the influences of technology and growth on organizational cultures; and the relationship of organizational theory to organizational culture. (Prerequisite: 40-101and semester 5 standing.)

40-325. The Sociology of News Media
This course explores the role played by the mass media in the social construction of reality. Concepts that may be given particular emphasis include: legitimation, hegemony, power, propaganda, objectivity, stereotyping, and alternatives. (Prerequisite: 40-225.)

40-333. Mass Media and Audience Research
An overview of current practices and issues in mass audience research, including the measurement of audiences by rating services, audience response assessments, and research regarding how audiences use the media.

40-337. Qualitative Methods in Communication Research
An examination of interpretive, cultural, and historical methodologies utilized in contemporary communication research. A variety of possible research strategies will be explored, such as: cultural studies, interpretive interactionism, ethnography, narrative analysis, interpretive biography, interview techniques, and discourse analysis. (Prerequisite: 40-202 or 40-234.)

40-344. Cinematic Discourses
Using film or critical theory, historical or cultural studies, cinematic discourses are approached with a shifting focus on a range of topics, such as genres, the stars, film movements, or national cinemas. For example, the course may focus on a genre (such as melodrama or comedy), or the star system's influence at a particular historical moment (*e.g.*, the Depression), or offer an overview of a specific national cinema. (May be repeated for credit more than once with consent of the Department Head.) (Prerequisite: 40-202 or 40-240 or 40-241.) (2 lecture, 2 screening hours a week.)

40-360. Public Opinion
The formation of public opinion and its role in democratic society. Theories of attitude and opinion formation and persuasion. Study of propaganda. Current issues in public opinion and the "manufacture of consent". (Prerequisite: at least Semester 5 standing.)

40-362. Gender and Communication
Gender, culture, and communication, with an emphasis on the socio-symbolic construction and re-construction of gender, sex, and sexuality. Themes of gendered identity, feminist and masculinist social movements, stereotyping, communication dynamics, media representations of gender, gender and social justice. (Prerequisite: 40-262 or permission of the instructor.)

40-367. Communication, Environment, and Development
Environmental stresses and Third World development problems from a communication perspective. The roles of information and technology. Information theory, systems theory, and concepts of cultural ecology. Media coverage, advertising, and the ecological crisis. The rhetoric of environmentalism and growth. (Prerequisites: 40-257.)

40-370. Alternative Media
A critical examination of the structure, operation, and function of the mass media in contemporary society from a number of major ideological perspectives, with an emphasis on the assessment of possible alternatives. Innovative, small-scale communication approaches will be examined as one such alternative, with particular attention being paid to the media's role in, and potential for, encouraging or impeding social action. (Prerequisite: 40-225.)

40-374. Information Technology and Social Change
Theories of the "Information Society": economics of information; management of knowledge in organizations; surveillance and identity in digital environments; Canadian information policy. (Prerequisite: 40-257.)

40-381. Advertising in Social Context
Contextualizes the world of advertising within consumer culture and mass media. The course draws upon approaches from Critical Theory, Marxism, feminism, semiotics, critical multiculturalism, and other perspectives. Topics include: the historical and social roots of consumerism; the evolution of the 'branded' society, issues of representation and meaning; the ideological and economic functions of advertising. (Prerequisites: 40-101 and second-year standing.)

40-385. Mass Media and the Law
An examination of the effect which law has on the content of media. The course concentrates on the impact of the Canada Act, the Charter of Rights and Freedoms, and statutory and common law upon the dissemination of information. (Prerequisite: 40-245 or 40-257.)

40-398. Communication Practicum I
Application of communication skills and knowledge in work experience situations approved by the Co-ordinator of Communication Practica. Admission to the course is by consent and is available only to four-year Honours students. The course is graded by a faculty advisor on the basis of a written report plus other references. (Prerequisite: Third-year standing and consent of a program advisor in Communication Studies.) (6-8 weeks.)

40-399. Communication Practicum II
(Same description as 40-398.)

40-402. Advanced Cultural Studies
An advanced study of communication and culture, including ethnographies, language, semiotics, narrative, ideological analysis, psychoanalysis, structuralism, social constructionism, and postmodernism. (Prerequisites: 40-202, and 40-302 or 40-337.)

40-411. Advanced Film Making I
This course emphasizes multi-track sound editing, colour cinematography, and other technical and aesthetic issues in the creation of the motion picture. (Prerequisites: 40-212 and admission to advanced production courses or permission of the instructor; Corequisite: 40-310 must be taken prior to or concurrently with this course.) (Credit for this course will be allocated only after successful completion of 40-412.) (2 lecture hours and 2 lab hours a week.)

40-412. Advanced Film Making II
This course emphasizes the skill and knowledge necessary to produce a complete colour film with multi-track synchronous soundtrack, including the conceptualization and budgeting of the film as well as the techniques of digital editing. (Prerequisites: 40-411.) (Credit for this course will be allocated only after the successful completion of 40-411.) (2 lecture hours and 2 lab hours a week.)

40-414. Sound Design
Students will learn sound design, which is the process of creating the overall sonic character of a production in music, radio, film, video, and multi media. Major course themes include: sound mixing and editing using computer-based non-linear editing systems; the elements of sound structure and their effects on perception; functions of sound in speech, sound effects, music, silence; the relation between visual media and sound. (Prerequisite: 40-214 and at least semester 5 standing.)

40-416. Advanced Video Production I
An exploration of advanced work in digital video technology and aesthetic principles in the areas of pre production (design, writing, production management, budgeting); production (digital camera, lighting, sound); post-production (non-linear editing) and distribution/exhibition. Students will apply theory based criteria in the development, production and analysis of projects. (Prerequisites: 40-217 and admission to advanced production courses or permission of the instructor; Corequisite: 40-310 must be taken prior to or concurrently with this course.) (Credit for this course will be allocated only after successful completion of 40-417.)

40-417. Advanced Video Production II
A continuation of digital media technology, aesthetics and production. This course focuses on specific genres, production challenges, distribution, professional development, multimedia and hyper media production planning and writing from critical production perspectives which include developing a sense of the ethical and social role in creating media forms for dissemination to audiences.(Prerequisites: 40-416.) (Credit for this course will be allocated only after the successful completion of 40-416.)

40-425. Advanced Sociology of News Media
An advanced analysis of the role played by mass media in the social construction of reality. (Prerequisite: 40-325.)

40-426. Advanced Message Design
Students will learn how to design communication units for information, training, and teaching situations, using a systematic procedure from instructional technology. Students will apply theories from communication, persuasion, and learning to determine needs, design a communication strategy, select appropriate media, and evaluate the effort. (Prerequisite: 40-272.) (3 lecture hours or 1 lecture hour and 2 lab hours a week.)

40-430. Communication and Ethics
Comparative approaches to communication ethics; communication and normative integration; communication ethics and communication law; media ethics and self-regulation; contemporary ethical problems and issues in media and communication. (Prerequisite: at least Semester 7 standing.)

40-434. Evaluation Research in Communication Studies
An introduction to the theory, methodology, and practice of evaluation in the communication field, providing an overview of various approaches and methods of evaluation, as well as practical examples of the design of evaluation projects. (Prerequisite: At least Semester 7 standing.)

40-435. Advanced Communication Research Methods
The course covers survey, experimental, and selective qualitative methods used in the study of mass communication and human interaction with new technologies. Students will design and apply survey and quasi-experimental methods and explore tools such as sampling, questionnaires, focus groups, qualitative interviews, direct observation, and unobtrusive measurement. (Prerequisite: At least Semester 5 standing.)

40-441. Documentary Film and Video I
An introduction to the history, theory, and practice of documentary film. The course provides an overview of the history of documentary with attention to artistic, technological, economic, and political influences and offers students the opportunity to put theoretical study into practice. (Credit for this course will be allocated only after successful completion of 40-442.) (Prerequisites: Third-year standing and one or more of the following: 40-110, 40-240, 40-241.) (4 lecture hours a week.)

40-442. Documentary Film and Video II
A survey of contemporary documentary practice with special attention to recent key themes and issues in the field. Included will be an examination of the role of technology, financing, distribution, and exhibition arrangements, and cultural and ideological factors in the introduction and acceptance of various documentary techniques, approaches and styles. (Credit for this course will be allocated only after successful completion of 40-441.) (Prerequisite: 40-441.) (4 lecture hours a week.)

40-443. Film Theory and Criticism
An examination of the changing theoretical and critical approaches to the film, including issues in the production and reception of film, such as realism, adaptation, convention, signification, and culture. (Prerequisites: one of 40-240, 40-241, 40-243, or 40-344.)

40-457. International Communication Policy and Systems
Globalization and convergence of media technologies and regulatory regimes; the implications of globalization and convergence for dependency, diversity, identity and sovereignty; and the implications of new communication technologies for the functioning of major political and economic institutions. Seminar format. (Prerequisite: 40-257.)

40-462. Communication Perspectives and Aboriginal People, Race and Ethnicity
Explores theoretical and practical Communication issues of race and ethnicity. Linking these to the practice of social justice. Topics include: historical and critical implications of identity politics, media (mis-) representation, cultural policy, First Nations, multicultural and multiracial media production. (Prerequisites: Two of the following: 40-202, 40-225, 40-245, 40-262, 40-302, 40-362, and third year standing.) (Sociology majors: 48-241 or 48-333 and two additional courses in Communication Studies.)

40-475. Advanced Communication Theory
An examination of contemporary communication theories, such as: critical, cultural, functional, structural, and postmodern approaches. Special attention will be devoted to critically evaluating the underlying assumptions and frameworks of various theories. (Prerequisite: 40-275 and at least Semester 7 standing.)

40-476. Canadian Communication Thought
Commonalities and differences in the communication thought of first- and second-generation Canadian theorists: Harold Innis, John Grierson, Dallas Smythe, Graham Spry, C.B. Macpherson, George Grant, Irene Spry, Gertrude Robinson, Northrup Frye, Marshall McLuhan. A study of dialectics, holism, political economy, ontology, epistemology, and cultural change in the context of media and technology. (Prerequisite: at least Semester 7 standing.)

40-489. Selected Topics in Design and Applications
An advanced exploration of selected topics related to Design and Applications processes in print, audio and/or visual media. The course may be offered as a regular class. For tutorials (available only to four-year Honours students), project proposals must be approved by the program advisor in Communications Studies prior to registration. (May be taken for credit more than once.) (Prerequisite: successful completion of the appropriate upper-level Design and Applications courses.)

40-490. Selected Topics in Communication Studies
An advanced study of selected topics in Communication Studies. Topics and prerequisites may vary depending on the focus of the course. (May be taken more than once if content changes.) (Prerequisites will vary; generally will require at least Semester 7 standing.)

40-495. Directed Reading
Intended for students with special interest in areas not covered in sufficient depth by other courses. (To be taken only with permission of instructor and a program advisor in Communication Studies.)

40-498. Communication Practicum III
Application of communication skills and knowledge in work experience situations approved by the Co-ordinator of Communication Practica. Admission to the course is by consent and is available only to four-year Honours students. The course is graded by a faculty advisor on the basis of a written report plus other references. (To be undertaken after the successful completion of relevant 300-level courses.) (Prerequisite: at least Semester 7 standing and consent of a program advisor in Communication Studies.) (6-8 weeks.)

40-499. Communication Practicum IV
(Same description as 40-498.)

4.5 Dramatic Art

(Ext. 2804)

OFFICERS OF INSTRUCTION

Professors

Pinnell, William H.; B.A. (Glassboro, N.J.), M.A. (Wayne State)-1972.

Warren, Bernie;-1992.

Assistant Professors

Keating, Michael; B.A. (Acadia), N.T.S.C., M.F.A. (Boston)-1997.

Ruggirello, Tina; B.A., M.Ed. (Windsor)-1997.

Walsh, Lionel; B.F.A. (Windsor), M.F.A. (Virginia Commonwealth)-1997. (Director of School)

Taylor, Brian; B.A. (Windsor), M.F.A. (Alberta)-2000.

Rintoul, Brian;-2001.

Campbell, Gail; B.A. (Oregon), M.F.A. (North Carolina)-2003.

Myers, Tedfred; B.A. (Florida Southern College), M.F.A. (Wayne State)-2003.

4.5.1 PROGRAM REGULATIONS

STANDING REQUIRED

Bachelor of Fine Arts: Acting

In addition to complying with the general university regulations *(see 2.4.19)* in order to advance in the B.F.A. program, students must obtain a minimum grade of C in all required performance courses, specifically: 24-120, 24-121, 24-126, 24-127, 24-128, 24-129, 24-220, 24-221, 24-223, 24-224, 24-226, 24-227, 24-228, 24-321, 24-322, 24-323, 24-324, 24-326, 24-327, 24-420, 24-429, 24-451, 24-453, 24-454, 24-455, 24-456, 24-457, and 24-458.

Under exceptional circumstances, and with permission of the Academic Standing Committee, a student may be permitted to upgrade. If the student obtains a grade of C or better in the deficient course(s), and a major average of 8.0 or better, the student may re-audition for the B.F.A. program.

Grades will be reviewed at the end of each semester, and students who do not achieve the minimum grade of C in all required performance courses will be required to withdraw from the program. These students may transfer into the B.A. Dramatic Art program.

Bachelor of Arts (Honours Drama in Education and Community)

In order to advance in the Drama in Education and Community program, students must obtain a minimum grade of C in the following courses: 24-160, 24-161, 24-260, 24-261, 24-360, 24-371, 24-377, 24-378, 24-470, 24-471, 24-479.

Under exceptional circumstances, and with permission of the Academic Standing Committee, a student may be permitted to upgrade. If the student obtains a grade of C or better in the deficient course(s), and a major average of 8.0 or better, the student may be re-interviewed for the Drama in Education and Community program.

Grades will be reviewed at the end of each semester, and students who do not achieve the minimum grade of C in all required core courses will be required to withdraw from the program. These students may transfer into the B.A. Drama program.

OTHER REGULATIONS

1) Dramatic Art 24-100 (The Nature of Theatre I) and 24-200 (The Nature of Theatre II) are requirements for all first-year Dramatic Art majors.

2) Non-majors wishing to take a Dramatic Art course as an option may enter Dramatic Art courses (with the exception of those which are further restricted only to B.F.A. Acting or Drama in Education and Community students) only with the consent of the instructor.

3) Only 3rd and 4th year students may enroll in Production Problems with the consent of the Director of the School. Dramatic Art students may enroll in Directed Studies courses only with the consent of the instructor.

4) B.F.A. students may not proceed to the next level without completing all core Dramatic Art course requirements of the previous level. Performance courses must be taken in sequence.

All students majoring in Dramatic Art programs are strongly advised to seek academic advising prior to registration each term.

UNIVERSITY PLAYERS

University Players is a serious and dedicated training ground for young theatre artists. It is a venue where faculty, staff, and guest artists find an opportunity for creative expression and showcase professional-calibre content and conduct. All Dramatic Art programs come together at University Players. First-year students learn the backstage and front-of-house operation of the theatre as members of running crews for productions. In later years, students work in the areas that correspond to their chosen B.A. or B.F.A. degree programs. University Players produces fifty-five performances of six plays annually, to a total of 15,000 audience members.

4.5.2 PROGRAMS OF STUDY

Requirements for degree programs in Dramatic Art make reference to the following groups of courses:

Group A-Performance Related Courses: 24-225, 24-235, 24-244, 24-277, 24-278, 24-284, 24-310, 24-325, 24-344, 24-351, 24-352, 24-384, 24-421, and 24-449.

Group B-Theatre History Courses: 24-130, 24-230, 24-330, 24-333, 24-439, and 24-469.

Group C-Technical/Design Courses: 24-115, 24-211, 24-212, 24-213, 24-215, 24-216, 24-217, 24-219, 24-319, and 24-452.

Minor, General degree, Honours degree and combined Honours degree programs are available in Dramatic Art. An Honours professional program is available in Acting.

Minor in Dramatic Art

Requirements: six courses in Dramatic Art, including 24-330 or 24-333. No more than two courses may be at the 100 level.

General Bachelor of Arts in Drama

Total courses: thirty.

Major requirements: ten courses, including 24-100 and 24-200; plus one course from each of groups A, B, and C; and five additional Dramatic Art courses as chosen in consultation with a Dramatic Art program advisor.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) six courses from Arts, Languages, Social Sciences, and Science, including Dramatic Art;
(b) two courses from Arts, Languages, Social Sciences, and Science, excluding Dramatic Art;
(c) six courses from any area of study, excluding Dramatic Art.

Bachelor of Arts (Honours Drama)

Total courses: forty.

Major requirements: twenty courses, including 24-100 and 24-200; plus one course from each of groups A, B, and C; and fifteen additional Dramatic Art courses as chosen in consultation with a Dramatic Art program advisor.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) 26-122 and 26-123, or two English options as recommended by an advisor in Dramatic Art;
(b) four courses from Arts, Languages, Social Sciences, and Science, including Dramatic Art;
(c) two courses from Arts, Languages, Social Sciences, and Science, excluding Dramatic Art;
(d) six courses from any area of study, excluding Dramatic Art.

Bachelor of Arts (Honours Drama in Education and Community)

This program is designed for those students interested in pursuing future careers in the educational and developmental fields such as elementary classroom teachers and secondary theatre arts teachers; special education teachers; drama consultants; play and recreational leaders in the community; and specialists in theatre for young audiences.

Field work will be assigned only if a student is assessed to have suitable personal qualities as well as academic qualifications.

Students wishing to obtain certification from the Ontario College of Teachers must enroll in a Faculty of Education upon the successful completion of this program.

Drama in Education and Community students may select options in Visual Arts. To do so, they must apply to Visual Arts during the Winter term of their first year. Their requests will be reviewed by interview and/or portfolio.

A concentration of six courses in a second teachable subject is advisable for students wishing to apply to a Faculty of Education. Students wishing to pursue a career in teaching are strongly advised to consult an academic advisor.

ADMISSION REQUIREMENTS

1) All candidates must meet the requirements for admission to the University of Windsor.
2) In addition, an interview will be required.
3) enrollment is limited.

PROGRAM REQUIREMENTS

Total courses: forty.

Major requirements: twenty courses, including 24-100, 24-160, 24-161, 24-200, 24-225, 24-260, 24-261, 24-277, 24-284, 24-360, 24-371, 24-

377, and 24-479; plus two of 24-378, 24-470, 24-471, and 24-479; and five additional Dramatic Art courses to be identified in consultation with a Dramatic Art program advisor.

Other requirements (see 2.4.14 for subject areas):

(a) four English courses. (Recommended: 26-100, 26-122, and 26-123);
(b) four Psychology courses: 46-115, 46-116, 46-223, and 46-224;
(c) two courses from Languages or two courses from Science;
(d) two courses from Music (32- or 33-), Visual Arts (27-), or Kinesiology (95-);
(e) eight additional courses from any area of study.

Bachelor of Arts (Combined Honours Programs)

Total courses: forty.

Major requirements-Dramatic Art: seventeen courses as recommended by a Dramatic Art program advisor.

Major requirements-Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements: additional options (if required) to a total of forty courses.

Bachelor of Arts (Honours Drama and Communication Studies)

Total courses: forty.

Major requirements-Dramatic Art: sixteen courses, including 24-100 and 24-200, 24-421, plus one course from each of groups A, B, and C; and ten additional Dramatic Art courses as chosen in consultation with a Dramatic Art program advisor.

Major requirements-Communication Studies: sixteen courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus nine additional courses, at least one of which must be at the 300 level, and at least two must be at the 400 level.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Languages or Science;
(b) English 26-122 and 26-123, or two options as recommended by a Dramatic Art program advisor;
(c) three additional options;
(d) one course at the 300 level or above from any area of study, including Dramatic Art and Communication Studies.

HONOURS PROFESSIONAL PROGRAM

Bachelor of Fine Arts in Dramatic Art: Acting

The Bachelor of Fine Arts (Acting) program is available only to those who have successfully auditioned and been invited to study for an eventual career in the professional theatre. This intensive program requires four years of study. Students develop performance techniques through courses in acting, voice, interpretation, improvisation, and movement. They are also exposed to training from professional Canadian theatre artists who conduct workshops ranging in length from one day to six weeks. All B.F.A. (Acting) students participate in University Players productions.

This professional program is designed for those students wishing to pursue a career in professional theatre, television, or film. This program is also designed to prepare students to pursue graduate work and related arts.

Transfer credit articulation agreements with the National Theatre School, Humber College, and George Brown College may allow graduates of the three-year Theatre Performance programs to obtain advanced standing.

Total courses: forty.

Major requirements: twenty-eight courses, the "core" of twenty-six courses, consisting of 24-100, 24-120, 24-121, 24-130, 24-200, 24-220, 24-221, 24-223, 24-224, 24-228, 24-230, 24-321, 24-322, 24-323, 24-324, 24-330 (or 24-333), 24-344, 24-420, 24-429, and 24-451; plus two courses from the range of 24-453 to 24-458; and the following 1.50 credit hour courses: 24-126, 24-127, 24-128, 24-129, 24-226, 24-227, 24-326, and 24-327; and two additional, non-core Dramatic Art courses to be identified in consultation with a faculty advisor.

Other requirements (see 2.4.14 for subject areas):

(a) two of 11-212, 26-122, 26-123, 26-326, 26-327, 26-328, 26-335, or 26-356;
(b) two additional English courses, including any not already selected from the previous list;
(c) two Social Science courses;
(d) two courses from any area of study, excluding Dramatic Art;
(e) three courses from any area of study, including Dramatic Art;
(f) 01-360.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 24-100; 24-200; one courses from each of Category A, B, and C; seven course selected in association with a Dramatic art advisor.

Minor Concentration: 24-330, 24-333, four additional courses. (No more than two courses at the 100-level.)

4.5.3 COURSE DESCRIPTIONS

Not all courses listed will necessarily be offered each year. Courses are three hours a week (3.00 credit hours) unless otherwise indicated.

24-100. The Nature of Theatre I
Two of the following topics will be covered: the analysis of the play script; the mechanics of performance; the principles of direction; and theories of design/technical theatre. Students are required to be crew members for one University Players production. (Laboratory hours by arrangement.)

24-111. Theatre in Contemporary Culture
An examination of factors and principles involved in an audience's appreciation of theatre. (No prerequisite.) (Open to non-Dramatic Art majors.)

24-115. Stagecraft I
Introductory course specifically directed toward the technical aspects of scenic construction.

24-120. Voice for the Actor I
An introduction to the study and practice of voice and speech for the theatre. (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-121. Voice for the Actor II
Continuation of 24-120. The study and practice of voice and speech for the theatre. (Restricted to B.F.A. Acting students only.) (Prerequisite: 24-120.) (Laboratory hours by arrangement.)

24-126. Movement for the Actor I
An introduction to the study and practice of movement for the actor. (1.50 credit hours) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-127. Movement for the Actor II
Continuation of 24-126. The study and practice of movement for the actor. (Prerequisite: 24-126.) (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-128. Improvisation and Introduction to Acting for the Theatre I
An introduction to the study and practice of acting with an emphasis on the basic elements of improvisation. (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-129. Improvisation and Introduction to Acting for the Theatre II
Continuation of 24-128. The study and practice of basic elements of acting and improvisation (Prerequisite: 24-128.) (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-130. Theatre History I
A study of the main elements of Greek, Roman, medieval, Italian, and English Renaissance Theatre. (Open to non-Dramatic Art majors.)

24-160. Introduction to Drama in Education and Community I
An introduction to the principles, theories and applications of Drama in Education and Community with an emphasis on creativity, storytelling, and the developmental aspects of play. (Restricted to Drama in Education and Community Majors, or consent of instructor.)

24-161. Introduction to Drama in Education and Community II
A continuing study of Drama in Education and Community. (Prerequisite: 24-160 or consent of instructor.) (Restricted to Drama in Education and Community Majors, or consent of instructor.)

24-200. The Nature of Theatre II
Continuation of 24-100. Two of the following topics will be covered: the analysis of the play script; the mechanics of performance; the principles of direction; and theories of design/technical theatre. Students are required to be crew members for one University Players production. (Laboratory hours by arrangement.)

24-210. Speech Communication to Inform
A beginning course designed to help the student to develop poise and confidence in communicating information. (Not available on an Audit basis.)

24-211. Scenic Design I
Introduction to the technical aspects of design for the stage; communicating the design idea through basic drafting techniques. (Prerequisite: 24-115, or consent of instructor.)

24-212. Scenic Design II
Problems related to the designing of a multi-set production; communicating the design idea through the use of drafting, models, and colour renderings. (Prerequisite: 24-211 and 24-213, or consent of instructor.)

24-213. Scene Painting for the Theatre
Laboratory and demonstration course with an emphasis on materials, texturing techniques, and the creation of three-dimensional effects.

24-215. Lighting Design I
The introduction and application of basic principles, including electricity, instruments, and design theory. (Laboratory hours by arrangement.) (Prerequisite: 24-115.)

24-216. Stage Lighting II
Continuation of 24-215, with particular emphasis on expanded technologies and lighting for non-proscenium formats. (Prerequisite: 24-215, or consent of the instructor.)

24-217. Costume Design
The principles of costume design for the stage; character analysis; textile manipulation.

24-218. Voice Techniques
A description of the processes and techniques involved in breathing-phonation-resonance-articulation for healthy voice. (No prerequisite.) (Not available on an Audit basis.) (May not be taken for credit toward a B.F.A. Acting degree.) (Open to non-Dramatic Art majors.)

24-219. Costume Design II
Continuation of 24-217, involving theoretical and practical design projects; formal presentation of costume designs, including traditional and computer-assisted rendering techniques; mannequin work and finishing apparel. (Prerequisite: 24-217, or consent of the instructor.)

24-220. Voice for the Actor III
Continuation of 24-121. The study and practice of voice and speech for the theatre. (Prerequisite: 24-121.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-221. Voice for the Actor IV
Continuation of 24-220. The study and practice of voice and speech for the theatre. (Prerequisite: 24-220.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-223. Acting for the Theatre I
Continuation of 24-129. The emphasis will be on acting exercises, script analysis and scene work. (Prerequisite: 24-129.) (Restricted to B.F.A. Acting students only.) (May be taken twice with the consent of instructor if assignments or their treatments are significantly varied.)

24-224. Acting for the Theatre II
Continuation of 24-223. The emphasis will be on the analysis and performance of scenes from plays. (Prerequisite: 24-223.) (Restricted to B.F.A. Acting students only.) (May be taken twice with the consent of instructor if assignments or their treatments are significantly varied.)

24-225. Introductory Acting I
A practical study of the fundamentals of acting experienced through acting exercises. (Not open to B.F.A. Acting students.)

24-226. Movement for the Actor III
Continuation of 24-127. The study and practice of movement for the actor. (Prerequisite: 24-127.) (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-227. Movement for the Actor IV
Continuation of 24-226. The study and practice of movement for the actor. (Prerequisite: 24-226.) (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-228. Improvisation for the Theatre
Continuation of 24-129. Application of the basic elements of improvisational acting to advanced, spontaneous scenes, and the preparation and presentation of acting exercises. (Corequisite: 24-223 or 24-224.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-229. Dance for the Theatre
A practical course in a variety of dance styles for the theatre.(Not open to B.F.A. Acting Majors except by consent of instructor.) (Laboratory hours by arrangement.)

24-230. Theatre History II
A study of the main elements of French and English theatre of the seventeenth, eighteenth, and nineteenth centuries. (Open to non-Dramatic Art majors.)

24-235. Introductory Acting II
Emphasis is on acting exercises based on script analysis. (Prerequisite: 24-225, or consent of instructor.) (Not open to B.F. A. Acting students.)

24-244. Directing I
An examination of the principles of play direction, including the role of the director, choosing plays, casting, analysis, picturization and composition, rehearsal techniques, and scene presentation. (Prerequisite: 24-225, or consent of instructor.) (Laboratory hours by arrangement.)

24-260. Drama in the Classroom: Principles and Theories
A course in the use of drama as it relates to the school curriculum and the community. (Prerequisite: 24-161.) (Restricted to Drama in Education and Community students only.)

24-261. Drama in the Classroom: Applications I
Applications of drama as they relate to the curriculum for Grades K through Six. Individual learning difficulties, including special needs will be discussed. Completion of a classroom contact is required. (Field contacts are with the consent of Drama in Education instructors and may be outside class time.) (Prerequisite: 24-260 or consent of instructor.) (Restricted to Drama in Education and Community students only.)

24-272. The Creative Process
An introduction to the creative process through an exploration of various theories, principles, and techniques of selected theorists and innovative thinkers. Students may explore such topics as: Creative Problem Solving, Idea Generation, and Innovation. Through academic study and practical work, students will explore ways of developing their own creative potential and applying it to their daily lives. (Not open to 1st year students.)

24-277. Improvisation and Self Development
Involves the development of performance skills through a practical application of theatre games and basic elements of improvisation with emphasis on self-development. (Prerequisite: 24-161 or consent of instructor.) (Individual course sections may be restricted to Drama in Education and Community students only.)

24-278. Improvisation: Working with Text
A continuation of the study of improvisation. Involves practical applications of improvisation to improvised scenes and written texts. (Prerequisite: 24-277 or consent of instructor.) (Individual course sections may be restricted to Drama in Education and Community students only.)

24-284. Creative Movement and Voice I
The study and practice of movement and voice as they relate to the individual, theatre, and the classroom. Emphasis may be on one or both disciplines as necessary. (Prerequisite: 24-100 or consent of instructor.) (Laboratory hours by arrangement.)

24-309. Oral Interpretation of Literature
A course designed to bring to the student an understanding of effective methods of content analysis and presentation of literature. Various kinds of literature will be chosen by the student through the oral interpretation of which he or she may demonstrate an understanding and ability.

24-310. Readers' Theatre
A study of the principles and techniques involved in script-in-hand acting and of dramatic play-reading. (Prerequisite: 24-225 or 24-277.)

24-315. Stage Management
A study of the role of the theatrical stage manager. Particular emphasis will be given to rehearsal organization and communication, cue notation, crew supervision, safety issues, Canadian Actors' Equity guidelines, and managing the production while in technical/dress rehearsals and performance. (Prerequisite: 24-200, or consent of the instructor.)

24-319. Studies in Design
Designed for the advanced student who wishes to explore further studies in scenic, lighting, or costume design. (Prerequisite: consent of a faculty advisor.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-321. Acting-Work in Progress I
Rehearsal project in a performance style selected by Dramatic Art. The play or scenes from plays become the catalyst for the discovery of the style related to its period. (Prerequisite: 24-224.) (Restricted to B.F.A. Acting students only.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-322. Acting-Work in Progress II
Rehearsal project in a performance style selected by Dramatic Art. The play or scenes from plays become the catalyst for the discovery of the style related to its period. (Prerequisite: 24-224.) (Restricted to B.F.A. Acting students only.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-323. Acting-Work in Progress III
Rehearsal project in a performance style selected by Dramatic Art. The play or scenes from plays become the catalyst for the discovery of the style related to its period. (Prerequisite: 24-224.) (Restricted to B.F.A. Acting students only.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-324. Acting-Work in Progress IV
Rehearsal project in a performance style selected by Dramatic Art. The play or scenes from plays become the catalyst for the discovery of the style related to its period. (Prerequisite: 24-224.) (Restricted to B.F.A. Acting students only.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-325. Intermediate Acting III
Emphasis is on the development of situation and characterization. The period to be studied may vary from year to year. (Prerequisite: 24-235 or consent of instructor.) (Not open to B.F.A. Acting students.)

24-326. Voice and Movement for the Actor I
Application of voice and movement techniques as they relate to performance assignments. Emphasis may be on one or both disciplines as necessary. (Prerequisite: 24-227.) (1.50 credit hours.) (May be taken twice for credit.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-327. Voice and Movement for the Actor II
Advanced application of voice and movement techniques as they relate to performance assignments. Emphasis may be on one or both disciplines as necessary. (Prerequisite: 24-221.) (1.50 credit hours.) (Restricted to B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-330. Theatre in the Twentieth Century
A study of major theatrical movements and experiments in theatre during the twentieth century. (Open to non-Dramatic Art majors.)

24-333. Canadian Theatre History
A study of the evolution of theatre in Canada. (Open to non-Dramatic Art majors.)

24-344. Directing II
A practical course involving rehearsal techniques and the presentation of scenes or one-act plays. (Prerequisite: 24-244 or consent of instructor.) (Laboratory hours by arrangement.)

24-351. Production Problems
Advanced explorations of current trends, materials, or practices in performance or non-performance, with an emphasis on problem solving techniques. The student will research and develop solutions to one or more production problems and present his/her findings in a seminar situation. (Prerequisite: previous experience/courses in the subject area(s) explored and, consent of a faculty advisor and Director of the School.) (Hours by arrangement.) (May be repeated for credit if assignments or their treatments are significantly varied.)

24-352. Production Problems
Advanced explorations of current trends, materials, or practices in performance or non-performance, with an emphasis on problem solving techniques. The student will research and develop solutions to one or more production problems and present his/her findings in a seminar situation. (Prerequisite: previous experience/courses in the subject area(s) explored and, consent of a faculty advisor and the Director of the School.) (May be repeated for credit if assignments or their treatments are significantly varied.) (Hours by arrangement.)

24-353. Production Problems: Stage Management
A theoretical and practical course examining the duties and responsibilities of the theatrical stage manager, including rehearsal procedures, protocol and etiquette, assembling the production script, cuing methods and notations, and security/safety regulations. (Prerequisite: previous experience/courses in the subject area(s) explored and consent of a faculty advisor.) (May be repeated for credit if assignments or their treatments are significantly varied.) (Laboratory hours by arrangement.)

24-360. Drama in the Classroom: Applications II
Applications of drama as they relate to the curriculum for Grades Seven through Twelve and OAC. Individual learning difficulties, including special needs will be discussed. Completion of a classroom contact is required. (Field contacts are with the consent of Drama in Education instructors and may be outside class time.) (Prerequisite: 24-261 or consent of instructor.) (Restricted to Drama in Education and Community students only.)

24-371. Literacy in Action
A course in the use of drama as it relates to the development of literacy in classroom and community settings. (Prerequisite: 24-261.) (Restricted to Drama in Education and Community students only.)

24-377. Drama and Community: Principles and Theories
A practical introduction to principles, theories, and applications of drama and theatre techniques to promote and maintain health and well-being for individuals and communities. Focus will be on developing skills in leadership and facilitation in a wide range of community settings. (Prerequisite: 24-261 or consent of instructor.)

24-378. Theatre for Social Action
A study of the theory, practice, and development of popular, community, and collective theatre. Students will examine various approaches to theatre for social action through a combination of academic study and practical exercises in specific popular theatre techniques, including Theatre of the Oppressed and Playback Theatre. (Open only to 3rd and 4th year Drama in Education and Community students or by consent of Instructor.) (May be repeated for credit twice if assignments or approaches are significantly different.)

24-384. Creative Movement and Voice II
Continuation of 24-284. The study and practice of movement and voice as they relate to the individual, theatre, and the classroom. Emphasis may be on one or both disciplines as necessary. (Prerequisite: 24-284 or consent of instructor.) (Laboratory hours by arrangement.)

24-400. Style in Theatre
An exploration of selected theatrical styles. Topics and materials may vary from year to year. (Students may use this course number to register for the Stratford Summer Campus. Contact Dramatic Art for further information.) (May be repeated for credit twice if assignments or approaches are significantly varied.)

24-420. Graduation Recital
The selection, preparation, and presentation of suitable audition material in a recital situation. An introduction to the business of being a professional actor will be addressed. (Prerequisite: All required first, second, and third year B.F.A. performance courses; restricted to fourth-year B.F.A. Acting students only.) (Laboratory hours by arrangement.)

24-421. Television Performance
Introduction to basic television performance techniques. Each student performs behind and in front of the camera although the emphasis is on performance. (Prerequisite: 24-225 or 24-235, or by consent of instructor. Restricted to third- and fourth-year Dramatic Art and Communication Studies students.) (May be taken for credit twice.)

24-422. Advanced Television Performance/Production
Students work individually or in small groups under the supervision of an instructor in the execution of a project for television. (Prerequisite: 24-421 or consent of instructor.) (2 lecture hours, 4 laboratory hours per week.) (May be taken for credit twice.)

24-429. Character Study
Independent work in researching, developing, and presenting character projects based on life studies. (Restricted to Fourth year B.F.A. Acting students only.) (May be taken for credit twice with consent of instructor if assignments or their treatments are significantly varied.)

24-439. Directed Studies in History, Theory, or Theatre Administration
Designed for the advanced student who wishes to explore a special area of history, theory, or theatre administration with a faculty advisor. (Prerequisite: consent of a faculty advisor.) (May be taken for credit twice if assignments or their treatments are significantly varied.) (Hours by arrangement.)

24-449. Directed Studies in Direction
Designed for the advanced student who wishes to explore a special area of direction with a faculty advisor. (Prerequisite: consent of the faculty advisor.) (May be taken for credit twice.)

24-451. Performance Seminar
Study of professional practice and performance in theatre art in a work-in-progress situation. (Restricted to B.F.A. Acting students only.)

24-452. Directed Studies in Production
A series of theatrical play production situations in which the advanced student will research, develop, and execute a major technical/design assignment under the supervision of a faculty advisor. (May be repeated for credit if assignments or approaches are significantly varied.) (Prerequisite: consent of a faculty advisor.)

24-453 to 24-458. Directed Studies in Performance
The emphasis in these courses will be a series of plays selected and produced by Dramatic Art or by a theatre company outside of the University as approved by Dramatic Art. Students will research, develop, and execute a role in the performance situation under the supervision of a faculty advisor-director. (May be taken for credit twice.) (Restricted to students who have successfully completed the third year of the B.F.A. Acting Program.)

24-469. Directed Studies in Cross-Cultural Theatre
Designed for the advanced student who wishes to explore a special area of theatre of a unique culture with a faculty advisor. (Prerequisite: previous experience/courses in the subject area(s) explored and consent of a faculty advisor.) (Restricted to students in Semester 5 and above.) (May be taken for credit twice.)

24-470. Theatre for Young Audiences
Research and practical work in the history, principles, and techniques of theatrical performance by, with, and for young audiences. Students may explore international perspectives on topics such as: Theatre in Education, Children's Theatre, Theatre for Youth, Collective Creation, and Devised Theatre. (Prerequisites: 24-277, 24-284, 24-225.) (May be repeated for credit twice if assignments or approaches are significantly varied.)

24-471. Drama and Community: Applications
A project- based practical course in the principles and techniques of drama and theatre as they relate to community, educational, and health-care settings. Students will develop and deliver projects based on topics such as: Drama/Theatre and Disabilities, Theatre in Education, Socio-political Theatre, Popular Theatre, and Theatre for Young Audiences. Projects will be driven by the current research interest and involvement of the instructor or the need and interests of community groups. (Open only to 3rd and 4th year Drama in Education and Community students or by consent of instructor.) (May be repeated for credit if assignments or approaches are significantly varied.)

24-479. Directed Studies in Drama in Education and Community
Independent, directed study in a special area of interest in drama in education under the supervision of a faculty advisor. (May be taken for credit twice.) (Prerequisite: 24-371 and 24-377 or consent of the faculty advisor.) (Placement hours by arrangement.)

4.6 English Language, Literature, and Creative Writing

(Ext. 2288)

OFFICERS OF INSTRUCTION

Professors Emeriti

McNamara, Eugene Joseph; B.A., M.A. (DePaul), Ph.D. (Northwestern)-1959.

Stollman, Samuel S.; Rabbi (Yeshiva), B.Sc. (Columbia), M.A., Ph.D. (Wayne State)-1966.

Ditsky, John; Ph.B., M.A. (Detroit), Ph.D. (New York)-1967.

MacLeod, Alistair; B.A., B.Ed. (St. F. X.), M.A. (New Brunswick), Ph.D. (Notre Dame). Honoris Causa: LL.D. (St. F.X.), LL.D. (King's College), LL.D. (Windsor), LL.D. (York), LL.D. (Law Society of Upper Canada), Litt.D. (Cape Breton), Litt.D. (Prince Edward Island), Litt.D. (New Brunswick), Litt.D. (Alberta), Litt.D. (McGill), LL.D. (Assumption), F.R.S.C.- 969.

Stevens, Peter; B.A. (Nottingham), M.A. (McMaster), Ph.D. (Saskatchewan)-1969.

Janzen, Henry David; B.A. (Assumption), M.A. (Windsor), Ph.D. (Wayne State)-1970.

MacKendrick, Louis Kim; B.A., M.A. (Western Ontario), Phil.M., Ph.D. (Toronto)-1971.

Atkinson, Colin B.; B.Eng. (McGill), B.A. (Sir George Williams), M.A. (Columbia), Ph.D. (New York)-1971.

University Professor

Dilworth, Thomas R.; B.A., M.A., Ph.D. (Toronto)-1977.

Associate Professors

Harder, Bernhard D.; B.A., M.A. (British Columbia), Ph.D. (North Carolina)-1970.

Quinsey, Katherine M.; B.A. (Trent), Ph.D. (London)-1989.

Straus, Barrie Ruth; B.A. (Oregon), M.A., Ph.D. (Iowa)-1990.

Matheson, C. Suzanne; B.A. (McGill), M.A. (Toronto), D.Phil. (Oxford)-1991.

Brandt, Di; B.A. (Manitoba), M.A. (Toronto), Ph.D. (Manitoba)-1997.

Jirgens, Carl; Ontario College of Art, B.A. (Toronto), M.A., Ph.D. (York)-2004. (Head of the Department)

4.6 ENGLISH LANGUAGE, LITERATURE, AND CREATIVE WRITING (01-)

Assistant Professors

Davison, Carol Margaret; B.A. (Concordia), M.A. (York), Ph.D. (McGill)-2000.

Holbrook, Susan; B.A. (Victoria), M.A., Ph.D. (Calgary)-2000.

Jacobs, Dale; B.A., M.A. (Alberta), Ph.D. (Nebraska)-2000.

Pender, Stephen; B.A. (Toronto), M.A. (Queen's), Ph.D. (Toronto)-2000.

Whetter, Darryl; B.A. (Queen's), M.A., Ph.D. (New Brunswick)-2001.

Douglass-Chin, Richard; B.A. (McMaster), M.A. (Western), Ph.D. (McMaster)-2004.

Sale, Carolyn; B.A., M.A. (British Columbia), Ph.D. (Stanford)-2004.

Sessional Lecturer

Hurwitz, Anita; B.A., M.A. (Windsor) - 1993.

Resident Writing Professional

Gervais, Marty; B.A. (Guelph), M.A. (Windsor) - 1997.

Writer in Residence

The staff in English usually includes a writer in residence. Writers in residence have included Morley Callaghan, Tom Wayman, W. O. Mitchell, Adele Wiseman, Peter Robinson, Judith Fitzgerald, Daniel David Moses, Lillian Allen, Daphne Marlatt, Marilyn Dumont, and Mansel Robinson.

4.6.1. PROGRAM REGULATIONS

No more than three 100-level English courses may be credited towards a degree program in English.

Students are required to have completed 26-120, 26-210, and 26-211 by the end of second year, but are urged to take them in their first year.

26-260 will satisfy the Category C (Canadian literature) requirement even if it has already been used to satisfy a 200-level requirement. If 26-260 is used to satisfy both a 200-level requirement and the Category C requirement, the student must take one additional course to bring the total number of courses up to the required number for the degree program.

English majors are strongly encouraged to take 26-105.

4.6.2 PROGRAMS OF STUDY

Minor, General, Honours, and Combined Honours degree programs are available in English Language and Literature. Honours and Combined Honours degree programs are available in English Literature and Creative Writing.

Requirements for degree programs in English make reference to the following groups of courses:

Literature Courses at the 100- and 200-level: 26-120, 26-122, 26-123, 26-128, 26-140, 26-205, 26-210, 26-211, 26-260, 26-270.

Practicum Courses: 26-302, 26-305, 26-307, 26-309.

Category A - Early British Literature: 26-310, 26-312, 26-314, 26-322, 26-323, 26-324, 26-326, 26-327, 26-328, 26-333, 26-334, 26-335, 26-336.

Category B - Later British Literature: 26-343, 26-344, 26-346, 26-347, 26-348, 26-349, 26-352, 26-353, 26-355, 26-356, 26-357.

Category C - Canadian Literature: 26-260, 26-361, 26-366, 26-367. (26-260 will simultaneously satisfy a 200-level requirement and satisfy a Category C requirement.)

Category D - American and World Literatures Written in English: 26-354, 26-358, 26-371, 26-372, 26-373, 26-374, 26-375.

Category E - Composition, Rhetoric, Linguistics, and Theory: 26-301, 26-383, 26-392, 26-395, 26-397, 26-399.

Minor in English Language and Literature

Required: a minimum of six English courses, including:

(a) one literature course at the 100-level;
(b) two courses at the 200-level;
(c) one course at the 300-level;
(d) two more courses numbered 200 or above.

General English Language and Literature

Total courses: thirty.

Major requirements: twelve courses, including:

(a) 26-120, 26-210, and 26-211 (Students are encouraged to take 26-210 and 26-211 in their first year.);
(b) 26-260 or 26-270;
(c) one other 200-level course;
(d) one course from each of Categories A through E.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) eight courses from Arts, Languages, Social Sciences, or Science, excluding English;
(b) four courses from any area of study, including English.

4.6 ENGLISH LANGUAGE, LITERATURE, AND CREATIVE WRITING (01-)

Honours English Language and Literature

Total courses: forty.

Major requirements: twenty courses, including:

(a) 26-120, 26-210, 26-211, and 26-280 (Students are encouraged to take 26-210 and 26-211 in their first year.);
(b) 26-260 or 26-270;
(c) 26-290, 26-291, or 26-293;
(d) two Category A courses;
(e) one course from each of Categories B through E;
(f) one Practicum course (26-302, 26-305, 26-307, 26-309) or a 400-level course;
(g) one more 400-level course.

Recommended: 26-309 (Scholarship and Bibliography).

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) four courses from Arts, Languages, Social Sciences, or Science, including English;
(b) four courses from Arts, Languages, Social Sciences, or Science, excluding English;
(c) six courses from any area of study, excluding English.

Honours English Literature and Creative Writing

Total courses: forty.

Major requirements: twenty courses, including:

(a) 26-120, 26-210, 26-211, and 26-280 (Students are encouraged to take 26-210 and 26-211 in their first year.);
(b) 26-260 or 26-270;
(c) 26-290, 26-291, or 26-293;
(d) 26-203 (a 6.0-credit course) and 26-498 (a 6.0-credit course);
(e) 26-304;
(f) two Category A courses;
(g) one course from each of Categories B through E.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements:

(a) four courses from Arts, Languages, Social Sciences, or Science, including English;
(b) four courses from Arts, Languages, Social Sciences, or Science, excluding English;
(c) six courses from any area of study, excluding English.

Combined Honours English Language and Literature

Total courses: forty.

Major requirements: seventeen courses, including:

(a) 26-120, 26-210, 26-211, and 26-280 (Students are encouraged to take 26-210 and 26-211 in their first year.);
(b) 26-260 or 26-270;
(c) 26-290, 26-291, or 26-293;
(d) two Category A courses;
(e) one course from each of Categories B through D;
(f) one 400-level course.

Recommended: 26-309 (Scholarship and Bibliography).

Major requirements - Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements: additional options (if required) to a total of forty.

Combined Honours English Literature and Creative Writing

Total courses: forty.

Major requirements: seventeen courses, including:

(a) 26-120, 26-210, 26-211, and 26-280 (Students are encouraged to take 26-210 and 26-211 in their first year.);
(b) 26-260 or 26-270;
(c) 26-290, 26-291, or 26-293;
(d) 26-203 (a 6.0-credit course) and 26-498 (a 6.0-credit course);
(e) 26-304;
(f) one Category A course;
(g) one from each of Categories B through D.

Recommended: 26-305 (Editing Practicum).

Major requirements - Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;

(c) two additional courses from Arts, Languages, Social Sciences, or Science.

Other requirements: additional options (if required) to a total of forty.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 26-120, 26-210, 26-211, 26-260 or 26-270, one additional 200-level course, one course from each of Categories A-E, two additional courses from Categories A-E.

Minor Concentration: two 100-level courses (one of which must be a literature course and excluding 26-100 and 26-103); plus two courses from Categories A-B and two courses from Categories C-E, one of which must be at the 300-level or above.

3.6.3 COURSE DESCRIPTIONS

Not all courses listed will be offered each year. All courses are three hours a week (3.0 credit hours) unless otherwise indicated. Students should consult the Departmental office or website for details of Topics and Seminar courses offered in a given year.

100-LEVEL COMPOSITION AND CREATIVE WRITING COURSES

26-100. Composition
An exploration of the fundamentals of effective writing, including attention to rhetorical concepts of audience, purpose, and context; planning, logical development, and organization; and format and style. (Because of the large number of written assignments and the need for individual instruction, enrollment in 26-100 is limited.) (Not open to students majoring in English.) (Antirequisite: 26-103.)

26-103. Composition for ESL Students
Instruction and extensive practice in writing English in the style and form appropriate for Canadian university-level courses. (Open to students whose first language is not English and whose writing displays problems typical of ESL learners. A placement or writing test may be administered to verify that the student's writing fits the stated criteria.) (Not open to students majoring in English.) (Antirequisite: 26-100.)

26-105. Creative Writing
An introduction to the Creative Writing program. Creative writers will practice writing in various genres in an intensive workshop. (Portfolio approval is required for admission.) (This is not a course in Composition.) (Not available on an Audit basis.)

100-LEVEL LITERATURE COURSES

26-120. Writing about Literature
An introduction to the basic tools for analyzing and writing about literature. Students will be trained in practical criticism of the major genres of literature (poetry, drama, and narrative) and will write a number of critical essays. (Not available on an Audit basis.) (Restricted to majors in English only.)

26-122. Drama of the Western World: The Tragic Vision
An introduction to tragedy from antiquity to the present, from literary and theatrical perspectives.

26-123. Drama of the Western World: The Comic Vision
An introduction to comedy from antiquity to the present, from literary and theatrical perspectives.

26-128. Women and Literature
An introduction to the ways in which women have been represented and constructed in English literature of various periods.

26-140. Topics in Literature
An introduction to a topic in literature. Topics may include Canadian Aboriginal literature; literature pertaining to topics such as the Bible, the environment, film, or music; comparative literatures; or world literatures in English. (May be repeated for credit if the topics are different.)

200-LEVEL CREATIVE WRITING AND LITERATURE SURVEY COURSES

26-203. Creative Writing I
An intensive workshop in various genres. Previous formal creative writing experience is expected. (Portfolio approval is required for admission.) (Not available on an Audit basis.) (A 6.0-credit, two-term course.)

26-205. Children's Literature
A survey of the historical and literary development of literature written for children, including nursery rhymes, fairy tales, and book-length classics. (Prerequisite: Semester 3 standing and one 100-level English course.)

26-210. Early British Literature
A historical survey of the important works of major writers of the Medieval, Renaissance, Restoration, and early eighteenth-century periods (from 450 to 1760). (Restricted to English majors only.) (Students may not receive credit for both 26-210 and 26-110.)

26-211. Later British Literature
A historical survey of the important works of major writers of the Romantic, Victorian, and Modern periods (from 1760 to the present). (Restricted to English majors only.) (Students may not receive credit for both 26-211 and 26-111.)

26-260. Canadian Literature
A survey of the development of Canadian literature across various genres, regions, and communities. (Prerequisite: Semester 3 standing and one 100-level English course.)

26-270. American Literature
A survey of the development of American literature across various genres, regions, and communities. (Prerequisite: Semester 3 standing and one 100-level English course.)

26-280. Contemporary Literary Theory
A survey of contemporary literary theory, which may include new criti-

cism, structuralism, poststructuralism, hermeneutics, psychoanalysis, Marxism, new historicism, or gender studies. Explores fundamental critical concepts, with an emphasis on the ways in which notions of reading, textuality, authorship, and subjectivity have developed in Anglo-American and European thought. (Prerequisite: Semester 3 standing and one 100-level literature course in English.)

26-290. Introduction to Rhetoric
A survey of historical and theoretical aspects of rhetoric from the fifth century BCE to the present, including an examination of the relationship between rhetoric, epistemology, ethics, and politics. (Prerequisite: Semester 3 standing and one 100-level English course.)

26-291. History of the English Language
A survey of the background and origins of the English language and its various forms from Old English to the end of the eighteenth century. (Prerequisite: Semester 3 standing.)

26-293. Modern English and Linguistics
A survey of linguistics (the study of languages as systems), with particular emphasis on the English language. (Prerequisite: Semester 3 standing.)

300-LEVEL ADVANCED UNDERGRADUATE COURSES

26-301. Gender and Literature
A study of how gender is constructed in texts from a variety of periods, with emphasis on cultural contexts, feminist theory, and notions of gender and sexuality. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-302. Writing About the Arts (Practicum)
A practicum in writing about contemporary forms of artistic expression. Students will write in multiple genres, exploring connections between art, its social and cultural contexts, and their own experience. Coursework and assignments will be complemented by interactive explorations of a variety of art forms. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-304. Creative Writing II: Special Topics
An advanced workshop featuring a specific genre, approach, or subject. (Portfolio approval is required for admission.) (May be repeated for credit if topics are different.) (Not available on an Audit basis.)

26-305. Editing Practicum
A practicum in the theory and practice of editing historical, scholarly, and creative works. Students will be directly involved with current editorial projects in the Department. (Permission of the instructor required.) (Not available on an Audit basis.)

26-307. Writing Hypertext (Practicum)
A study of the aesthetic and textual principles of hypertext and contemporary theories of writing, reading, and textuality. Assignments in webpage creation will provide media literacy and HTML skills. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Not available on an Audit basis.) (1 lecture, 2 lab hours per week.)

26-309. Scholarship and Bibliography (Practicum)
A study of literary research methods and textual scholarship. Includes practice in research techniques and in bibliographic description, the study of editing procedures, and the examination of the historical and theoretical contexts of textual production. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-310. Middle English Literature
A study of post-1066 Medieval literature, excluding Chaucer. Texts will be read in normalized Middle English. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-312. Chaucer
A study of the major works of Chaucer, including *The Canterbury Tales*. Texts will be read in normalized middle English. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-314. Topics in Medieval Literature
Studies in Medieval literature, with changing emphasis on particular themes, genres, or authors. Topics might include Old English or Medieval Romance. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-314 and 26-214 if the topic is Medieval Romance.) (Students may not receive credit for both 26-314 and 26-311 if the topic is Old English.)

26-322. Topics in Renaissance Literature
Studies in Renaissance literature, with changing emphasis on particular themes, genres, or authors. Topics might include Milton and *Paradise Lost*, early seventeenth-century lyric, or literature of the English Revolution. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-323. Sixteenth-Century Non-Dramatic Literature
A study of continuity and change in English literature, culture, and intellectual history in the sixteenth century. Explores canonical and non-canonical poetry and prose by men and women in the context of the European Renaissance and Reformation. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-323 and 26-223.)

26-324. Seventeenth-Century Non-Dramatic Literature
A study of continuity and change in English literature, culture, and intellectual history in the seventeenth century. Explores canonical and non-canonical poetry and prose by men and women in an age of religious,

political, and scientific revolution. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-324 and 26-224.)

26-326. Shakespeare I
A study of selected plays to 1600 (early tragedies, histories, and comedies) from literary and theatrical perspectives. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-327. Shakespeare II
A study of selected plays from 1600 (tragicomedies, tragedies, and romances) from literary and theatrical perspectives. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-328. Topics in Renaissance Drama
Studies in Renaissance drama, with changing emphasis on particular themes, genres, or authors. Topics might include Shakespeare in Performance (at the Academy at the Stratford Festival) or drama of the English Renaissance (excluding Shakespeare). (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-333. Restoration Literature
A study of literature in the light of the shifting social, political, and intellectual contexts of 1660-1700. Texts include poetry, drama, fiction, and polemical prose by men and women. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-333 and 26-233.)

26-334. Eighteenth-Century Literature
A study of literature from the Augustans to the Romantics. Texts range from poetry to short fiction to journalistic prose by men and women. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-334 and 26-234.)

26-335. Restoration and Eighteenth-Century Drama
A study of English plays and theatre 1660-1800. Writers may include Etherege, Behn, Dryden, Congreve, Steele, Lillo, Goldsmith, and Sheridan. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-335 and 26-235.)

26-336. Topics in Restoration and 18th-Century Literature
Studies in Restoration and eighteenth-century literature with changing emphasis on particular themes, genres, or authors. Topics might include eighteenth-century fiction, satire, gender and literature, and colonialism. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-336 and 26-338 if the topic is eighteenth-century fiction.)

26-343. Early Romanticism
A study of the literature of late eighteenth-century Britain in its historical and cultural contexts. Writers may include Burns, Austen, Blake, Wollstonecraft, Godwin, Walpole, Wordsworth, and Coleridge. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-343 and 26-243.)

26-344. Later Romanticism
A study of the literature of late eighteenth and early nineteenth-century Britain in its historical and cultural contexts. Writers may include Mary Shelley, Keats, Byron, Hemans, P. B. Shelley, de Quincey, and Clare. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-344 and 26-244.)

26-346. Early Victorians
A study of responses to industrialization, urbanization, social reform, gender relations, and late Romantic ideas. Writers may include Dickens, Gaskell, Tennyson, Carlyle, and the Brownings. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-346 and 26-246.)

26-347. Later Victorians
A study of responses to changing attitudes and values in art and society from mid-century to the death of Queen Victoria. Writers may include Arnold, Eliot, the Rossettis, Hardy, and Wilde. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-347 and 26-247.)

26-348. Topics in Victorian Literature
Studies in Victorian literature with changing emphasis on particular themes, genres, or authors. Topics might include the "Woman Question", representations of empire, literature of the fin-de-siècle, the Brontës, the working-class question, or Victorian gothic. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-349. Topics in Romantic Literature
Studies in Romantic literature with changing emphasis on particular themes, genres, or authors. Topics might include Romantic biography/autobiography, landscape and representation, Romantic women writers, the Jacobin novelists, Romanticism and race, or the gothic. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-352. Modern British Literature
A study of works published in the first half of the twentieth century. Writers may include Hopkins, Hardy, James, Conrad, Lawrence, Eliot, Woolf, Ford, and Auden. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-352 and 26-251.)

26-353. Contemporary British Literature
A study of works published since the mid-twentieth century. Writers may include Orwell, Jones, Greene, Golding, Spark, Fowles, Pinter, Stoppard, Caryl Churchill, Dylan Thomas, Amis, Larkin, Hughes, and D. M. Thomas. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-353 and 26-252.)

26-354. Literature and Postcolonialism
A study of the literature of nations and peoples responding to various forms of oppression, including colonization, racism, assimilation, and genocide. Introduces relevant theory and focuses on contemporary English-language texts from Africa, the Caribbean, South Asia, North America, and elsewhere. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-355. Modern Irish Literature
A study of works published since the start of the twentieth century. Writers may include Yeats, Joyce, Synge, O'Casey, Clark, Beckett, Kavanaugh, O'Brien, Kinsella, Trevor, and Heaney. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-356. Drama of the Twentieth Century
A study of drama from the end of the nineteenth century. Writers may include Ibsen, Chekhov, Strindberg, Shaw, Beckett, Ionesco, and Pinter. All works will be read in English. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-356 and 26-254.)

26-357. Topics in Modern and Contemporary British Literature
Studies in modern and contemporary British literature with changing emphasis on particular themes, genres, or authors. Topics might include literary impressionism, poets of WWI, or the mid-length poem. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-358. Native Literatures and Cultures
A study of literature by First Nations and Aboriginal writers from Canada, the United States, New Zealand, and Australia. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-358 and 26-204.)

26-361. Topics in Canadian Literature
Studies in Canadian literature with changing emphasis on the literature of a particular region or community, a particular genre, or select authors. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-366. Canadian Poetry
A study of significant modern and contemporary Canadian poetry. Discussion may include questions of form, voice, place, identity, and community. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-366 and 26-266.)

26-367. Canadian Fiction
A study of significant modern and contemporary Canadian short stories and novels. Discussion may include questions of identity, place, form, voice, and community. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-367 and 26-267.)

26-371. Topics in American Literature
Studies in American literature, with changing emphasis on particular themes, genres, or authors. Topics might include American gothic, 19th-century citizenship, African-American literature, or the Harlem Renaissance. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.)

26-372. American Literature: Colonials to Civil War
A study of the emergence and development of American literary identity from the earliest settler writings through to the American Renaissance. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-372 and 26-274, or for both 26-372 and 26-275.)

26-373. American Literature: Civil War to Realists
A study of innovations in style and subject during the period between the Civil War and World War I. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-373 and 26-275, or for both 26-373 and 26-276.)

26-374. The American Moderns
A study of American writing in the period between the World Wars, including expatriates in Europe. New styles of poetry, drama, and fiction will be considered in the context of contemporary events. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-374 and 26-278.)

26-375. The Literature of Contemporary America
A study of post-WWII American literature in the contexts of contemporary social and artistic change. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses, one of which must be a literature course.) (Students may not receive credit for both 26-375 and 26-279.)

26-383. Topics in Literary or Cultural Theory
Studies in selected theories, theorists, or movements and countermovements in contemporary literary theory, cultural studies, or intellectual history. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and 26-280.)

26-392. Language Variation
A study of how languages differ and change in time and space. Topics covered will include dialects, stylistic differences, and the mechanisms and causes of language variation. (Prerequisite: Semester 4 standing and 07-120, 07-220, or two 100- or 200-level English courses.) (Students may not receive credit for both 26-392 and 26-292.)

26-395. Topics in Language and Linguistics
Studies in language and linguistics, with changing emphasis on an area or subfield of linguistics (*e.g.*, syntax or sociolinguistics) or of a related field. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and 07-120, 07-220, or two 100- or 200-level English courses.)

26-397. Advanced Composition Theory and Practice
A study of the relationship between theory and practice in Composition. Applying theories of Composition and writing in a variety of genres, students will examine how people write and how discourse is produced and circulated. (Prerequisite: Semester 4 standing and two 100- or 200-level English courses.)

26-399. Topics in Composition and Rhetoric
Studies in Composition and Rhetoric, with changing emphasis on particular aspects of these fields. Topics might include literacy studies, visual rhetorics, or rhetoric and contemporary society. (May be repeated for credit if the topics are different.) (Prerequisite: Semester 4 standing and two 100- or 200-level English courses.)

DIRECTED READINGS

26-401 to 26-410.

Directed Readings are offered only under exceptional circumstances, and only with the written permission of the Department Head.

SEMINAR COURSES

26-411. Seminar in Medieval Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-412. Seminar in Renaissance Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-413. Seminar in Restoration and Eighteenth-Century Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-414. Seminar in Romantic Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-415. Seminar in Twentieth-Century British Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-416. Seminar in Canadian Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-417. Seminar in American Literature
(Prerequisite: Semester 7 standing and ten English courses.)

26-418. Seminar in Literary or Cultural Theory
(Prerequisite: Semester 7 standing and ten English courses, including 26-280.)

26-419. Seminar in Language and Linguistics
(Prerequisite: Semester 7 standing and ten English courses.)

26-420. Special Topics Seminar
(Prerequisite: Semester 7 standing and ten English courses.)

26-424. Seminar in Literature of the Victorian Period
(Prerequisite: Semester 7 standing and ten English courses.)

26-498. Creative Writing III: Seminar
(Portfolio approval is required for admission.) (A 6.0-credit, two-term course.)

4.7 Family and Social Relations

(Ext. 2188)

Co-ordinator: Dr. Gerald V. Booth

Faculty teaching courses that fulfill the requirements for degree programs in Family and Social Relations are listed in the "Officers of Instruction" for the areas of Psychology, Sociology, and other Social Sciences.

The interdisciplinary degree programs in Family and Social Relations combine courses from a variety of academic perspectives whose focus is upon the family as a fundamental unit in society. The program is designed to provide a comprehensive understanding of the family including its various possible structures, the relationships within, and the nature of its interaction with other social institutions.

A background in Family and Social Relations has relevance to careers in law, teaching, social work, government service, family mediation, family court support services, and applied research in the areas of sexuality, child development, family violence, separation, divorce, and aging.

Students selecting a general degree in Family and Social Relations can, with appropriate course selection, be prepared for application to four-year Honours and then graduate programs in psychology, sociology, and related disciplines.

Minor in Family and Social Relations

Required: 48-204, 48-206, 48-306, 48-329, 48-351; and one of 48-352, 48-409, 48-461.

General Family and Social Relations

Total courses: thirty.

Requirements:

(a) 02-250 (or equivalent), 46-115, 46-116; 48-101, 48-102, 48-104, 48-210 (or equivalent);
(b) one of 43-249, 43-250, 43-335, 48-351;
(c) six of 46-223, 46-224, 46-240, 47-117, 47-118, 48-204, 48-205, 48-206, 48-306 (or 49-306), 48-329, 48-350, 48-354, 48-409, 48-461;
(d) two of 41-110, 46-225, 46-322, 47-204, 47-210, 48-226 (or 49-226), 48-251, 49-214.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Science;
(b) two courses from Arts or Languages;
(c) four courses from any area of study excluding Social Sciences;
(d) six courses from any area of study including Social Sciences. Courses listed above not used to fulfill other requirements may be chosen.

Honours Family and Social Relations

Total courses: forty.

Requirements:

(a) 02-250 (or equivalent), 46-115, 46-116, 46-223, 46-224, 46-327, 48-101, 48-102, 48-104, 48-204, 48-205, 48-206, 48-210 (or equivalent), 48-329, 48-350;
(b) 46-313 or 48-308;
(c) one of 43-249, 43-250, 43-335, and 48-351;
(d) one of 46-240 or 48-306 (or 49-306);
(e) three of 46-225, 47-117, 47-118, 48-354, and 49-214;
(f) one of 48-310 (or 49-355) or 48-416;
(g) two of 43-463, 46-423, 46-424, 46-440, 46-463, 48-409, 48-461, 48-496;
(h) four of 41-110, 46-322, 46-323, 47-204, 47-210, 48-226 (or 49-226), 48-251, 48-352 (or 49-352), 49-214.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Science;
(b) two courses from Arts or Languages;
(c) four courses from any area of study excluding Social Sciences;
(d) four courses from any area of study, including any course listed above not used to fulfill other requirements.

Combined Honours Family and Social Relations

(Not available for a Combined Honours degree with Sociology.)

Total courses: forty.

Major requirements-Family and Social Relations: sixteen courses, consisting of:

(a) 02-250 (or equivalent), 46-115, 46-116, 48-101, 48-102, 48-104, 48-210 (or equivalent), 48-306 (or 46-240), 48-308 (or 46-313, or equivalent);
(b) two of 46-223, 46-224, 46-327;
(c) two of 48-204, 48-205, 48-206, 48-251, 49-214;
(d) one of 48-350, 48-351, 48-352, 48-354;
(e) one of 43-463 (or 46-463), 46-423, 46-424, 48-409, 48-461, 48-496;
(f) one of 48-310 (or 49-355), 48-416.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) two courses from Science;
(b) two courses from Arts or Languages;
(c) additional courses from any area of study excluding Social Sciences as required.

Teaching Family and Social Relations

Students intending to teach Family and Social Relations at the Intermediate-Senior level in the school system are advised to take the

following courses as a part of the Family and Social Relations program: 41-110, 46-223, 46-224, 46-240, 46-327, 48-204, 48-205, 48-206, 48-226 (or 49-226), 48-306 (or 49-306), 48-329, 48-350, 49-214.

Students intending to apply to the Bachelor of Social Work program at Year 3 must include the following courses in their programs: 47-117, 47-118, 47-204, and 47-205.

4.8 French Language and Literature

(Ext. 2062)

OFFICERS OF INSTRUCTION

Professor Emeritus

Starets, Moshé; Dipl. Ed., B.A., M.A. (Tel Aviv), Doct. 3e cycle (Sorbonne)-1966.

Professor

deVillers, Jean-Pierre; L. ès L. (Aix-en-Provence), Ph.D. (Colorado)-1968.

Associate Professor

Fraser, Veronica; B.A. (London), M.A., Ph.D. (Toronto)-1988. (French Program Chair)

Assistant Professors

Collet, Tanja; Licence (Antwerp), M.A., Ph.D. (Montreal)-2001.

Dolbec, Nathalie; B.A., M.A. (Toronto), B.Ed. (York), Ph.D. (Toronto)-2001.

Ohlmann, Judith; M.A., D.E.A. (Nice), Ph.D. (Queen's)-2001.

Adjunct Professor

Kingstone, Basil D.; B.A., M.A., Ph.D. (Oxford), M.A. (Ottawa)-1963.

Adjunct Assistant Professor

Bénéteau, Marcel; B.A. (Windsor), M.A., Ph.D. (Laval)-2003.

4.8.1 PROGRAM REGULATIONS

The French language is an essential part of Canada's culture, not only for those who become teachers or translators, but also for those who enter the legal profession, the federal or provincial civil service, social work, business, or industry-in short, all walks of life.

Minor, general degree, and combined four-year Honours degree programs are available in French. A four-year Honours degree program is available in French Language and Literature.

Options in French: Students wishing to take French as an option are free to select any course provided that they have demonstrated a sufficient command of the language, and/or sufficient preparation in literary studies.

4.8.2 PROGRAMS OF STUDY

Requirements for degree programs make reference to the following groups of courses:

Preparatory French: 29-111, 29-112, 29-113, 29-114.

French Language Training: 29-121, 29-122, 29-215, 29-221, 29-222, 29-315, 29-325.

Translation Courses: 29-328, 29-329, 29-425.

Linguistics: 29-230, 29-231, 29-330, 29-331, 29-332, 29-430, 29-431.

French Literature: 29-141, 29-252, 29-253, 29-255, 29-257, 29-350, 29-353, 29-354, 29-356, 29-357.

Franco-Canadian Literature : 29-284, 29-383, 29-385.

Franco-Canadian Culture: 29-270.

Modern French Culture: 29-260.

Special Topics: 29-400 to 29-496.

Directed Readings: 29-497, 29-498, 29-499.

Canadian Studies: 29-280.

Minor in French

Required: a minimum of six French courses, including 29-121, 29-122, 29-221, and 29-222; plus two courses which may be in Language Training, Translation, Linguistics, or Literature.

General French

Total courses: thirty.

Major requirements: sixteen courses, consisting of:

(a) six Literature courses: 29-141; plus two of 29-252, 29-253, 29-255, 29-350; and two of 29-257, 29-353, 29-354, 29-356; and one of 29-270, 29-284, 29-383, 29-385;
(b) six Language Training courses: 29-121, 29-122, 29-215 (or 29-315), 29-221, 29-222; and one of 29-325, 29-328, 29-329;
(c) three Linguistics courses: 29-230 and 29-231; and one of 29-330, 29-331, 29-332;
(d) one Special Topics (400-level) course, or 29-260, or 29-357, or a Franco-Canadian course.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) six more courses from Arts, Languages, Social Sciences, or Science, excluding French;
(b) two courses from any area of study, excluding French.

Honours French Language and Literature

Total courses: forty.

Major requirements: twenty-three courses, consisting of:

(a) eight Literature courses: 29-141 and 29-357; plus two of 29-252, 29-253, 29-255, 29-350; and two of 29-257, 29-353, 29-354, 29-356; plus two of 29-270, 29-284, 29-383, 29-385;
(b) seven Language Training courses: 29-121, 29-122, 29-215 (or 29-315), 29-221, 29-222; and two of 29-325, 29-328, 29-329;
(c) four Linguistics courses: 29-230 and 29-231; and two of 29-330, 29-331, 29-332;
(d) two additional courses from 29-260, Franco-Canadian courses (29-383 or 29-385), or Special Topics (400-level),
(e) two additional courses from any area in French.

Option requirements (see 2.4.14 for subject areas): six courses including:

(a) two Social Science courses;
(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements:

(a) four more courses from Arts, Languages, Social Sciences, or Science, excluding French;
(b) six courses from any area of study, excluding French;
(c) one course from any area of study, including French.

Combined Honours Programs

Major requirements-French: seventeen courses consisting of:

(a) seven Literature courses: 29-141, 29-357 plus two of 29-252, 29-253, 29-255, 29-350; and two of 29-257, 29-353, 29-354, 29-356; and one of 29-270, 29-284, 29-383, 29-385;
(b) six Language Training courses: 29-121, 29-122, 29-215 (or 29-315), 29-221, 29-222; and one of 29-325, 29-328, 29-329;
(c) three Linguistics courses: 29-230 and 29-231; and one of 29-330, 29-331, 29-332;
(d) one additional courses from 29-260, Franco-Canadian courses (29-383 or 29-385), or one Special Topics (400-level).

Major requirements-Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;

(b) two Arts or two Science courses;
(c) two additional courses from Arts, Social Sciences, or Science.

Other requirements: additional options (if required) to a total of forty courses.

Concurrent Bachelor of Arts/Bachelor of Education in French

The Concurrent Bachelor of Arts/Bachelor of Education Program is offered jointly over four or five years by the French Studies Program and the Faculty of Education. The aim is to provide the opportunity and education to individuals who wish to teach at the junior and intermediate levels (grades 4 to 10), with a particular emphasis on teaching French as a Second Language in grades 4 to 8.

Graduates of this program will receive two degrees and will acquire the necessary skills and knowledge for teaching French as a second language and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can qualify for the Bachelor Arts (French) degree while concurrently studying education and doing practice teaching in schools. Practice teaching begins in year one of the program. All students should see an advisor in the French Studies Program and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

PROGRAM REQUIREMENTS

CONCURRENT BACHELOR OF ARTS (GENERAL)/BACHELOR OF EDUCATION IN FRENCH

Total courses: forty-two

The Bachelor of Arts (General) degree with a major in French requires thirty courses of which 16 courses must be in French Language and Literature (see sequence below).

All students must complete the requirements of the Bachelor of Arts (General or Honours) degree program in French in addition to seven Education courses: 80-203, 80-204, 80-205, 80-302 and 80-358; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200.

CONCURRENT BACHELOR OF ARTS (HONOURS)/BACHELOR OF EDUCATION IN FRENCH

Total courses: fifty-two

All students must complete the requirements of the Bachelor of Arts (General or Honours) degree program in French in addition to seven Education courses: 80-203, 80-204, 80-205, 80-302 and 80-358; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200.

Students who wish to complete the Bachelor of Arts (Honours) degree program, should make this decision during their second year of studies. Students pursuing an honours degree will take a 'stop-out' year from Education, normally in year 3, to focus entirely on their non-Education studies. This permits students to complete required French and minor courses for prerequisite purposes. For an Honours BA, an additional 10 courses are required which must include: 29-357, 29-328 or 29-329, 29-332, 29-400 level - special topics, 2 additional courses from any area of French, and 1 additional Franco-Canadian course. The stop-out year also enables students to participate in the Third-Year Exchange Program with the Université de Nice or Université du Québec à Montreal.

RECOMMENDED COURSE SEQUENCES

CONCURRENT BACHELOR OF ARTS (GENERAL)/BACHELOR OF EDUCATION IN FRENCH

Year 1
French: 29-121, 29-122, 29-141, and a 29-200 level course in Literature
Option/others: 5 courses
Education: 80-203 (32 hours over 2 semesters).
Intersession: 80-499 (ten days).

Year 2
French: 29-221, 29-222, 29-230, 29-231, 29-215 or 29-315 or a 29-200 level course in Literature or Culture*
Options/others: 2 courses
Education: 80-302 (96 hours over 2 semesters)
Intersession: continuation of 80-499 (twenty days).

Year 3
French: 29-325, 29-330, two courses at the 29-200 or 29-300 level in Literature or Culture*
Options/others: 3 courses
Education: 80-204 and 80-358 (Part 1) (32 hours each over 2 semesters)
Intersession: continuation of 80-499 (twenty days).

Year 4
French: 3 courses in Literature or Culture*
Options/others: 4 courses
Education: 80-205 and 80-358 (Part 2), plus 80-200 (16 hours, optional for Catholic teacher candidates)
Intersession: completion of 80-499 (twenty days).

** Students will be required to take both culture courses (29-260 and 29-270.)*

PRACTICE TEACHING

Directed observation and practice teaching will be arranged by the Faculty of Education to include practical experience in appropriate schools and programs from grade four to grade eight, inclusive.

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19). In addition, at the end of the first year of their program, all students are required to pass a French Proficiency Test, administered by the Faculty of Education in collaboration with the French Studies Program. Students whose performance on the test is marginal will be given a second chance to pass the test at the beginning of their second year. Students who fail the test will be required to withdraw from the concurrent program.

Normally candidates complete all requirements of the Concurrent Program in four years, unless they are taking an honours degree, in which case they will complete it in five years. Any variation to the normal schedule must be approved by the Dean of Education.

Students who obtain three or more final Education course grades below C will not be recommended for certification. Students who are unsuccessful in practice teaching or obtain a final grade of F in any Education course will not be recommended for either a B.Ed. degree or certification.

GRADUATION

For the Standing Required for Graduation, see 2.4.20. Graduates of the program will receive both the Bachelor of Arts (General or Honours) and the Bachelor of Education (General) degrees.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 29-121, 29-122, 29-221, 29-222, 29-215 or 29-315, 29-230, 29-231, 29-141, plus one additional French Literature courses, three courses from any area of French studies. At least one course must be in the literature or culture of Francophone Canada.

Minor Concentration: 29-121, 29-122, 29-221, and 29-222; plus two courses which may be in Language Training, Translation, Linguistics, or Literature.

4.8.3 COURSE DESCRIPTIONS

All courses with the prefix 29- are taught in French with the exception of 29-280. Courses are normally offered in one term per year. Not all courses are offered every year. Please contact the French program office or its web site at www.uwindsor.ca/french.

Courses are three hours a week (3.00 credit hours) unless otherwise indicated. Language and linguistics courses may require laboratory and/or field work.

Antirequisite: An antirequisite is a specific course or level of attainment which, if already successfully completed, does not permit registration for credit in another desired course, or which may not be taken for credit concurrently with another course.

29-111. French for Beginners I
Acquisition of basic reading and writing skills, aural comprehension, and oral practice. No prerequisites. Only for students with no prior knowledge of French. (Antirequisite: Grade 9 French or higher.)

29-112. French for Beginners II
Further training in basic reading and writing skills, aural comprehension, and oral practice. (Antirequisite: Grade 10 French or higher.) (Prerequisite: 29-111, Grade 9 French, or equivalent.)

29-113. Preparatory French: Intermediate Level I
Grammar, acquisition of reading and writing skills, aural comprehension, oral practice. Laboratory work. (Antirequisite: Grade 11 French or higher.) (Prerequisite: 29-112, Grade 10 French, or equivalent.)

29-114. Preparatory French: Intermediate Level II
Further training in grammar. Reading and writing skills. Additional aural comprehension and oral practice. Laboratory work. This course is equivalent to Grade 12"U" French or equivalent. (Antirequisite: Grade 12"U" French or equivalent, or higher.) (Prerequisite: 29-113, Grade 11 French, or equivalent.)

29-121. French Language Training I
Phonetics: theory and practice. Grammar: norms and functions of the French verb system, nouns, pronouns, and modifiers. Laboratory work, oral practice, composition. (Prerequisite: Grade 12"U" French or Français, or equivalent.) (Antirequisite: any 200-level French language training courses.)

29-122. French Language Training II
Further study of the norms and functions of the French verb system, nouns, pronouns, and modifiers. Development of reading comprehension. Laboratory work, oral practice, composition. (Prerequisite: Grade 12"U" French or Français, or equivalent.) (Antirequisite: any 200-level French language training courses.)

29-141. Introduction to Literary Studies
An introduction to the analysis of literary genres: poetry, drama, and prose fiction. (Prerequisite: Grade 12"U" French or Français, or equivalent.)

29-215. Oral Proficiency in French I
A course designed to improve the student's oral proficiency by means of presentations in class, discussions, acquisition of pertinent vocabulary, analysis of oral grammar and errors, laboratory work, and readings mainly from the francophone press. (May not be taken for credit by native speakers of French.) (Prerequisite: permission of instructor.)

29-221. French Language Training III
Effective oral and written communication; practice in the logical develop-

ment of ideas; vocabulary expansion. (Prerequisites: 29-121 and 29-122.)

29-222. French Language Training IV
Effective oral and written communication. Demonstration and discussion of the spoken and written codes, oral exercises, written practice. (Prerequisites: 29-121 and 29-122.)

29-230. Introduction to Linguistics I
A survey of fundamental linguistic concepts and ideas of language. Language analysis at the first three levels of description: phonetics, phonology and morphology. (Prerequisite: 29-121, 29-122, or permission of instructor.)

29-231. Introduction to Linguistics II
Language analysis at the remaining levels of description: syntax, semantics, discourse analysis and pragmatics. A brief introduction to sociolinguistics, psycholinguistics and neurolinguistics. (Prerequisite: 29-121, 29-122, or permission of instructor.)

29-252. French Classicism
An introduction to the literature of seventeenth-century France and its principal doctrines. (Prerequisite: 29-141.)

29-253. The French Enlightenment
An introduction to the literature and thought of eighteenth-century France. (Prerequisite: 29-141.)

29-255. French Romanticism
A study of the romantic aesthetic through the poetry, prose, and drama of major romantic writers of the nineteenth century. (Prerequisite: 29-141.)

29-257. Realism and Naturalism
A study of post-romantic prose writing in the nineteenth century. (Prerequisite: 29-141.)

29-260. Modern French Culture
A general study of the patterned behaviour which constitutes the modern French cultural system, focusing on its intellectual, sociological, political, and religious aspects. Students will be required to read texts and will also avail themselves of the latest audiovisual technology. (Prerequisite: 29-141.)

29-270. Introduction to the Cultural Heritage of French Canada
An introduction to the Francophone cultural experience in Canada: through its history, its narrative traditions (prose fiction, drama, poetry) and its works of art. Festivities, home furnishings, lyric and culinary traditions will also be examined. (Prerequisite: Grade 12"U" French or Français, or equivalent.)

29-280. Francophone Literature in Translation
An introductory study of the development of the Franco-Canadian literary tradition in Quebec, Ontario, New Brunswick, and Manitoba, with particular emphasis on major literary trends since Confederation. All texts will be read in English. (Not available for credit in any French degree program.)

29-284. The Novel in Quebec and in other Francophone Regions of Canada
From the early novel of the land to the post-modern novel in Francophone Canada. (Prerequisite: 29-141.)

29-315. Oral Proficiency in French II
A course designed to strengthen the student's competence in oral French through intensive training at an advanced level, in both oral expression and aural comprehension. (Prerequisite: permission of instructor.)

29-325. Error Analysis
A course designed to strengthen the student's competence in French through an analysis of the three most common sources of errors: the differences between spoken and written French, the first language and the interlanguage of the student, or unfinished French grammar. (Prerequisites: 29-221 and 29-222.)

29-328. Aspects of Translation: French-English, English-French I
A comparative analysis of French and English structures with special emphasis on translation processes. Accompanied by regular exercises in translation. (Prerequisites: 29-221 and 29-222.)

29-329. Aspects of Translation: French-English, English-French II
A comparative analysis of French and English structures with special emphasis on questions of meaning related to the sentence and its context. Accompanied by regular exercises in translation. (Prerequisites: 29-221 and 29-222.)

29-330. Applied Linguistics
An introduction to modern linguistic theories about language acquisition, followed by a comparative study of first and second language acquisition and a survey of second language teaching techniques highlighting the linguistic concepts underlying these techniques. (Prerequisite: 29-230 and 29-231.)

29-331. Introduction to Romance Languages
A study of the main Romance languages from the point of view of their structure and development out of Vulgar Latin. Some knowledge of Latin or a second Romance language is desirable. (Prerequisite: 29-231 or consent of instructor.)

29-332. The History of the French Language
This course will examine successive stages in the development and formation of the French language from late antiquity to the Renaissance. (Prerequisite: 29-230 and 29-231, or permission of instructor.)

29-350. French Literature of the Middle Ages and the Renaissance
This course will examine the major authors and genres of the Middle Ages and the Renaissance, from the twelfth to the sixteenth century, including: the chanson de geste, the love songs of the troubadours, the Arthurian Romance, the sonnets of Ronsard, and the works of Rabelais. (Prerequisite: 29-141.)

29-353. Poetry from Baudelaire to Surrealism
A study of post-romantic, modernist poetry from the mid-nineteenth century to the mid-twentieth century. (Prerequisite: 29-141.)

29-354. The Modern Novel and Theatre form Proust to Sartre
A study of the novel and theatre from 1900 to 1950. (Prerequisite: 29-141.)

29-356. Contemporary French Literature and Thought
From the "Nouveau Roman" to recent writing in Francophone countries. The post-modern aesthetic. (Prerequisites: 29-141.)

29-357. Contemporary Critical Theory
An introduction to major critical movements: narratology, semiotics, feminist criticism, reader-response criticism, psychoanalytic criticism, sociocriticism, and genetic criticism. (Prerequisite: 29-141.)

29-383. Drama in Quebec and in Other Francophone Regions of Canada
A study of the main dramatic works in Francophone Canada. (Prerequisite: 29-141.)

29-385. Poetry in Quebec and in Other Francophone Regions of Canada
A study of the main works of poetry in Francophone Canada. (Prerequisite: 29-141.)

29-425. Advanced Translation: French-English, English-French
Translation of legal and administrative material. (Prerequisites: 29-328 and 29-329, or consent of the instructor.)

29-430. Theories of Syntax
Detailed examination of modern approaches to sentence structure, with particular emphasis on generative grammar. (Prerequisite: 29-231.)

29-431. Theories of Semantics
Detailed examination of modern theories of meaning, with particular emphasis on semantic feature analysis and the relationship between semantics and syntax. (Prerequisite: 29-231.)

SPECIAL TOPICS COURSES

29-400 to 29-496.

Special topics courses include the 400-series courses listed in the French program. They cover language, linguistics, and literature, and may take the form of directed readings.

DIRECTED READINGS

29-497 to 29-499.

STUDIES OUTSIDE THE UNIVERSITY OF WINDSOR

Students can immerse themselves in the French language and culture by spending their third year at the Université de Nice, France, in a program operated jointly with The University of Western Ontario, The University of Guelph and Memorial University.

Students can also pursue studies in French at the Université du Québec à Montréal at the undergraduate level, for one or two semesters.

It is also possible to pursue studies in French at Quebec universities with the Summer Language Bursary Programme, or to study in Quebec for a year and be paid as a part-time, second-language monitor.

4.9 Geography

No new majors will be admitted to General or Honours programs in Geography. Students currently enrolled in Geography B.A. programs should consult program advisors or the Dean's office.

4.9.1 MINOR IN GEOGRAPHY

A minor in Geography consists of:

(a) one of 42-130, 42-131, or 42-150;
(b) one of 67-100 or 67-102;
(c) four other 42- and/or 67- Geography courses, three of which must be at the 200 level or above.

4.9.2 COURSE DESCRIPTIONS - HUMAN GEOGRAPHY

For course descriptions in Physical Geography (67-), see Earth Sciences, 5.6.6.

Not all courses listed will necessarily be offered each year.

42-130. Introduction to Economic Geography
A systematic examination of dynamic factors in the various sectors of the economy and the geographic patterns which they tend to produce. (3 lecture hours a week.)

42-131. Introduction to Cultural Geography
An examination of social and cultural systems as they affect the relationship of humankind to the environment, with a special focus on world population dynamics and patterns of food supplies and nutrition, spatial patterns of religions, languages, and ethnicity at national and international levels. (3 lecture hours a week.)

42-150. Introduction to Social Planning and Geography
A survey of the development of spatial aspects of urban life, principles of urban land use, and interaction patterns of urban activities. (Also offered as Sociology 48-180 and Planning 50-150.) (3 lecture hours a week.)

42-200. Introductory Resource Management
Basic concepts pertaining to natural resources, the impact of their use on the ecosystem, and the problems in their management. Emphasis will be placed on the growing demand for resources, the functional interaction between human society and its physical environment, and the spatial patterns of resource use and ecological impact. (3 lecture hours a week.)

42-231. Intermediate Statistics
After a review of univariate and bivariate statistical methods, an introduction to multivariate statistics for geographers and planners. Computer analysis of selected geographical data sets. (Also offered as Sociology 48-308 and Planning 50-231.) (Prerequisite; 02-250 or equivalent.) (2 lecture, 2 laboratory hours a week.)

42-249. Agricultural Geography
Study of the physical, cultural, economic, and political factors influencing the spatial patterns and regional problems of world agriculture. (3 lecture hours a week.)

42-250. Industrial Geography
Survey of the theory and practice of industrial location. Special attention will be paid to Canada's industrial development. (3 lecture hours a week.)

42-312. Political Geography of Russia and the Former Soviet Republics
An overview of the physical, cultural, historical, and political forces shaping the region and aspects of internal and international politics in the region. (Also offered as Political Science 45-237.) (3 lecture hours a week.)

42-313. Economic Geography of Russia and the Former Soviet Republics
An overview of the geographical characteristics and government policies that shaped the centrally-planned economy of the former U.S.S.R. and problems of restructuring in the post-Soviet period. (3 lecture hours a week.)

42-315. Geography of Western Europe
An overview of the physical, historical, economic, and political forces that shape Western Europe. (3 lecture hours a week.)

42-325. Geographical Aspects of Modern Canada
A regionally-based analysis of Canadian resources and lifestyles in the larger context of North America. Emphasis on native peoples' resource use strategies; Canada as an immigrant mosaic; and transitions from an agricultural, to an industrial, to a service-based economy; and the geographical implications.

42-337. Social Planning and Geography
An introduction to the history of social geographical ideas, and the modern and post-modern concepts in social geography, with special application to western cities. (Also offered as Sociology 48-380 and Planning 50-337.) (Prerequisite: one of 42-130, 42-131, 42-150, or 48-180.) (3 lecture hours a week.)

42-361. Introduction to African Development
A multidisciplinary course introducing students to developmental issues currently confronting African countries and peoples, focusing on the sub-Saharan region. Using a sectoral approach, including health, education, agriculture, and the environment, the course reviews multiple and conflicting approaches to development and addresses both the potentials and the barriers associated with them. (Also offered as Sociology 48-325 and Anthropology 49-325.)

42-392. Urban Systems
Urbanism as a progenitor of economic change is examined from various theoretical perspectives and selected case studies. (3 lecture hours a week.)

42-450. Advanced Topics in Geography
Directed readings and research on a topic selected in consultation with instructor. (2 lecture hours a week.) (Also offered as Planning 50-490.) (Credit may be obtained for only one of 42-450 or 50-450.)

42-490. Research Strategies in Geography
A seminar course on concepts and methodologies in research leading to formulation of a research project. (Prerequisite: four-year Honours, make-up, or special student status with at least twelve courses in Geography, or consent of instructor.) (Also offered as Planning 50-490.)

42-491. Geography Research Projects
Guided research based on primary and secondary sources on a research project. (Prerequisite: 42-490 or 50-490.) (Compulsory for four-year Honours, make-up, or special students.) (Also offered as Planning 50-491.)

4.10 History

(Ext. 2318)

OFFICERS OF INSTRUCTION

Professors Emeriti

Pryke, Kenneth G.; B.A. (Carleton), M.A., Ph.D. (Duke)-1963.

Sautter, Udo; B.Phil, St. E. 1st and 2nd, Ph.D. (U. of Tuebingen)-1969.

Professors

McCrone, Kathleen E.; B.A. (Saskatchewan), M.A., Ph.D. (New York U.)-1968.

Klinck, David M.; B.A.; M.A. (Western Ontario), Ph.D. (Wisconsin)-1968.

Tucker, E. Bruce; B.A., M.A. (Toronto), Ph.D. (Brown)-1988.

Howsam, Leslie; B.A. (Waterloo), M.A., Ph.D. (York)-1993.

Associate Professors

Kulisek, Larry L.; B.S. (Northwest Missouri State), M.A. (Omaha), Ph.D. (Wayne State)-1968.

Simmons, Christina; A.B. (Radcliffe), M.A., Ph.D. (Brown)-1990.

Burr, Christina A.; B.A., M.A. (Western Ontario), Ph.D. (Memorial)-1997.

Assistant Professors

Palmer, Steven; B.A. (British Columbia), M.A., Ph.D. (Columbia)-2001.

Hewlett, Mary; B.A., M.A., Ph.D. (Toronto)-2002.

Adjunct Assitant Professors

Reid-Maroney, Nina; B.A. (Western), Ph.D. (Toronto)-1992.

Wright, Miriam; B.A. (Western), M.A. (Queen's), Ph.D. (Memorial)-1997.

Atkin, Natalie; B.A. (Ottawa), Ph.D. (Wayne State)-1999.

RELIGIOUS STUDIES

Professor Emeritus

Crowley, Edward J.; B.A. (St. Joseph's, New Brunswick), S.T.L. (Catholic U. of America), S.S.L. (Pontifical Biblical Institute, Rome)-1957.

Professor

Milne, Pamela J.; B.A., M.A. (Windsor), Ph.D. (McGill)-1984.

Associate Professor

Muldoon, Maureen H.; B.A. (Queen's), M.A., Ph.D. (U. of St. Michael's College, Toronto)-1986.

Wright, Miriam; B.A. (Western), M.A. (Queen's), Ph.D. (Memorial)-1997.

Adjunct Assistant Professor

Reid-Maroney, Nina; B.A. (Western), Ph.D. (Toronto)-1992.

Atkin, Natalie; B.A. (Ottawa), Ph.D. (Wayne State)-1999.

4.10.1 PROGRAM REGULATIONS

The major areas of concentration include Canadian, American, British, European, and Women's History. Courses are also offered which are designed to provide insight into current national or international issues. Additional offerings which have relevance to contemporary Canadian society include the History of Crime and Cities in North America.

1) History majors taking the minimum number of required History courses (twelve in a general program, or twenty in a four-year Honours program), may obtain credit for only two 100-level History courses. Majors taking additional History courses may count only one further 100-level History course towards their degree requirements.

2) Students taking History as an option may take more than two 100-level courses for credit and may select courses through the 300 level. Permission for 400-level courses is necessary unless these are required in an existing program.

4.10.2 PROGRAMS OF STUDY

Minor, General degree, Honours degree, and Combined Honours degree programs are available in History.

A minor in Latin American Studies is offered jointly with Spanish and Sociology and Anthropology.

The study of history provides skills essential to many careers - in teaching, law, business, museums, journalism, or public service. It develops critical thinking, research, and writing skills, using both old and new technologies, in a small department with ready access to professors. History is also fascinating in itself, offering a window on various groups and perspectives that shaped the past, both in Canada and comparatively across the globe. Finally, studying the societies, politics, and ideas of past times sharpens the historical memory we can bring to issues of the present, informing and inspiring an active citizenship.

Minor in History

Required: six History courses, only one of which may be at the 100 level, and two of which must be at the 300 level or above Students seeking a second teachable subject area in History are advised that they must take two courses in Canadian History.

Minor in Latin American Studies

Required: six courses, including two of 23-261, 43-272, 48-330 (or 49-330); two of 23-331, 43-271, 43-462, 48-226 (or 49-226), 48-227, 48-232 (or 49-232), 48-352 (or 49-352), 48-411 (or 49-411); and 23-100 and 23-101, or two higher level courses in Spanish language (as appropriate).

General History

Total courses: thirty.

Major requirements: twelve courses, consisting of:

(a) two 100-level courses;
(b) 43-200 and 43-302;
(c) five additional courses at the 200 level or above;
(d) three more courses at the 300 level or above.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) four courses from any area of study, including History, but of which only one may be an additional 100-level History course;
(b) six courses from any area of study, excluding History.

Honours History

Total courses: forty.

Major requirements: twenty courses, consisting of:

(a) two 100-level courses;
(b) 43-200 and 43-302 and 43-400;
(c) five additional courses at the 200 level or above;
(d) five more courses at the 300 level or above;
(e) five more courses at the 400 level.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Languages, or two courses from Science;
(b) four courses from Arts, Languages, Social Sciences, or Science, including History;
(c) ten more courses from Arts, Languages, Social Sciences, or Science, excluding History;
(d) four courses from any area of study, excluding History. (Recommended: two or more courses in French or a basic course in statistics and data processing, or computer programs.)

Combined Honours Programs

Total courses: forty.

Major requirements-History: sixteen History courses, including:

(a) two 100-level courses;
(b) 43-200 and 43-302 or 43-400;
(c) four additional courses at the 200 level or above;
(d) four more courses at the 300 level or above;
(e) four more courses at the 400 level.

Major requirements-Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including:

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements: additional options (if required) to a total of forty.

Fourth year courses are restricted to History Majors and other students with at least semester 5 standing and permission of the instructor.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: one of 43-101, 43-123 or 43-124, 43-200, six 200-level or above courses; 43-400, three 300-level or above courses.

Minor Concentration: one of 43-101, 43-123 or 43-124, two 200-level courses, three 300-level or above courses.

4.10.3 COURSE DESCRIPTIONS

Not all courses listed will necessarily be offered each year. All courses are three hours a week (3.00 credit hours).

Some courses are labeled I and II. These numbers are meant to distinguish the subject matter. Except where specifically indicated this does not imply the order in which the courses must be taken.

43-101. Heroes, Hype, and History, 2500 BCE - 1600
By focussing on the theme of the heroic individual and the heroic cause, this course will provide an overview from the Mesopotamian establishment of the heroic mould with Gilgamesh in 2500 BCE to the cosmic myths debated during the scientific revolution in the sixteenth century. The course examines changing criteria for the hero/heroine and how these have provided role models as well as alternative frameworks for contemporary values. (2 lecture hours and 1 tutorial hour.)

43-102. Heroes, Hype, and History, 1600 to the Present
By focussing on the theme of the heroic individual and the heroic cause, this course will provide an overview from the early modern period to the present by exploring the lives of particular heroes, beginning with Louis XIV and ending with Diana, Princess of Wales. The course examines changing criteria for the hero/heroine and how these have provided role models as well as alternative frameworks for contemporary values. (2 lecture hours and 1 tutorial hour.)

43-123. International Relations 1914-1945: Empires to A-bombs
Causes of the First World War, inter-war diplomacy, the rise of anti-colonialism, the breakdown in collective security and the growth of new international organizations. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-124. International Relations since 1945: Decolonization to Globalization
The Cold War, decolonization, the growth of new international cultures and organizations, and the collapse of Communism, with an emphasis on contrasting Third and First World perspectives on these issues. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-200. Historical Method
This course focuses on the contemporary practice of history as a discipline. It also provides an historical overview of approaches to understanding the past, and practical guidance on such matters as bibliographical tools and essay writing. (Restricted to History majors, except with consent of the instructor.) (Prerequisites: two History courses at the 100 level, or consent of the instructor.)

43-201. Modern Europe: The Formative Period. 1500-1815
This course examines the political and cultural transformation of Europe from the Renaissance/Reformation to the French Revolutionary era. Particular emphasis is given to religious ideologies, the nation state, absolutism, the scientific revolution and the Enlightenment. (3 lecture hours a week.) (Students cannot receive credit for both 43-115 and 43-201.)

43-202. Modern Europe: The Contemporary Age, 1815 to the Present
This course examines the political and cultural transformation of Europe from the Napoleonic era to the end of the twentieth century. Particular emphasis is given to the French and industrial revolutions, the politics of revolution, repression and imperialism, the two world wars, fascism and communism, and the reconstruction of society and culture in the late twentieth century. (3 lecture hours a week.) (Students cannot receive credit for both 43-116 and 43-202.)

43-207. Early Modern England, 1485-1714
An examination of the political, religious, economic, and social developments involved in England's transition from a medieval realm to a modern state, with attention to the dynastic worlds of royalty, the effects of the reformation of religion, and the conflict between Crown and Parliament. (3 lecture hours or 2 lecture hours/1 tutorial hour a week.)

43-209. Modern Britain, 1714 - Present
An examination of the political, economic, social and cultural developments involved in Britain's experience as the first industrial nation and greatest imperial power, with attention to political and social reform, the women's movement, the world wars, the welfare state, and the

European Union. (3 lecture hours or 2 lecture hours/1 tutorial hour a week.)

43-214. Early Middle Ages, c. 500-1100
The transition from ancient to medieval society: development of institutions (feudalism, monasticism, etc.); church and state up to the Gregorian Reforms. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-215. High and Late Middle Ages, 1100-1500
The flowering of medieval society: its religion, culture and institutions, and its eventual decline. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-216. Witchcraft and Wicca: Their Historical Relationship
An examination of the phenomenon of witchcraft from an historical-social perspective, especially as reflective of attitudes towards women. A study of the roots and continuing expressions of Wicca in the ancient goddess cult of Europe, especially the Celtic and Germanic traditions, and including folk traditions.

43-218. War in the 20th Century
This course will focus on the global conflicts involving the military forces of Europe, North and South America, and Asia. Topics to be covered may include: the decline of Eurocentrism, genocide, total war, and the inclusion of civilian targets.

43-231. Development of Modern France, 1789-1870
The French Revolution; Napoleon; the post-Napoleonic restoration; the revolutions of 1830 and 1848; the Second Empire; the Franco-Prussian War and the Paris Commune.

43-243. Canada from Early European Contacts to the Origins of Confederation, 1600-1867
A study of Canada as a French colony and under early British rule: explorers and fur traders; government, land systems and the Church in New France; the conquest; changing British policy 1763-1791; Upper and Lower Canada; the rebellions of 1837 and the achievement of responsible government, and the origins of Confederation. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-244. Canada since Confederation, 1867-1968
A study of Canada as an emerging nation; the development of political parties; the background of Confederation and the nature of Canadian federalism: Macdonald and Laurier as nation builders; twentieth century political, economic and cultural developments; Canadian autonomy; foreign policy. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-249. Women in Canada and the United States, 1600-1870
This course will focus equally on the lives of women in Canada and the United States from the period of native-European contact to the mid-nineteenth century. Work, family and sexuality, cultural ideals, and political status and activism among native women and women of African and European origins will be examined and compared. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-250. Women in Canada and the United States, 1870-Present
This course will focus equally on the lives of women in Canada and the United States from the mid-nineteenth century to the present. Native, black, immigrant, and native-born white women's roles in paid and unpaid labour, reform, suffrage, and family and cultural life will be examined, and Canadian and American women's experiences compared. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-251. History of Women's Movements in North America
An exploration of the collective action of women in the past and present in North America. Areas of study may include women's involvement with the temperance, civil rights, suffrage, trade union, environmental, reproductive rights, and women's liberation movements. (Also offered as Women's Studies 53-200.) (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-261. History of the United States I
From the beginning of the colonial period to the Civil War. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-262. History of the United States II
From the Civil War to the present. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

43-271. Colonial Latin America
Iberian colonial regimes in the Americas, from the conquest of Amerindian civilizations to the evolution of mature, hybrid politics in Spanish America and Brazil, with special attention to ethnicity and gender.

43-272. Modern Latin America
Nation-states in Spanish America, Brazil and the Caribbean, from the revolutions of independence to the new Pan-Americanism. The course covers patterns of development shared throughout the continent and examines key events and personalities in individual countries to illustrate them.

43-287. History of Crime
This course will examine the changing nature of crime and criminal justice. Stress will be placed on the ways in which crime and criminal justice were shaped by the societies in which they occurred and on the ways in which they changed as these societies changed.

43-297. Selected Topics in History
Topics of current interest selected by the area which may vary from year to year. (May be repeated for credit with permission of a program advisor in History.)

43-301. Culture, Literacy, and the Printed Word in Modern Europe and North America
This course is an introduction to the historical study of cultures of the written word, with attention to social, literary, and technological aspects of the book in history. It begins with the oral and manuscript culture of western Europe, assesses the impact of Gutenberg's press, considers the print cultures of early modern and modern Europe, and finishes with

the publication of popular novels for the global market of the late twentieth century. (3 hours per week, lecture and discussion)

43-302. History Workshop
The "History Workshop" is organized around a series of modules that will give students first hand experience in carrying out historical research and expose them to the sources for doing historical research. The themes of the "Workshop" and the range of methods explored may include: visiting an archive and cataloguing sources, designing a historical web page, using computers for quantitative research, creating videos, or critiquing the presentation of the past in museum exhibits. (Prerequisite: 43-200.)

43-316. The Italian Renaissance
The revival of Antiquity and its subsequent influence on the intellectual, political, and cultural shape of European society. (Prerequisite: 43-201 or consent of instructor.)

43-317. Christian Humanism, Reformation, and Counter Reformation
The impact of new ideas (Christian humanism), and innovations (printing press) on European society. (Prerequisite: 43-201 or consent of instructor.)

43-325. European Cultural and Intellectual History, 1750-1860
The Enlightenment, Romanticism, the birth of the ideologies, Darwinism.

43-326. Community and Power in Modern European Thought
An exploration of the subject of community and power in European thought between 1850 and the late twentieth century. Special attention will be paid to Marxism/Leninism, elitist theory, fascism, and structuralism/poststructuralism. (Also offered as Political Science 45-351.)

43-335. The Western Family in Historical Perspective
The history of the family focusing on Western Europe.

43-336. Becoming Visible: Women in European History
An examination of attitudes to women, and women's status, roles, and significance in European history, with emphasis on the period from the eighteenth through the mid-twentieth centuries. From time to time, the course might focus on a specific country.

43-338. Emergence of Modern Europe: Europe from the 19th Century to the Present Day
Selected aspects dealing with European development in the political, economic, social, diplomatic, and military fields.

43-341. Confederation
An analysis of the social, political, and economic bases of the confederation movement, of the achievement of confederation, and of the constitutional problems arising from the British North America Act.

43-345. The History of Canadian Immigration
Who Belongs? Core questions of nationality; charter groups, minorities and narratives of exclusion; nativism, racism and the social construction of ethnicity; assessments of the Nation's development needs (capital, labour and government); internment, deportation and repatriation; opening the door to diversity and multiculturalism.

43-347. Cities in North America: Historical Urbanization in Canada
Thematic studies: economic development of Canadian cities; rivalry between aspiring cities for trade and transportation; city boosters, promoters, boards of trade, rise of transportation and industrialization in urban development. The new urban (social) history: the city below the hill; strangers at our gates; saving the Canadian city; and the city beautiful. The metropolitan thesis: for and against.

43-348. French Canada since Confederation
A study of some of the issues in French-English relations, the French-speaking minorities outside Quebec, and Quebec's place within Confederation.

43-349. Canadian Labour History
A study of the development of the Canadian labour movement and an analysis of the Canadian working-class experience during the nineteenth and twentieth centuries. (Labour Studies majors must have Semester 5 or above standing or consent of instructor.)

43-350. History of Ontario
Profile of a province; Oliver Mowat's Ontario; social and cultural issues; the politics of development; metropolitan dominance and regional responses.

43-361. Slavery In North America, 1600-1877
Development of racial slavery, including both Amerindians and Africans; emergence of the concept of "race"; male and female experience under slavery; resistance to slavery; abolition.

43-363. American History, 1945 to the Present.
Selected themes in the political and social history of the United States from the end of World War II to the present. (Prerequisite: 43-262 or consent of instructor.)

43-368. North American Popular Culture
This course investigates the character of North American popular culture from the late 19th century to the present; topics include sexuality, sports, youth culture, "the sixties," consumption, the impact of television and Hollywood, consumerism, and music from blues to rap; integration of class, gender, race, ethnicity, sexuality, and issues concerning "memory" will be discussed. Primary sources include literature, film, mass circulation magazines and music.

43-369. African Americans/Canadians After Emancipation, 1877 to the Present
Sharecropping by freed people; lynching and struggles to keep political rights; western and urban migration; 20th century civil rights, black power, and black feminist movements. Emphasis will be on work, family, relations with whites, and social protest. Women's and men's experiences will be treated equally.

43-386. History of Science
An introduction to the development of scientific ideas and methods, from the seventeenth-century "scientific revolution" to the present, studied through the works of major figures, including Galileo, Newton, Darwin, and Einstein, and in relation to the cultures and societies in which they lived.

43-397. Selected Topics in History
Topics of current interest which may vary from year to year. (May be repeated for credit with consent of an advisor in History.)

History courses at the 400 level are restricted to History majors and to third- and fourth-year majors in other programs with a History component. Others may register only with the consent of the instructor.

43-400. Historiography
This course explores the assumptions, theoretical frameworks and research strategies of a coherent body of recent historical writing. The particular area will vary from year to year depending on the expertise of the instructor. Topics may include the writing of national histories, labour/working class, ethnic, native, and women's history, and gender and sexuality in historical context. (Prerequisites: History major with semester 7 standing, and 43-302.) (Students cannot receive credit for both 43-400 and 43-401 or 43-402.)

43-403. Medicine, Healing and the Health Professions
A social history of medicine, including non-Western and unorthodox traditions, with a cross-cultural focus on healers and an emphasis on the evolution of the allied health professions. Historical settings and thematic emphases will vary from year to year depending on the expertise of the instructor. (Prerequisite: Semester 7 standing or permission of instructor.)

43-408. Culture and Society in Victorian Britain
Thematic approach to Victorian society and culture. The emphasis of the course may vary from year to year; possible themes for discussion and research include labour and leisure, science and religion, history and memory, gender and sexuality, class and national identity; literacy, literature, and education. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-410. High Middle Ages
Thematic approach to medieval society including such topics as popular religion, the peasantry, the Crusades, urbanization, *etc.* (Prerequisite: one of 43-207, 43-209, 43-214, 43-215, 43-316, or 43-335, or consent of instructor. Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-437. European Diplomacy from the Congress of Vienna to the U.N.
Diplomacy in theory and practice from the Congress of Vienna to the U.N. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-441. Canadian Social History
Focuses on the experience of Canadians in their daily lives, especially in the period from 1840 up to the Second World War. Subjects will be selected from the major fields of social history, such as labour, women's history, and ethnicity. Attention will be paid as well to methodologies developed in such cognate fields as demography, geography, and economics. (Prerequisites: two courses in Canadian history or consent of instructor. Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-443. Canada: Great Expectations to Broken Dreams, 1896-1935
Laurier and Borden administrations; Liberal convention of 1919 and the rise of Mackenzie King; the depression years and the growth of third party movements; the evolution of Canadian autonomy. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-444. Canada: The New National Policy to the Rise of Trudeaumania, 1935-1968
Canadian foreign policy in the 1930s; the rise of the welfare state; King, St. Laurent, Pearson, and Diefenbaker; the "revolution" in Canadian foreign policy following the Second World War; Canada's place in North America; the Quiet Revolution in Quebec. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-448. Local History
The history of Windsor and its metropolitan area from the mid-nineteenth century to the present. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-458. Early American History, 1600-1800
This course examines selected themes in the political and social history of early America. Among the topics to be studied are European and Native American contacts, the political and social development of the American colonies, slavery, war and society, the changing status of women, and the American Revolution and its aftermath. (Prerequisite: 43-261 or consent of instructor. Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-462. United States-Latin American Relations in the 20th Century
The rise and shaping of U.S. power in the hemisphere, with emphasis on Latin American responses, and on cultural and other non-governmental exchanges. (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-463. The History of Sexuality in North America
The cultural ideology, social regulation, and experience of reproduction and sexual relations, with an emphasis on women. Topics include childbirth, slavery and sex, abortion and birth control, and the role of psychology and popular culture in the development of modern heterosexual and

homosexual identities. (Also offered as Psychology 46-463.) (Prerequisite: one of 43-249, 43-250, 46-240. Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

43-497. Selected Topics in History
Topics of current interest which may vary from year to year. (May be repeated for credit with permission of a program advisor.) (Prerequisite: Restricted to History majors and other students with at least semester 5 standing and permission of the instructor.)

4.11 International Relations and Development Studies

(Ext. 2348)

Faculty teaching courses that fulfill the requirements for degree programs in International Relations are listed in the "Officers of Instruction" for the areas of Political Science, Economics, History, Geography, Sociology, and Anthropology.

The program in International Relations and Development Studies links courses in several areas of study in order to provide a broad understanding of the dynamics of global society and a useful preparation for a wide variety of careers relating to the international field.

The program draws primarily upon the resources of Political Science, Economics, History, Geography, Sociology, and Anthropology. Beyond a common core of twenty courses, students may choose to emphasize either an International Relations or an International Development stream.

Experience has shown that this long-established and comprehensive program provides an excellent background for careers in diplomatic services, international institutions, internationally-oriented non-governmental organizations, journalism, banking, international business, teaching, and law. The Honours B.A. in International Relations and Development Studies is a challenging program. Students who persevere have found the rewards, especially in terms of future career prospects, to be worth the effort.

Honours International Relations and Development Studies

Total courses: forty.

Major requirements: twenty courses, consisting of:

(a) 02-250 or an equivalent introductory statistics course;
(b) 45-100, 45-160, 45-264, 45-275, 45-461, 45-462; and one of 45-360 or 45-464;
(c) 41-110, 41-111, 41-221, 41-231;
(d) 43-123, 43-124, 43-243, 43-244;
(e) one of 42-312, 42-313, or 42-315;
(f) 48-226 (or 49-226)*, 48-333 (or 49-333)*, 48-411 (or 49-411)*.

* May be taken without prerequisites.

Other requirements:

INTERNATIONAL RELATIONS STREAM

(a) 45-355, and three of 45-252, 45-261, 45-267, 45-268, 45-356, 45-360**, 45-361, 45-363, 45-365, 45-464**;
(b) two of 41-373 and 41-374 (strongly recommended), 41-230, 41-263, 41-283, 41-321, 41-322, 41-341, 41-342, 41-350, 41-353, 41-440;
(c) one of 43-218, 43-326, 43-437, 43-443, 43-444, 43-462;

(d) one of 42-312**, 42-313**, or 42-315**;
(e) one of 48-227, 48-232 (or 49-232), 48-327 (or 54-327), 48-330 (or 49-330), 48-340 (or 49-340);
(f) eleven options. It is strongly recommended that the equivalent of a language minor be taken, equaling six courses -- see below. Students with minimal computer skills should take 60-104 early in their programs and students may wish to take 34-160 (Reasoning Skills) as an option. As well, students are encouraged to consider a third-year study abroad program as an opportunity to develop fluency and for exposure to different cultures.

** If not already taken as a major requirement.

INTERNATIONAL DEVELOPMENT STREAM

(a) 45-354, and two of 45-233, 45-237, 45-241, 45-260, 45-346, 45-371, 45-431;
(b) two of 41-341 and 41-342 (strongly recommended), 41-230, 41-263, 41-283, 41-321, 41-322, 41-353, 41-373, 41-374, 41-440;
(c) one of 42-249, 42-337, 42-361, 42-392 (may be taken without prerequisites);
(d) three of 48-227, 48-232 (or 49-232), 48-327 (or 54-327), 48-330 (or 49-330), 48-340 (or 49-340), 48-352 (or 49-352);
(e) eleven options. It is strongly recommended that the equivalent of a language minor be taken, equaling six courses -- see below. Students with minimal computer skills should take 60-104 early in their programs and students may wish to take 34-160 (Reasoning Skills) as an option. As well, students are encouraged to consider a third-year study abroad program as an opportunity to develop fluency and for exposure to different cultures.

LANGUAGE MINORS (Recommended)

French (constructed for students with Grade 12"U" French): 29-121, 29-122, 29-221, 29-222, 29-260, 29-270.

German (constructed for students with no background in German): 15-100, 15-101, 15-200, 15-260, 15-261; one of 15-210, 15-211.

Italian (constructed for students with no background in Italian): 21-100, 21-101, 21-200; one of 21-225, 21-230; plus 21-260, 21-261.

Spanish (constructed for students with no background in Spanish): 23-100, 23-101, 23-200, 23-205; 23-260, 26-261.

**A flexible approach will be taken to accommodate students with different levels of linguistic competence at point of entry into the program.

4.12 Labour Studies

(Ext. 2190)

Program Chair: Dr. Alan Sears

Faculty teaching courses that fulfill the requirements for degree programs in Labour Studies are listed in the "Officers of Instruction" for various areas of study in Social Sciences and Business Administration.

Certificate, general and combined Honours degree programs are available in Labour Studies.

4.12.1 PROGRAMS OF STUDY

Certificate in Labour Studies

See "Certificate Programs", 4.23.3.

General Labour Studies

Total courses: thirty.

Major Requirements:

(a) 54-100 or 54-105; 54-200 or 54-204; 54-327; 43-349; 48-225; and 48-326;
(b) one of 40-234, 45-275, 48-210, 48-310;
(c) six of: 54-237, 46-370, 46-371, 48-228, 48-321, 48-332, 53-100, 71-344, 40-225 (or 40-325 or 40-425), 71-446 (or 71-448 or 71-449 or 71-481).

Other Requirements:

(a) seven social science courses, with four courses at the 100 level and three at the 300 level or above.

Option Requirements: (see 2.4.14 for subject areas)

(a) two courses from any area;
(b) eight additional courses outside Social Science, with at least two from Science and two from Arts or Languages.

CALCULATION OF AVERAGE

The major average shall be calculated on the basis of grades obtained in the Required courses listed in (a), (b), and (c) above.

RECOMMENDED COURSE SEQUENCE

First Year

54-100 (or 54-105), 53-100, three 100-level Social Sciences courses (see (d) above), and five other 100-level courses.

Second Year

54-200 (or 54-204), one of 40-234, 45-275, 48-210, 48-310 (or 49-355);

48-225, 48-228; plus two or three 200-level courses (see (d) above); plus additional courses to a total of ten.

Third Year

48-326, 54-327 (or 48-327), 43-349, 48-332, 71-433, 71-449; plus two or three 300- or 400-level courses; plus additional courses to a total of ten.

Combined Honours Labour Studies

Total courses: forty.

Required:

(a) 54-100 or 54-105; 54-200 or 54-204; 54-327; 43-349; 48-225; and 48-326;
(b) one of 40-234, 45-275, 48-210, 48-310;
(c) five of: 46-370, 46-371, 48-228, 48-321, 48-332, 53-100, 71-344, 40-225 (or 40-325 or 40-425), 71-446 (or 71-448 or 71-449 or 71-481);
(d) four social science courses including two at the 100 level and two at the 300 level or above.

Other requirements: as prescribed by the second area of study; plus additional courses (if required) to a total of forty.

It is strongly recommended that students obtain academic advising from the Co-ordinator of Labour Studies.

4.12.2 COURSE DESCRIPTIONS

54-100. Labour and Social Movements in Canadian Society
An interdisciplinary introduction to the study of labour and social movements, focussing on their efforts to address the needs of workers, women, gays and lesbians, social and ethnic minorities, students, and the poor.

54-105. Working for a Living
This course uses the students' own experiences of work to examine the economic, social, and psychological significance of paid and unpaid work in Canadian society, the tasks and values assigned to various kinds of work, and the relationship between work and living standards.

54-200. Labour and State
An interdisciplinary examination of the relationship between the state, law, and labour unions. This course examines the role of the state and labour law in shaping and mediating the relationship between labour and employers. The impact of laws in labour relations, employment standards, workers' compensation, human rights, and occupational health and safety are examined.

54-204. Worker Health and Safety
An interdisciplinary examination of the political, legal, social, and economic aspects of occupational health and safety. This course covers the history of health and safety within industrial, office, and rural contexts in Canada and other parts of the world.

54-237. Labour and Social Change
An examination of the philosophical problems raised by the nature and function of labour in a changing society. Topics to be addressed include: the relationship between labour and the struggle for democracy, labour as a social movement, the relationship between labour and conceptions of the good life, the relationship between economic and human value, technology and the nature of labour, and the sexual division of labour. (Also offered as 34-237.) (Prerequisite: 3rd semester standing.)

54-310. Special Topics
Topics may vary from term to term; consult with a Labour Studies advisor for details.

54-327. Social Movements
An examination of theories and case studies of world revolutions, class struggles, and various social movements, such as the feminist, gay and lesbian, labour, native, ecological, and other movements. (Also offered as Sociology 48-327.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

54-401. Practicum in Labour Studies
This course offers students the opportunity to apply their academic studies within labour organization settings or other community organizational contexts. Students will be able to learn about the day-to-day operation and structure of a selected organization through observation of, and discussion with, staff, executive members, and activists. Students will be assigned a major project to carry out for the organization under the supervision of the course instructor and an on-site practicum supervisor. A minimum of three hours per week is required on-site, along with additional time to complete the project. Students will also be expected to meet regularly with the course instructor and to provide oral and written reports on their experiences during the term.

4.13 Language and Logic

(Ext. 2873)

The Bachelor of Arts four-year Combined Honours degree program in Language and Logic provides students with the ability to engage in effective and reasoned communication. To acquire this specialized knowledge, students are provided with a thorough foundation in language theory, linguistics, writing and composition, various communication media, speech, rhetoric, logic and reasoning skills. Students will also be introduced to another language.

Although the Language and Logic Combined Honours degree program is administered by Languages, Literatures and Cultures, faculty members teaching in the program come from several different programs. They are listed under the "Officers of Instruction" heading in the program in which they normally offer courses. Courses that fulfill the requirements of the degree are offered by Communication Studies, Computer Science, English, French, Modern Languages and Philosophy.

The Language and Logic program must be combined with another program in a double major. Among the natural choices of a second major are any of the disciplines which contribute courses to the program. However, students may select almost any other discipline as a second major.

Students wishing to major in the Language and Logic program must contact Languages, Literatures and Cultures to obtain academic counselling. Future plans to enroll in a graduate or professional program should be taken into account when choosing the second major or optional courses.

Combined Honours Language and Logic

Total courses: forty

Major requirements-Language and Logic: fifteen courses, including:

(a) 07-120, 07-220, 34-160, 34-260, 34-262, 34-360, 60-104;
(b) two non-English language courses above the OAC level or its equivalent, *e.g.*, French, German, Greek, Italian, Japanese, Latin, Ojibwe, Spanish;
(c) six of 15-312, 24-210, 26-290, 29-230*, 29-231*, 29-330*, 29-331*, 29-332*, 29-430*, 29-431*, 34-261, 40-101, 40-202, 40-250, 40-272.

*Courses taught in French

Major requirements-Other Subject: as prescribed by that area of study.

Option requirements (*see 2.4.14 for subject areas*):

(a) two Science or Language courses (other than the language used to fulfill (b) of the major requirements);
(b) two Social Science courses;
(c) two Arts courses.

Other requirements:

(a) additional courses (if necessary) from any area of study, to a total of forty courses.

4.14 Liberal and Professional Studies

(Ext. 2029)

The Liberal and Professional Studies Program is a multidisciplinary, general degree program for students who desire a university education combining a solid academic core grounded widely in the social sciences, arts, sciences, and business, along with the opportunity to integrate combinations of discipline-based courses not possible in other programs. The Liberal and Professional Studies Program embodies the character of a traditional liberal arts education set in a contemporary academic and social context. This program is intended primarily for part-time working adults but is open to all students.

General Liberal and Professional Studies

Total courses: thirty, at least sixteen of which must be at the 200 level or above, and at least six of which must be at the 300 level or above. Students may take no more than six courses in any single subject area.

Requirements (see 2.4.14 for subject areas):

(a) six courses from Arts and Languages;
(b) six courses from Social Sciences;
(c) four courses from Science or Engineering*;
(d) four courses from Business Administration;
(e) ten additional courses from any area of study.

*The following Engineering courses are available to non-Engineering students: 85-118, 85-130, 85-131, 87-325.

STANDING REQUIRED

Students in the Liberal and Professional Studies program must maintain a cumulative average of 5.0 or better. There is no major average requirement.

4.15 Music

(Ext. 2780)

OFFICERS OF INSTRUCTION

Professors

Palmer, David John; B.Mus., M.Mus. (Michigan)-1970. (Director of the School)

Householder, Richard; B.A. (Hastings College), M.M. (Colorado)-1973. (Associate Dean, Faculty of Arts and Social Sciences)

Butler, E. Gregory; A.R.C.T. (Royal Conservatory of Toronto), B.M., M.M., D.M.A. (Eastman)-1974, Diploma in Arts and Technology, honoris causa, Loyalist College of Applied Arts and Technology, 2003.

Associate Professors

Henrikson, Steven T.; B.Mus., M.Mus. (British Columbia), Diploma (State Academy of Music, Munich)-1976.

Adamson, Philip; A.R.C.T. (Royal Conservatory of Toronto), B.Mus. (British Columbia), M.Mus., D.Mus. (Indiana)-1977.

MacKay, Gillian; B.Mus. (Lethbridge), M.Mus. (McGill), D.M. (Northwestern)-1992.

Curtis, Sandra; B.Mus. (McGill), M.Mus. (Music Therapy) (Florida State), Ph.D. (Concordia)-2002.

Assistant Professor

Lesiuk, Teresa; B. Mus., M.Ed. (Manitoba), M.Mus.Th. (Colorado State), Ph.D. (Western Ontario), M.T.-B.C., M.T.A.-1996.

Lee, Brent; B.Mus., M.Mus. (McGill), D.M.A. (British Columbia)-2002.

Bick, Sally; B.Mus. (Toronto), M.M. (Indiana), M.Phil. (Music History) (Yale), Ph.D. (Yale)-2003.

Adjunct Associate Professor

Inselman, Elsie; Voice-1990.

Special/Sessional Instructors

Scheirich, Lillian; Violin, String Methods-1990.

Luboniecka, Apolonia; Viola-1991.

Dearing, Steven; Guitar-1995.

McKeever, Catherine; Voice-1996.

Berthelotte, Bernadette; Horn, Music Education-1997.

Sheldon, Greg; Bass-1997.

Shier, Julie; Bassoon-1997.

Jasavala, Jehanbakhsh; Euphonium, Trombone, Jazz Ensemble-1997.

McClellan, Karen; Cello-1999.

Bulmer, Karen; Tuba, Brass Techniques-2001.

Pittman, Trevor; Clarinet, Woodwind Methods-2001.

Fitzpatrick, Corey; Skills-2002.

Smit, Martin; Music Education-2002.

Bemrich, Ronald; University Singers-2003.

Collins, Karen; Music Appreciation-2003.

Dwyer, Peggy; Voice-2003.

Logan, Elizabeth; Oboe-2003.

Malito, Bryan; Percussion-2003.

Ronmark, Erick; Saxophone-2003.

Sun, Lyan; Voice-2003.

Wagner, Jaimie; Flute-2003.

4.15.1 PROGRAM REGULATIONS

1) Advanced Standing Examinations: Upon admission to a Music program a student may petition to write advanced standing examinations in 32-112, 32-113, 32-212, 32-213, 32-222, 32-223, 32-322, 32-323, and 33-111.

2) Program Approval: B.Mus., B.Mus.Th., B.A. Combined Four-Year Honours, and B.M.A. students must have their programs approved by an advisor prior to registration. All applications for graduation will be subject to approval and such approval will be granted only when the academic program completed is identical with that previously approved by the academic advisor in consultation with the student.

3) Keyboard Proficiency Requirement: Keyboard skill is a valuable tool for learning in all aspects of music, and also an important asset for all careers in music. Students in the B.M.A., B.Mus., and B.Mus.Th. programs are required to demonstrate this skill by meeting the keyboard proficiency requirement set by Music. The requirement includes playing scales, chords, and arpeggios; sight reading a four-part chorale; and playing a prepared composition of approximately Grade 6 Conservatory level. The requirement must be met before students in the B.M.A.,

B.Mus., and B.Mus.Th. programs register for any Music course beyond their second term. Instruction is offered in the lab portion of Theory I and II (32-112 and 32-113).

4) Recital Attendance Policy: Attendance at a significant number of live musical performances will broaden a student's musical experience and thus enhance and contribute to the potential for academic success. Therefore, a Recital Attendance Policy has been developed, embracing outside music events in addition to recitals and special events offered internally. This policy applies to all full-time students in the B.Mus., B.Mus.Th., and B.M.A. programs during each year of registration. Details for the current academic year (*i.e.*, number of concerts and other events to be attended) are announced during the first week of classes in September.

4.15.2 PROGRAMS OF STUDY

A general degree program, the Bachelor of Musical Arts, is offered.

Honours degree programs leading to the Bachelor of Music, the Bachelor of Music Therapy, and the Bachelor of Music Therapy with internship are offered. Combined four-year Honours programs leading to the B.A. degree are also available.

A diploma program in Church Music is also offered.

Requirements for programs in Music make reference to the following groups of courses:

Areas of Study-Academic

History and Literature: 32-106, 32-107, 32-126, 32-127, 32-226, 32-227, 32-236, 32-237, 32-247, 32-326, 32-327, 32-336, 32-337, 32-346, 32-426, 32-427, 32-436, 32-437.

Theory: 32-102, 32-112, 32-113, 32-212, 32-213, 32-222, 32-223, 32-312, 32-313, 32-322, 32-323, 32-332, 32-412, 32-413, 32-422, 32-423, 32-443.

Methods and Pedagogy: 32-229, 32-239, 32-248, 32-249, 32-255, 32-259, 32-260, 32-261, 32-269, 32-279, 32-385, 32-289, 32-395, 32-458, 32-459, 32-470, 32-471, 32-484, 32-485.

Music Therapy: 32-120, 32-121, 32-330, 32-331, 32-340, 32-341, 32-420, 32-440, 32-441, 32-490.

Areas of Study-Performance

Performance Studies: 33-111, 33-213, 33-360, 33-414.

Ensembles: 33-210, 33-220, 33-230, 33-240, 33-260, 33-270, 33-310, 33-330, 33-380.

Private Instruction

The following courses offer performance instruction either as a 3.00 credit hour course (1-hour lesson a week) or 1.50 credit hour course (half-hour lesson a week). Course requirements include a fifteen-minute examination before a faculty jury at the end of each term of study, as well as the attainment of the appropriate Level of Achievement. When required, a major recital may substitute for the jury examination. Students should consult Music for specific details regarding curricula for these examinations.

These courses are available to Bachelor of Music, Bachelor of Musical Arts, Bachelor of Music Therapy, Bachelor of Music Therapy with Internship, and Bachelor of Arts (Combined Honours programs with Music) students with the approval of a program advisor in Music. These students will elect their major instrument at the time of their admission.

Subject to availability, these courses are open to other students upon successful completion of a qualifying audition. It is the responsibility of the student to arrange for a qualifying audition by contacting Music not later than the end of the first week of classes. Students who fail to do so will relinquish their right to attend such classes and must complete the normal procedure for dropping a course as outlined on the "Course Change Form."

Performance courses are intended to be taken in consecutive semesters. Any interruption in study must be followed by an audition for re-entry into the performance course sequence. The audition will be scheduled in consultation with the Performance Area Chair at the beginning of the semester.

Private instruction courses may be repeated for credit.

3.00 Credit Course	1.50 Credit Course	Instrument
33-347	33-317	Voice
33-348	33-318	Piano
33-349	33-319	Organ
33-351	33-321	Harpsichord
33-352	33-322	Flute
33-353	33-323	Oboe
33-354	33-324	Clarinet
33-355	33-325	Saxophone
33-356	33-326	Bassoon
33-357	33-327	French Horn
33-358	33-328	Trumpet
33-359	33-329	Trombone
33-361	33-331	Euphonium
33-362	33-332	Tuba
33-363	33-333	Violin
33-364	33-334	Viola
33-365	33-335	Cello
33-366	33-336	Double Bass
33-367	33-337	Percussion
33-368	33-338	Harp
33-369	33-339	Classical Guitar

Graduation Project

In addition to meeting course requirements, all Year 3 and Year 4 students in the Bachelor of Music Program III must perform a recital of approximately one hour's playing time. With permission, Year 4 students in the Bachelor of Music Programs I and II may be allowed to play a recital of approximately forty minutes' playing time, or present a graduation project representing the culmination of studies in an appropriate area of academic emphasis. Application for approval must be made by March 31 of the year preceding graduation. For further details, consult a program advisor in Music.

Courses: 33-393, 33-491, 33-493, 33-495.

Bachelor of Musical Arts (B.M.A.)

ADMISSION REQUIREMENTS

In addition to meeting the regular requirements for admission to the University, admission to the B.M.A. is conditional upon a successful audition evaluated by faculty members in Music. The audition will consist of:

(a) a theory evaluation test designed to show the nature and extent of the student's aptitude in music theory;
(b) a performance of at least ten minutes' length on the student's major instrument, showing a grasp of a variety of styles.

Candidates should contact a program advisor in Music for specific requirements in the various performance media. If an accompanist from Music is required, two weeks' prior notice must be given to the Music office, and an accompanist's fee will be charged. Candidates auditioning in Voice or Orchestral Instruments must perform at least one selection with accompaniment.

OTHER REGULATIONS

1) Ensembles Restriction: No more than eight 1.50 credit hour courses in ensembles may count toward this degree.

PROGRAM REQUIREMENTS

Total courses: thirty.

Major requirements: twenty-three courses, including 32-112, 32-113, 32-126, 32-127, 32-212, and 32-213; plus the 1.50 credit hour courses 32-222 and 32-223; 33-322 and 33-323; and four courses or their equivalent in private instruction; plus two 1.50 credit hour courses in Ensembles; plus additional Music courses to a total of twenty-three.

Other requirements: seven courses outside Music. (One of 07-202 or 07-203 is strongly recommended.)

Honours Bachelor of Music

The following programs lead to the Honours Bachelor of Music Degree:

Program I-Individualized: Designed for the Honours degree student who wishes to pursue an individual area of specialization. The choice of courses must be made in consultation with a program advisor in Music.

Program II-Music Education: Designed to prepare students for a music teaching career in elementary or secondary schools.

Program III-Performance: Designed to prepare students exceptionally talented in performance for a general career in music in such areas as private teaching, university teaching, and professional performance.

ADMISSION REQUIREMENTS

In addition to meeting the regular requirements for admission to the University, admission to Bachelor of Music programs is conditional upon a successful audition evaluated by faculty members in Music. The audition will consist of:

(a) a theory evaluation test designed to show the nature and extent of the student's aptitude in music theory;
(b) a performance of at least ten minutes' length on the student's major instrument, showing a grasp of a variety of styles.

Candidates should contact a program advisor in Music for specific requirements in the various performance media. If an accompanist from Music is required, two weeks' prior notice must be given to the Music office, and an accompanist's fee will be charged. Candidates auditioning in Voice or Orchestral Instruments must perform at least one selection with accompaniment.

OTHER REGULATIONS

1) Music courses whose middle digit is 0 may not count toward the B.Mus. degree.

2) Ensembles Restriction: Students may take a maximum of one-half of their additional Music courses in Ensembles and, in any case, no more than the equivalent of two, 3.0 credit courses.

COMMON FIRST YEAR

Successful candidates will enroll in a common first year, and may delay their choice of program until the completion of two terms of performance study on their major instrument.

Candidates already accepted into Program III will be re-evaluated at the end of two terms of performance study on their major instrument.

REQUIREMENTS-PROGRAM I

Total courses: forty.

Major requirements: thirty-two courses, as given below:

History and Literature: four courses, consisting of 32-126, 32-127, and two additional courses.

Theory: seven courses, consisting of 32-112, 32-113, 32-212, 32-213; and the 1.50 credit hour courses 32-222, 32-223, 32-322, 32-323, 32-422, and 32-423.

Performance Studies: six courses, consisting of one course from the series 33-347 to 33-369 (taken six times). (Four corresponding 1.50 credit hour courses from the series 33-317 to 33-339 may be substituted for two 3.0 credit hour courses.)

Ensembles: three courses, consisting of six 1.50 credit hour courses (one in each of six terms) and including at least two of 33-210, 33-220, 33-230, or 33-310. (33-360 may be substituted if 33-230 is not offered.)

Additional Major requirements: two of 32-312, 32-313, 32-332, 32-426, and 32-427; and ten additional Music courses.

Other requirements: eight non-Music courses.

REQUIREMENTS-PROGRAM II

Total courses: forty-three

Major requirements: thirty-seven courses as given below:

History and Literature: four courses, consisting of 32-126, 32-127, 32-346, and one additional course.

Theory: seven courses, consisting of 32-112, 32-113, 32-212, 32-213, and one of 32-332 or 32-443, plus the 1.50 credit hour courses 32-222, 32-223, 32-322, and 32-323.

Performance Studies: eight and one half courses, consisting of one course from the series 33-347 to 33-369 (taken eight times), plus the 1.50 credit hour course 33-213.

Methods and Pedagogy: seven and one half courses, consisting of four courses from 32-229, 32-239, 32-269, 32-279, and 32-289; plus 32-248, 32-249 and 32-325; plus the 1.50 credit hour course, 32-255.

Music Education: three courses, consisting of 32-385, 32-484, and either 32-284 or 32-485.

Ensembles: four courses, consisting of eight 1.50 credit hour courses (one in each term) and including at least two of 33-210, 33-220, 33-260, or 33-310.

Additional Major Requirements: two of 32-312, 32-313, 32-426,and 32-427; and one additional Music course.

Other requirements: six non-Music courses. (Students planning a teaching career in the secondary schools should take these courses in a single teachable subject area.)

REQUIREMENTS-PROGRAM III

Total courses: forty.

Major requirements: thirty-four courses as given below:

History and Literature: six courses, consisting of 32-126, 32-127, 32-236, 32-237, and two additional courses.

Theory: seven courses, consisting of 32-112, 32-113, 32-212, 32-213, and the 1.50 credit hour courses 32-222, 32-223, 32-322, 32-323, 32-422 and 32-423.

Methods and Pedagogy: three (or four) courses, consisting of 32-248, 32-249 (or 32-259) , and 32-470. (Pianists must also take 32-471.)

Performance Studies: eight (or nine) courses, consisting of one course from the series 33-347 to 33-369 (taken six times); plus the corresponding 1.50 credit hour courses in the series 33-317 to 33-339 (taken twice); and the two 1.50 credit courses, 33-393 and 33-493. (Pianists and organists also must take the 1.50 credit hour course 33-360 twice.)

Ensembles: three courses, consisting of six 1.50 credit hour courses (one in each of six terms) and including at least two of 33-210, 33-220, 33-230, or 33-310. (33-360 may be substituted if 33-230 is not offered.)

Additional Major requirements: two of 32-312, 32-313, 32-426, and 32-427; plus additional music courses to a total of thirty-four.

Other requirements: six non-Music courses. (Singers must take two courses each of French, German, and Italian.)

Honours Bachelor of Music Therapy

ADMISSION REQUIREMENTS

In addition to meeting the regular requirements for admission to the University, admission to the B.Mus.Th. is conditional upon a successful audition evaluated by faculty members in Music. The audition will consist of:

(a) a theory evaluation test designed to show the nature and extent of the student's aptitude in music theory;
(b) a performance of at least ten minutes' length on the student's major instrument, showing a grasp of a variety of styles;
(c) a personal interview to assess the student's background in working with exceptional people and his or her suitability to pursue a career in music therapy.

Candidates should contact a program advisor in Music for specific requirements in the various performance media. If an accompanist from Music is required, two weeks' prior notice must be given to the Music office, and an accompanist's fee will be charged. Candidates auditioning in Voice or Orchestral Instruments must perform at least one selection with accompaniment.

OTHER REGULATIONS

Music courses whose middle digit is 0 may not count toward the B.Mus.Th. degree.

PROGRAM REQUIREMENTS

Total courses: forty.

Major requirements: twenty-seven courses as given below:

History and Literature: two courses, 32-126 and 32-127.

Theory: six courses, consisting of 32-112, 32-113, 32-212, and 32-213; plus the 1.50 credit hour courses 32-222, 32-223, 32-322, and 32-323.

Performance Studies: six courses, including one course from the private instruction series 33-347 to 33-369 taken four times; plus one 1.50 credit hour course from the private instruction series 33-317 to 33-339 taken four times.

Ensembles: two courses, consisting of four 1.50 credit hour courses in each of four terms from 33-210, 33-220, 33-230, 33-240, 33-250, 33-260, 33-310, and 33-330.

Music Therapy: seven courses, consisting of 32-120, 32-121, 32-330, 32-331, and 32-420; plus four 1.50 credit hour courses, 32-340, 32-341, 32-440, and 32-441.

Other Music courses: four courses, consisting of 32-248 and 33-111; the 1.5 credit hour course, 33-213; and three additional Music half courses to 4.5 credit hours. Students whose major instrument is Voice will substitute the equivalent of 1.5 credit hours in any other Music courses (32- or 33-) for 33-213.

Other requirements:

(a) nine courses in Psychology, consisting of 46-115, 46-116, 46-220, 46-223, 46-224 (or 46-225), 46-230, 46-237, 46-322, and 46-323;
(b) Biology 55-202;
(c) one of Drama 24-277, 24-284, or 24-377, or Kinesiology 95-374 or 95-391;
(d) one of Nursing 63-241, 63-243, 63-245, 63-247, or 63-249;
(e) One additional non-music course.

CERTIFICATION

Before applying for certification, graduates of the program normally will complete an internship of one thousand hours at any of the clinical training sites currently approved. Certification as a Music Therapist Accredited (MTA) with the Canadian Association of Music Therapy (CAMT) is accomplished by submitting a record of academic and clinical training to the CAMT.

Honours Bachelor of Music Therapy with Internship

ADMISSION REQUIREMENTS

Same as for current Bachelor of Music Therapy

PROGRAM REQUIREMENTS

Total courses: forty.

Major requirements: twenty-seven courses as given below:

History and Literature: two courses, 32-126 and 32-127.

Theory: six courses, consisting of 32-112, 32-113, 32-212, and 32-213; plus the 1.50 credit hour courses 32-222, 32-223, 32-322 and 32-323.

Performance Studies: six courses, including one course from the private instruction series 33-347 to 33-369 taken four times; plus one 1.50 credit hour course from the private instruction series 33-317 to 33-339 taken four times.

Ensembles: two courses, consisting of four 1.50 credit hour courses in each of four terms from 33-210, 33-220, 33-230, 33-240, 33-250, 33-260, 33-310, and 33-330.

Music Therapy: seven and one half courses, consisting of 32-120, 32-121, 32-330, 32-331, and 32-420; plus five 1.50 credit hour courses, 32-340, 32-341, 32-440, 32-441, and 32-490.

Other Music courses: three and one half courses, consisting of 32-248 and 33-111; one additional Music course; and the 1.5 credit hour course 33-213. Students whose major instrument is Voice will substitute the equivalent of 1.5 credit hours in any other Music courses (32- or 33-) for 33-213.

Other requirements:

(a) nine courses in Psychology, consisting of 46-115, 46-116, 46-220, 46-223, 46-224 (or 46-225), 46-230, 46-237, 46-322, and 46-323;
(b) Biology 55-202;
(c) one of Drama 24-277, 24-284, or 24-377, or Kinesiology 95-374 or 95-391;
(d) one of Nursing 63-241, 63-243, 63-245, 63-247, or 63-249;
(e) one course from any area, excluding Music.

CERTIFICATION

Graduates of this program are eligible to apply for certification as a Music Therapist Accredited (MTA) with the Canadian Association of Music Therapy.

Combined B.A. Four-Year Honours Degree Programs

Total courses: forty.

Permission from both Music and the second area of study is required to enroll in this degree program. No audition is required for the degree; however, it is necessary to audition for the required performance and/or ensemble courses and to pass the examinations for 32-112 and 32-222.

Major requirements-Music: seventeen courses consisting of 32-112, 32-113, 32-126, and 32-127; plus two 1.50 credit hour courses, 32-222 and 32-223; plus two additional courses from Theory or History and Literature; and at least three, but not more than eight full courses or their equivalent in Performance Studies and/or Ensemble courses, of which no more than eight 1.50 credit hour courses may be in Ensembles; plus additional Music courses to a total of seventeen.

Music courses whose middle digit is 0 may not count towards this degree.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements: additional options (if required) to a total of forty.

Diploma In Church Music

Designed primarily for the keyboard player wishing to direct a church music program. Admission by audition. Candidates should be able to demonstrate proficiency on the piano in repertoire equivalent to the Two-Part Inventions of J.S. Bach, and the Sonatas Op. 49 of Beethoven. Candidates wishing to audition on the organ should demonstrate proficiency in repertoire equivalent to the Eight Short Preludes and Fugues of J.S. Bach, and the Choral Preludes Op. 122 of Brahms (Nos. 2, 3, 6, 8, or 9).

Total courses: twenty.

Required: 32-112, 32-113, 32-212, 32-213, 32-126, 32-127, 32-248, 32-249, 32-260, and 32-261; plus five 1.50 credit hour courses, 33-213, 32-222, 32-223, 32-322, and 32-323; plus three 1.50 credit hour courses 33-210, 33-270, and 33-310; plus four terms of 33-349; plus two of Intercultural Studies 07-227, 07-230, or 07-231.

As part of the diploma requirements, candidates will participate in a music apprenticeship program with churches of various denominations. The diploma will culminate in a performance project, such as a church service, to be arranged in consultation with a program advisor in Music.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration:32-112, 32-113, 32-126, 32-127, eight courses at the 200-level or above, including two 32- series courses, two 33- series courses, and four Music History and Literature courses.

Minor Concentration:32-112, 32-113, 32-126, 32-127, plus two additional Music courses (for a total of six credits)

4.15.3 COURSE DESCRIPTIONS - MUSIC ACADEMIC STUDIES

Not all courses listed will necessarily be offered each term.

All courses are three hours a week (for 3.0 credit hours) unless otherwise indicated.

All Music courses except those whose middle digit is 0 may require consent of the instructor for enrollment.

32-102. Fundamentals of Music
Study of intervals, scales, rhythms, and notation. Practice in reading music and ear training. (May not count toward any Music degree.)

32-106. The Musical Experience
Topics of general interest to the university student, chosen by the instructor. Topics may include: how to listen to music; great composers of Western classical music; popular music idioms. (No prerequisites; open to any student in the university.) (May not count toward any Music degree.)

32-107. Explorations in Music
Aspects of music with broad general appeal. Topics may include: music for the cinema; composer, performer and community; recent trends in the music industry. (No prerequisites; open to any student in the university.) (May not count toward any Music degree.)

32-112. Music Theory I
Examination of basic harmonic, contrapuntal, and formal elements in tonal music. (Admission by examination or consent of the instructor.) (Should be taken concurrently with 32-222.) (3 hours a week , plus 2 keyboard laboratory hours a week.)

32-113. Music Theory II
Continuation of 32-112, which is prerequisite. (Should be taken concurrently with 32-223.) (3 hours a week, plus 2 keyboard laboratory hours a week.)

32-114. Materials of Music for Music Theatre I
Basic diatonic materials; their applications at the keyboard to simpler song styles. Transposition and chord symbol interpretation based on written tunes. (Admission by examination and successful completion of the Keyboard Proficiency Requirement.) (Restricted to Music Theatre majors only.)

32-115. Materials of Music for Music Theatre II
Continuation of 32-114 with tonal extensions, enriched chord vocabulary, more varied accompaniment patterns and figurations; application at the keyboard to a variety of popular musical styles up to and including the Broadway styles of the mid-twentieth century. Improvisation of accompaniments based on orally-dictated tunes. (Prerequisite: 32-114.) (Restricted to Music Theatre majors only.)

32-120. Introduction to Music Therapy
A survey of the origins of music therapy from the historic uses of music

in healing to present-day theories of practice in various clinical settings. Music therapy techniques demonstrated.

32-121. Skills for Music Therapy
Leadership skills, group management techniques, basic guitar skills for music therapy sessions, and materials for music activities with various ages and populations. Music therapy site observations. (Prerequisite: 32-120 and 33-111 or consent of the instructor.)

32-126. Music History and Literature I
Musical styles from the Middle Ages to about 1750. (Prerequisite: admission to the B.Mus., B.Mus.Th., or B.M.A. programs or consent of the instructor.)

32-127. Music History and Literature II
Musical styles from about 1750 to the present day. (Prerequisite: 32-126 or consent of the instructor.)

32-212. Music Theory III
Examination of more complex harmonic, contrapuntal, and formal elements in tonal music. (Prerequisite: 32-113.) (Should be taken concurrently with 32-322.)

32-213. Music Theory IV
Continuation of 32-212, which is prerequisite. (Should be taken concurrently with 32-323.)

32-222. Basic Skills I
Intensive drills in ear training, sight singing, dictation, and basic keyboard. (Admission by examination or consent of the instructor.) (Should be taken concurrently with 32-112.) (1.50 credit hour course.)

32-223. Basic Skills II
Continuation of 32-222, which is prerequisite. (Should be taken concurrently with 32-113.) (1.50 credit hour course.)

32-226. Studies in Medieval and Renaissance Music
Special studies in the history and literature of Medieval and Renaissance music, to be arranged by the instructor. (Prerequisites: 32-126 and 32-127.)

32-227. Studies in Baroque Music
Special studies in the history and literature of Baroque music, to be arranged by the instructor. (Prerequisites: 32-126, 32-127.)

32-229. String Techniques
Fundamental techniques of string instruments and their applications in teaching beginners.

32-232. Music Technology
Study of the application of digital technologies to the creation of electroacoustic music, audio art, and sound installation. This course will explore the physical nature of sound as well as the history and nature of sound synthesis, MIDI, algorithmic composition, and digital recording. (Prerequisites: 32-113 or 27-105 or 40-214; an ability to read notated music is recommended.)

32-236. Performance Literature I
Survey of the literature written for the student's major instrument.

32-237. Performance Literature II
Continuation of 32-236, which is prerequisite.

32-239. Woodwind Techniques
Fundamental techniques of woodwind instruments and their application in teaching beginners.

32-246. History of Jazz
A study of the origins, forms and development of jazz to the present day. (An ability to read music is expected.)

32-247. Analysis of Jazz Styles
A stylistic study of major jazz innovators through the analysis of solo transcriptions and recordings. (Prerequisite: consent of the instructor.)

32-248. Basic Conducting I
Instruction in baton technique and the conducting of choral and instrumental ensembles.

32-249. Basic Conducting II
Instruction in score preparation and rehearsal techniques for vocal and instrumental ensembles. (Prerequisite: 32-248.)

32-255. Vocal Techniques
Introduction to working with children's and adolescent voices. Topics include physiology of the voice, tonal placement, care of the teenage voice, the boy's changing voice, solo and group singing. (Prerequisite: 33-213, or 33-317, or 33-347.) (2 lecture hours a week and one laboratory hour a week.) (1.50 credit hour course.)

32-259. Instrumental Conducting
Instruction in score preparation and rehearsal techniques for instrumental ensembles. (May not be taken concurrently with 32-249.) (Prerequisite: 32-248.)

32-260. Church Music and Service Playing I
Survey of the hymn and psalm and their performance in the church service; improvisational skills. (Prerequisite: consent of the instructor.)

32-261. Church Music and Service Playing II
Survey and preparation of service music, anthems, and organ music for the church service; improvisational skills. (Prerequisite: 32-260.)

32-269. Percussion Techniques
Fundamental techniques of percussion instruments and their application in teaching beginners.

32-279. Brass Techniques
Fundamental techniques of brass instruments and their application in teaching beginners.

32-284. Music for the Developing Child
An experiential inquiry into philosophies and for early music awareness. Examinations of the approaches of Orff, Suzuki, Kodaly, Dalcroze, and other music readiness curricula. (Prerequisites: 32-113 and 32-223, or permission of the instructor.)

32-289. Guitar Techniques for Music Education
Fundamental techniques of guitar playing and their application to teaching beginners. Chord charts, rhythm graphs, traditional note forms, and guitar accompaniment for individual and group singing. Students must supply their own instrument. (May not be taken concurrently with 33-111.) (Prerequisites: 32-113 and 32-223.)

32-312. Twentieth-Century Techniques
Techniques of musical expression in the twentieth century, such as serialism, electronic, and aleatory music.

32-313. Twentieth-Century Techniques II
Continuation of 32-312, which is prerequisite.

32-322. Advanced Skills I
Intensive drills in ear training, sight singing, keyboard harmony, dictation, and improvisation. (Prerequisites: 32-223 and 32-113 and successful completion of the Keyboard Proficiency Requirement.) (Should be taken concurrently with 32-212.) (1.50 credit hour course.)

32-323. Advanced Skills II
Continuation of 32-322, which is prerequisite. (Should be taken concurrently with 32-213.) (1.50 credit hour course.)

32-325. Laboratory Ensemble
Practice in performance and teaching instrumental ensembles of brass, woodwinds, strings, and percussion. (Prerequisites: 32-259 and one instrumental techniques course.)

32-326. Studies in Classical Music
Special studies in the history and literature of Classical music, to be arranged by the instructor. (Prerequisites: 32-126 and 32-127.)

32-327. Studies in Romantic Music
Special studies in the history and literature of Romantic music, to be arranged by the instructor. (Prerequisites: 32-126 and 32-127.)

32-330. Theories of Music Therapy
Study of psychotherapy theories and their relationship to various models of music therapy interventions. Investigation of current research and clinical practice methods. (Prerequisite: 32-120 or consent of the instructor.)

32-331. Creative Improvisation in Music Therapy
An examination of improvisational methods of music therapy. Through an experiential process, students explore the therapeutic benefit of music as it relates to sound patterns, movement, drama, and art. Piano improvisation techniques included. (Prerequisites: 32-121 and 32-322.)

32-332. Composition
Independent work in musical composition as a means of musical expression. Students will be responsible for composing and supervising the performance of at least one substantial composition during the term. (May be repeated for credit.) (Prerequisite: consent of instructor.) (2 lecture hours a week.)

32-336. History of Music Theatre I
The musical stage from the Renaissance through the early twentieth century, with special emphasis on ballad opera, operetta, and musical comedy.

32-337. History of Music Theatre II
Landmark productions of the popular musical stage from the mid-twentieth century to the present; "Broadway" and "off-Broadway"; recent trends.

32-340. Field Practice I
Supervised observation and practice in selected clinical settings. Assessment, intervention, and evaluation according to appropriate music therapy goals within the given population. (Prerequisites: 32-121, and 32-331.) (Normally 1 lecture hour and 6-8 practical hours a week.) (1.50 credit hour course.) (Open to Music Therapy students only.)

32-341. Field Practice II
Continuation of 32-340, which is prerequisite. (1.50 credit hour course.)

32-346. World Musics
A survey of musical expressions of various world civilizations, such as African, Asian, Southeast Asian, Latin American, and aboriginal North American cultures. Discussion will focus on musical structure and the role of music in society. (Ability to read music is expected. Admission by examination or by consent of the instructor.)

32-385. Introduction to Music Education
A study of the historical, philosophical, and psychological foundations of music education, and the role of music in the general school curriculum; observation of music teaching in the school classroom.

32-395. Jazz Education Fundamentals
Examination of instructional methods and materials pertinent to directing jazz performing ensembles (stage band, combos, vocal groups) at the secondary school level. Rehearsal techniques and concert planning will be emphasized. (1.50 credit hour course.)

32-412. Music Theory Seminar I
Two- and three-part species counterpoint.

32-413. Music Theory Seminar II
Advanced analysis of tonal music. Relation of analysis to performance. (Prerequisite: 32-412.)

32-420. Psychology of Music
A study of the principles underlying the practice of music therapy and musical behaviour. The study of psychological aspects of musical

behaviour: psycho-acoustics, music perception, affective and physiological responses to music, music learning, and measurement. (Open to non-Music majors.) (Prerequisite: 32-120 or consent of the instructor.) (Also offered as Psychology 46-420.)

32-422. Advanced Skills III
Aural recognition of chromatic harmony, non-tonal materials, complex and irregular metres, and large formal structures. Related sight-singing and dictation. Keyboard improvisation in a variety of styles. (Prerequisites: 32-323 and 32-213.) (1.50 credit hour course.)

32-423. Advanced Skills IV
Continuation of 32-422, which is prerequisite. (1.50 credit hour course.)

32-426. Studies in Twentieth-Century Music
Special studies in the history and literature of twentieth-century music, to be arranged by the instructor. (Prerequisites: 32-126 and 32-127.)

32-427. Studies in Canadian Music
Special studies in the history and literature of Canadian music, to be arranged by the instructor. (Prerequisites: 32-126 and 32- 127.)

32-436. Directed Studies in Music I
Advanced study in a selected area of music. (May be repeated for credit.) (Prerequisite: permission of a program advisor in Music.)

32-437. Directed Studies in Music II
Continuation of 32-436, which is prerequisite. (May be repeated for credit.)

32-440. Field Practice III
Supervised practice in selected clinical settings for the purpose of further concentration within a given setting. The design, implementation, and evaluation of music therapy treatment programs. (Prerequisite: 32-341.) (1 lecture hour and 6 to 8 practical hours a week.) (1.50 credit hour course.)

32-441. Field Practice IV
Continuation of 32-440, which is prerequisite. (1.50 credit hour course.)

32-443. Orchestration
Scoring for small ensembles, large orchestra; problems of transcriptions; score study. (2 lecture hours a week.)

32-458. Conducting Seminar I
Advanced studies in choral or orchestral conducting. The student will serve as assistant conductor of an ensemble, with practical experience in rehearsal technique, score study, literature, and stylistic analysis. (Prerequisite: 32-249 or 32-259, and consent of the instructor.)

32-459. Conducting Seminar II
Continuation of 32-458, which is prerequisite.

32-470. Performance Pedagogy I
A survey of the evolution of pedagogy; study of materials relating to beginning and intermediate levels through the discussion and performance of appropriate repertoire. From year to year, different areas of emphasis may be offered, such as piano, organ, or voice. (May be repeated for credit, provided that the area of emphasis is different.) (Prerequisite: consent of the instructor.)

32-471. Performance Pedagogy II
A continuation of 32-470, with particular emphasis on the intermediate and advanced levels through the discussion and performance of appropriate repertoire. (Prerequisite: 32-470.)

32-484. Music Education in the Elementary School
Review of curriculum materials and teaching methods applicable to elementary and intermediate classrooms. Topics may include such areas as working with the boy's changing voice, teaching instrumental beginners, and teaching music reading skills. Observation of music teaching in the school classroom. (Prerequisites: 32-113, 32-223 and 32-385.)

32-485. Music Education Seminar Elementary/ Secondary
Methods of building and maintaining a successful high school music program, including both instrumental and vocal courses. How to develop musical skills and musical knowledge in secondary school students. Review of curriculum materials and performance literature appropriate for secondary schools. Observation of music teaching in the school classroom. (Prerequisites: 32-113, 32-223 and 32-385.)

32-490. Internship in Music Therapy Professional Practice
1000 hours of supervised music therapy practice in an off-campus clinical setting. Includes asynchronous online learning. Offered on a pass/non-pass basis. (Prerequisite: Completion of all other course requirements for the Bachelor of Music Therapy with Internship.) (18 hours of learning modules.) (1.5 credit.)

4.15.4 COURSE DESCRIPTIONS - MUSIC PERFORMANCE STUDIES

All Performance Studies courses except 33-270 are open by audition only.

For courses in Private Instruction, see "Areas of Study-Performance".

33-111. Guitar Techniques
Basic techniques for use with music groups. Chord charts, rhythm graphs, traditional note forms, and guitar accompaniment for individual and group singing. Students must supply their own instrument. (3.0 credit hour course.) (Open to Music Therapy and Music Education students only)

33-210. University Singers
Admission by audition. Performance of literature of various styles from all periods. (Normally 4 hours a week.) (May be repeated for credit.) (1.50 credit hour course.)

33-213. Class Voice
Instruction in singing fundamentals and repertoire for students who are not voice majors. (Admission by audition.) (Prerequisite: consent of the instructor.) (2 lecture hours a week.) (1.50 credit hour course.)

33-220. University Wind Ensemble
Admission by audition. Performance of major works of the band and wind ensemble literature by groups of various sizes. Performances at University convocations, high school assemblies, and University concerts. (Normally 4 hours a week.) (May be repeated for credit.) (1.50 credit hour course.)

33-230. University Orchestra
Admission by audition. Performance of works from the orchestral repertoire. (Normally 4 hours a week.) (May be repeated for credit.) (1.50 credit hour course.)

33-240. Jazz Ensemble
Admission by audition. Performance of works arranged for standard jazz band instrumentation. (Normally 4 hours a week.) (May be repeated for credit.) (1.50 credit hour course.)

33-260. Community Orchestra
Membership by audition. Rehearsals one evening a week; normally one concert given each term. (May be repeated for credit.) (1.50 credit hour course.)

33-270. Community Choir
Membership open to everyone without audition. Rehearsals one evening a week, and normally one concert given during the term. (Normally 2.5 hours a week.) (May not count toward the B.Mus. degree.) (Offered on a pass/non-pass basis.) (May be repeated for credit.) (1.50 credit hour course.) (Offered on a pass/non-pass basis.)

33-310. Chamber Choir
Admission by audition; limited membership. Selected literature suitable for performance by a small choir. (Prerequisite: 2 terms of 33-210, or 33-220, or 33-230, or consent of instructor.) (May be repeated for credit.) (1.50 credit hour course.) (Normally 4 hours week.)

33-330. Chamber Music
Rehearsal, discussion and performance of chamber music literature. Instrumentation according to the demands of each term's repertoire. (Admission by audition and consent of the instructor.) (May be repeated for credit.) (1.50 credit hour course.) (Normally 2 hours a week.)

33-360. Accompanying
Accompaniment of solo vocal and instrumental repertoire in various styles; development of skills in sight reading and transposition. (Admission by audition.) (May be repeated for credit.) (Prerequisite: two terms of 33-348, or consent of the instructor.) (Normally 1 to 1.5 hours a week.) (1.50 credit hour course.)

33-380. Music Theatre Instrumental Ensemble
Accompaniment of rehearsals and performances of music theatre productions presented by the University of Windsor. enrollment is limited to the instrumentation necessary for the production at hand (normally one production per term), including rehearsal pianists. (Admission by audition.) (May be taken four times for credit.) (1.50 credit hour course.) (Normally 3 hours a week.)

33-393. Third-Year Recital
Public presentation of a recital of one hour in playing time on the student's major instrument. Repertoire performed must show a variety of styles and periods. (Restricted only to students in Program III of the B.Mus. degree.) (1.50 credit hour course.)

33-414. Music Theatre Workshop-Works in Progress
The study and presentation of scenes and/or complete productions drawn from the spectrum of works written for the musical stage; team taught. (May be repeated for credit.) (Prerequisite: four terms of voice study, or consent of the instructor.) (Restricted only to majors in the B.F.A. Music Theatre program.)

33-491. Graduation Project
Public presentation of a topic in the student's individual area of emphasis. The project may take the form of a major research paper, concert of original compositions, or other appropriate vehicle. (Restricted only to students in Programs I and II of the B.Mus. degree, with permission of a program advisor in Music.) (1.50 credit hour course.)

33-493. Graduation Recital
Same as 33-393, which is prerequisite. (Restricted only to students in Program III of the B.Mus. degree.) (1.50 credit hour course.)

33-495. Graduation Recital
Public presentation of a recital of at least forty minutes in playing time on the student's major instrument. Repertoire performed must show a variety of styles and periods. (Restricted only to students in Programs I and II of the B.Mus. degree, with permission of a program advisor in Music.) (1.50 credit hour course.)

4.16 Philosophy

(Ext. 2317)

OFFICERS OF INSTRUCTION

Professors Emeriti

Pinto, Robert C.; B.A., M.A., Ph.D. (Toronto)-1963.

Westra, Laura; B.A. (York), M.A., Ph.D. (Toronto)-1990.

University Professors

Johnson, Ralph Henry; B.A. (Xavier), M.A., Ph.D. (Notre Dame)-1966. (Head of the Department)

Blair, John Anthony; B.A. (McGill), M.A. (Michigan)-1967.

Professor

Cook, Deborah; B.A., M.A. (Ottawa), Doct. 3e cycle (Sorbonne)-1989.

Assistant Professors

Hansen, Hans V.; B.A. (Lakehead), M.A. (Manitoba), M.A., Ph.D. (Wayne State)-2001.

Noonan, Jeffrey; B.A. (York), M.A., Ph.D. (McMaster)-2001.

Guarini, Marcello; B.A. (Windsor), M.A., Ph.D. (Western Ontario)-2002.

Rose, Philip; B.A. (Memorial), M.A., Ph.D. (Queen's)-2002.

Hundleby, Catherine; B.A. (Toronto), M.A. (Guelph), Ph.D. (Western Ontario)-2003.

Sessional Lecturer

Parr, Katharine E.; B.A., M.A., M.Ed. (Windsor)-1982.

Cross-Appointment

Conklin, William E.; B.A. (Toronto), M.Sc. (L.S.E., London), LL.B. (Toronto), LL.M. (Columbia), Ph.D. (York), of Osgoode Hall, Barrister-at-Law-1977.

4.16.1 PROGRAM REGULATIONS

Academic Advising: All students majoring in Philosophy or intending to declare a Minor in Philosophy will be assigned an academic advisor. Students should plan their programs in consultation with their advisors prior to course selection each term. Students planning to take a Philosophy course as an option are welcome to consult the instructor.

Either 34-110 or 34-112 is a good introduction to Philosophy in general.

4.16.2 PROGRAMS OF STUDY

Minor, General, Honours, and Combined Honours degree programs are available in Philosophy.

Areas of Study

Most philosophy courses are intended for students majoring in other subjects who desire a well-rounded liberal arts education, as well as for philosophy majors. Students who might want to take more than one philosophy course are advised to check the prerequisites of courses numbered in the 200s and 300s. 34-110 or 34-112 are good introductions to philosophy in general.

Minor in Philosophy

Required: six Philosophy courses, with no more than two at the 100-level, and at least one at the 300-level or above.

General Philosophy

Total courses: thirty.

Major requirements: twelve Philosophy courses, at least 9 of which must be at the 200-level or above, including:

(a) 34-110 or 34-112;
(b) 34-221, and one additional Philosophy course with '2' as the middle digit;
(c) one of 34-270 or 34-271;
(d) one of 34-274 or 34-275;
(e) one of 34-372, 34-373, 34-374, 34-375, 34-376, 34-377;
(f) one Philosophy course with '5' as the middle digit;
(g) one 200-level or above Philosophy course with '6' as the middle digit;
(h) four additional Philosophy courses, at least one of which is above the 200-level.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Philosophy.

Other requirements:

(a) eight other courses from Arts, Languages, Social Sciences, or Science, excluding Philosophy;
(b) four more courses from any area of study including Philosophy.

Honours Philosophy

Total courses: forty.

Major requirements: twenty Philosophy courses, at least 18 of which must be at the 200-level or above, including:

(a) 34-110 or 34-112;

(b) 34-221, and one additional Philosophy course with '2' as the middle digit;
(c) one of 34-250 or 34-254;
(d) three of 34-270, 34-271, 34-274 or 34-275;
(e) one of 34-353, 34-372 or 34-373;
(f) one of 34-355, 34-374 or 34-375;
(g) one of 34-376 or 34-377;
(h) one additional Philosophy course with '5' as the middle digit;
(i) one 200-level or above Philosophy course with '6' as the middle digit;
(j) 34-491;
(k) seven additional Philosophy courses, at least three of which are at the 300-level.

Option requirements (see 2.4.14 for subject areas): six courses including
(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Philosophy.

Other requirements:
(a) four other courses from Arts, Languages, Social Sciences, or Science, including Philosophy;
(b) four more courses from Arts, Languages, Social Sciences, or Science, excluding Philosophy;
(c) six other courses from any area of study, excluding Philosophy.

Combined Honours Programs

A student may combine Philosophy with any other area of study that also permits Combined Honours Programs.

Total courses: forty.

Major requirements—Philosophy: sixteen Philosophy courses, at least 14 of which must be at the 200-level or above, and including:
(a) 34-110 or 34-112;
(b) 34-221, and one additional Philosophy course with '2' as the middle digit;
(c) one of 34-250 or 34-254;
(d) one of 34-270 or 34-271;
(e) one of 34-274 or 34-275;
(f) one of 34-353, 34-372 or 34-373;
(g) one of 34-355, 34-374 or 34-375;
(h) one additional Philosophy course with '5' as the middle digit;
(i) one 200-level or above Philosophy course with '6' as the middle digit;
(j) 34-491;
(k) any five additional Philosophy courses, at least one of which is above the 200 level.

Major requirements-Other subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including
(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Philosophy.

Other requirements: additional options (if required) to a total of forty courses.

M.A. Degree in Philosophy

See the Graduate Calendar for details about the M.A. program in Philosophy.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 34-110, 34-112, 34-x2x, at least one of 34-250 or 34-254, at least one of 34-270 or 34-271, at least one of 34-274 or 34-275, at least one of 34-330, 34-352, 34-353, at least one of 34-555, 34-374, 34-375, at least one of 34-260, 34-261, 34-262, any two additional courses at the 200-level or above, 34-491.

Minor Concentration: 34-110 or 34-112, one of 34-330, 34-352, 34-353, four additional courses. No more than two courses at the 100-level.

4.16.3 COURSE DESCRIPTIONS

All courses listed are three hours a week unless otherwise indicated. Not all courses are offered each term or each academic year.

Please note the middle digit of course numbers denotes specific topics or areas of study.

34-110. Introduction to Western Philosophy
An introduction to philosophy through the study of major figures and movements in the Western philosophical tradition. The figures and themes selected for any given year will be chosen by the instructor.

34-112. Philosophy and Human Nature
What is human nature? How do we think of ourselves as human beings? The course will examine several of the principal theories of human nature that have been put forward in Western philosophy.

34-129. Contemporary Moral Issues
A critical examination of philosophical arguments about controversial moral issues. Readings will be chosen by the instructor on issues connected with one or several of such areas as: biomedical ethics, euthanasia, suicide, environmental ethics, the treatment of animals, war and violence, pornography, censorship.

34-130. Philosophy and Popular Culture
A philosophical inquiry into one or more of the more important contemporary cultural forms and phenomena. Topics may vary and may include popular music, television, virtual reality, sexual roles and stereotypes, or other topics.

34-160. Reasoning Skills
An explanation of, and practice in, the basic knowledge, skills and attitudes which are essential components of reasoning well. (Antirequisite: 34-161 and 34-162.)

34-162. Logic and Argumentation
Basic deductive logic and argumentation theories and their application to the interpretation, assessment and construction of arguments used in the humanities, social sciences, and sciences as well as in discourse in the public realm. Topics include: deductive, inductive, presumptive reasoning or arguments, elementary sampling, differences between the kinds of support in different fields, elementary rhetoric and dialectic, and common fallacies. (Prerequisite: Open only to students in the BAS program.) (Antirequisite: 34-160, 34-161.)

34-221. Introduction to Ethics
A survey of the main contending theoretical positions on such basic questions of ethics as: Are all moral values and norms subjective or objective, relative or absolute? What makes right actions right? What is the good life for human beings?

34-222. Social and Political Philosophy
An examination of some of the main contending theories about the nature of society and the state, or of some of the central controversies in social and political theory. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing; or consent of the instructor.)

34-224. Business Ethics
An introduction to some central ethical notions (*e.g.*, justice, the common good, moral vs. legal obligation); application of these issues and concepts to cases drawn from the experiences of business men and women (concerned with such issues as corporate responsibility, conflict of interest, honesty in advertising, preferential hiring, corporate responsibility for environmental externalities).

34-226. Law, Punishment and Morality
An introduction to the philosophical issues related to understanding the nature of law and legal obligation, the relation between law and morality, and the purpose of punishment. The theoretical points and distinctions will be illustrated by their applications to particular current issues. (Prerequisite: semester 3 or above standing, or consent of the instructor.)

34-227. Environmental Ethics
What ethical obligations do we have to the non-human environment? The course examines various answers to that question. Topics may include: animal rights, the moral status of non-human life, the intrinsic value of ecosystems, the importance of wilderness, deep ecology, ecofeminism, economic development, environmentalism, and politics.

34-228. Technology, Human Values and the Environment
An exploration of the philosophically important ethical concepts of human nature, freedom, progress, the good life, moral responsibility, and the environment as these relate to advances in technology. Topics may include: pollution, mass production, the commodification of nature, new technologies (*e.g.*, biotechnology, nanotechnology).

34-236. Feminism and Philosophy
An examination of key themes in philosophical feminism and feminist theory, such as sexism and oppression, theories of women, sex, gender, language, and feminist identity, methodology, and politics. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing, or consent of the instructor.)

34-237. Labour and Social Change
An examination of the philosophical problems raised by the nature and function of labour in a changing society. Topics to be addressed may include: the relationship between labour and the struggle for democracy, labour as a social movement, the relationship between labour and conceptions of the good life, the relationship between economic and human value, technology and the nature of labour, and the sexual division of labour. (Also offered as 54-237.) (Prerequisite: 3rd semester standing.)

34-240. Philosophy of Religion
An examination of the philosophical problems involved with religious belief and language. Can the existence of God be proven? Can the non-existence of God be proven? Can claims to religious knowledge be legitimized? Is there a unique logic of religious language that is cognitively meaningful? Is there any basis for claims about life after death? What is the nature of faith? These are the sorts of questions which are dealt with in this course. (Prerequisite: Semester 3 or above standing.)

34-250. Metaphysics
An examination of fundamental questions about the nature of reality. What kinds of things are real; what distinguishes the real from the ideal, or the real from the illusory? Are there abstract entities (*e.g.*, numbers)? The nature of necessity and possibility, essence and existence. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing, or consent of the instructor.)

34-252. Existentialism
A study of the views of some of the major existentialists. Figures studied may include Kierkegaard, Nietzsche, Sartre, Merleau-Ponty, Camus, and Jaspers. (Prerequisite: Semester 3 or above standing.)

34-254. Theory of Knowledge
An examination of the nature of knowledge, with topics such as: definitions of knowledge, accounts of its structure, the extent and limits of knowledge, the relationship between experience and knowledge, the bases of rational or justified belief formation. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing, or consent of the instructor.)

34-255. Knowledge and Community
The course explores the relationship between what individual people know and their participation in communities. Topics may include: the

ways communities rather than individuals can hold knowledge; how cognitive authority depends on a person's membership in, and social position within, a community; the role of testimony in knowledge; how the legal system creates knowledge; the roles of gender, race, class and culture in knowledge; and the ethical implications of experience and understanding. (Prerequisite: semester 3 or above standing.)

34-260. Informal Logic: Fallacy
The objective is to develop the ability to discriminate between good and bad arguments found in everyday settings, using the concept of fallacy. A variety of kinds of fallacy are explained, and the skill of identifying them is taught. The basic tools for analyzing arguments are presented and put to use. Material for analysis is drawn from newspapers, current periodicals, and other sources of actual arguments. (Prerequisite: 34-160 or 34-161 or semester 3 or above standing; or consent of the instructor.)

34-261. Informal Logic: Argumentation
The objective is to develop the ability to analyze and evaluate extended arguments found in the public media, books and articles, and to construct a well-argued case. (Prerequisite: 34-160 or 34-161 or semester 3 or above standing; or consent of the instructor.)

34-262. Symbolic Logic
The course covers propositional logic as well as an introduction to the basic concepts of predicate logic. Topics include the construction of symbolic representation of natural language sentences, semantic methods for evaluating symbol formulas, and methods of constructing deductions or proofs. (Prerequisite: Semester 3 or above standing, or permission of the instructor. Antirequisite for non-Philosophy majors: 60-231, 62-190.)

34-266. Reasoning about Weird Things
How to evaluate extraordinary claims, such as claims about psychic phenomena (*e.g.* ESP), subliminal messages, crop circles, and water divining. The course may include topics such as: the limits of personal experience as a source of evidence, expert opinion, assessment of studies, scientific method. (Antirequisite: 34-160 and 34-162.)

34-270. Plato
Early Greek philosophy with emphasis on Socrates and Plato, with readings from a cross-section of early Greek philosophers and from Plato's dialogues. (Prerequisites: Semester 3 or above standing and one prior Philosophy course.)

34-271. Aristotle
Later Greek philosophy to the close of classical antiquity with emphasis on Aristotle, with readings from Aristotle, the Epicureans, the Stoics and Plotinus. (Prerequisites: Semester 3 or above standing and one prior Philosophy course.)

34-274. Early Modern Philosophy: The Rationalists
The major rationalist themes of European thought at the time of the scientific revolution, such as: universal doubt, the nature of knowledge, the primacy of subjectivity, mechanism, the mind-body relationship, kinds of substances, freedom and determinism, God and the world. Philosophers studied may include Descartes, Spinoza, Leibniz, among others. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing, or consent of the instructor.)

34-275. Early Modern Philosophy: The Empiricists
The major empiricist themes of European thought in the17th and 18th centuries. Topics may include: the attack on innate ideas, the nature of knowledge, faith vs. reason, the nature of a person, materialism, immaterialism and scepticism, human nature vs. reason, causation and human action, the evidence for a deity. Philosophers studied may include Locke, Berkeley, and Hume, among others. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing, or consent of the instructor.)

34-280-289. Special Topics
Special Topics courses will be offered occasionally, as resources allow, to meet a demonstrated academic need, where that need cannot be satisfied by any of the regular course offerings. Interested students should inquire in the Philosophy office. (Prerequisites: Semester 3 or above standing and permission of an advisor in Philosophy.)

34-323. Globalization and Social Justice
Theories of the effect of globalization on the production and distribution of harms and goods. Topics may include: effect on the underdeveloped world of high standards of living in the developed world; effect on the survival of indigenous cultures of tensions between cultural and economic development; women and development; measuring social justice in a world with cultural differences; relationship between democracy and the global economy; democracy and social justice. (Prerequisite: Semester 3 or above standing, or permission of the instructor.)

34-329. Animals and Ethics
The course examines philosophical views about our relationship to animals and the relation of these views to the evaluation of moral principles and ethical theories, including notions of justice and rights. It may cover such topics as: attitudes towards animals, animal awareness and autonomy, whether moral consideration should be extended to animals, whether animals have rights. (Prerequisites: Semester 3 standing and at least one prior Philosophy course, or permission of the instructor.)

34-330. Theories of Nature
Our relation to the environment is shaped in part by our conception of nature. The course explores different and sometimes competing conceptions of nature, considering such questions as: Is nature like a machine? Is it like an organism? Does it evolve? Is nature creative? Are all things in nature interconnected? (Prerequisites: Semester 3 standing and at least one Philosophy course, or permission of the instructor.)

34-342. Philosophy of Education
A critical examination of theories about the nature, goals and values of education. The approach of the course may be historical, contemporary or a combination. (Prerequisites: Semester 3 or above standing and at least one prior Philosophy course, or consent of the instructor.)

34-343. Aesthetics
Aesthetics is concerned with problems which arise in the appreciation of objects which are deemed to have aesthetic value. Problems which may be raised in this course include the nature of aesthetic experience and aesthetic objects such as works of art and nature, as well as problems related to aesthetic value and judgment. (Prerequisite: Semester 3 or above standing.)

34-353. Mind, Action, and Personal Identity
An examination of: contemporary views of the nature of mind and its relationship to body; whether human action is free, determined, or both; the relationship between a theory of personal identity and the answers to the preceding questions. (Prerequisite: 34-110 or 34-112 or semester 3 or above standing; or consent of the instructor.)

34-355. Post-structuralist Theory
Philosophers studied in this course may include Derrida, Foucault, Lyotard, Deleuze, and Guattari. (Prerequisite: 34-110 or 34-112, or at least one 200-level Philosophy course, or consent of the instructor.)

34-356. Mind Design and Android Epistemology
This course explores the implications of artificial intelligence and cognitive modelling research for issues in the philosophy of mind and epistemology, including: the nature of mental states; thinking as largely linguistic, and alternatives; and effects of the way we think of mental states on the way we think about reasoning and knowing. (No specific background in science required, but an introductory-level course in psychology or computer science recommended.)

34-357. Philosophy of Science
What is a scientific explanation? A theory? How does observation relate to theory? Do theories describe reality, or are they just conventional tools? The course examines answers to these and similar questions, and the general conceptions of science behind the answers. (Prerequisite: Semester 3 or above standing or consent of the instructor.)

34-360. Argumentation Theory
Topics may include: the nature and uses of argument; the evaluation of argument; arguments and argumentation; the relations between argument and rhetoric, logic, and pragmatics; linguistic theories of argument; ethics and epistemology related to argument; the role of argument in philosophy. (Prerequisite: 34-260 or 34-261, or consent of the instructor.)

34-372. Twentieth-Century British Philosophy
A study of significant developments in recent British thought in this century, as embodied in key works by figures such as Russell, Moore, Wittgenstein, and some contemporary analytic philosophers. (Prerequisite: 34-110, 0r 34-112, or at least one 200-level Philosophy course, or permission of instructor.)

34-373. Twentieth-Century American Philosophy
A study of major thinkers who shaped recent American thought, with emphasis on the development of pragmatism at the hands of Peirce, James, and Dewey, and the works of recent analytic philosophers such as Quine and Carnap. (Prerequisite: 34-110 or 34-112, or at least one 200-level Philosophy course, or consent of the instructor.)

34-374. Twentieth-Century French Philosophy
A study of significant developments in recent French thought as found in Bergson, Sartre, Merleau-Ponty, Bataille, and Levi-Strauss, for example. (Prerequisite: 34-110 or 34-112, or at least one 200-level Philosophy course, or consent of the instructor.)

34-375. Twentieth-Century German Philosophy
Significant developments in German philosophy in the twentieth century will be examined. Portions of the course may be devoted to Husserl (the founder of the phenomenological school), Heidegger (a seminal figure in existentialism), Gadamer (a key figure in the development of hermeneutics), Critical Theory (a Freudian and Marxist approach to social and economic issues), and second-generation critical theorists such as Habermas. (Prerequisite: 34-100 or 34-112, or one 200-level Philosophy course, or permission of instructor.)

34-376. Kant
A study of the critical philosophical writings of Immanuel Kant. Topics may include Kant's theories about: the limits of human knowledge, how knowledge in mathematics and the natural sciences is possible, whether it is possible to have moral knowledge, whether it is possible to have religious knowledge. (Prerequisite: 34-274 or 34-275, or consent of the instructor.)

34-377. Hegel and German Idealism
A study of early 19th century philosophy centered on the idealism of G.W.F. Hegel, focusing on such problems as the nature of the dialectic, the notion of absolute spirit, and the Hegelian conception of philosophy. (Prerequisite: 34-271 or 34-274, or consent of the instructor.)

34-378. Nineteenth Century Philosophy
Various nineteenth century thinkers may be studied in this course including Kierkegaard and Nietzsche, but also Dilthey, Schopenhauer, Comte, Mill, and others. (Prerequisite: 34-110 or 34-112, or at least one 200-level Philosophy course, or consent of the instructor.)

34-400 to 34-410. Senior Seminars
Senior seminars are the undergraduate sections of M.A. courses. (Normally open only to Philosophy majors in the final year of their program. Consent of the instructor is required. Consult a program advisor during the term preceding planned registration.)

34-491. Honours Seminar
The aim of the seminar is to give students a solid historical background in a given area of philosophy (*e.g.* ethics, epistemology, metaphysics). A philosophical theme is traced through a number of key figures in the history of philosophy. (Open only to four-year Honours in Philosophy students in their final year.)

4.17 Political Science

(Ext. 2348)

OFFICERS OF INSTRUCTION

Professors Emeriti

Nelson, Ralph Carl; B.A., M.A. (DePaul), Ph.D. (Notre Dame)-1961.

Wagenberg, Ronald H.; B.A., M.A. (Assumption), Ph.D. (London)-1963.

Briggs, E. Donald; B.A. (New Brunswick), Ph.D. (London).-1963.

Soderlund, Walter C.; B.A. (Connecticut), M.A., Ph.D. (Michigan)-1968.

Wurfel, David; B.A. (San Diego), M.A. (California), Ph.D. (Cornell)-1968.

Keenleyside, Terence A.; B.A. (Toronto), Ph.D. (London)-1971.

Professors

Brown-John, C. Lloyd; B.A. (British Columbia), M.A., Ph.D. (Toronto)-1968.

Stebelsky, Ihor; B.A., M.A. (Toronto), Ph.D. (Washington)-1968

Amore, Roy C.; B.A. (Ohio), B.D. (Drew), Ph.D. (Columbia)-1970.

Brooks, Stephen; B.A., M.A. (Windsor), Ph.D. (Carleton)-1985.

Associate Professors

Lee, Martha; B.A., M.A. (Calgary), Ph.D. (Syracuse)-1992.

MacIvor, Heather; B.A. (Dalhousie/King's), M.A. (Queen's), M.Sc. (London), Ph.D. (Queen's)-1992.

Najem, Tom P.; B.A., M.A. (Windsor), Ph.D. (Durham)-2002. (Head of Department)

Assistant Professors

Sutcliffe, John; M.A. (Edinburgh), M.A. (Calgary), Ph.D. (Cambridge)-2000.

Miljan, Lydia; B.A., M.A., Ph.D. (Calgary)-2001.

Richter, Andrew; B.A., M.A. (Carleton), Ph.D. (York)-2001.

Lanoszka, Anna; B.A. (Carleton), M.A., Ph.D. (Dalhousie)-2002.

Johnson, Nancy Kwang; B.A. (Vassar College), M.A., M.P.A., Ph.D. (Cornell)-2003.

McIntyre, Chris; B.A., M.A. (Windsor), Ph.D. (North Texas)-2003.

Donais, Timothy; B.J. (Carleton), M.A., Ph.D. (York)-2004.

Adjunct Associate Professors

Burton, Bruce Edward; B.A., M.A. (Oxford), M.Soc.Sc. (Hague)-1966.

Price, Trevor; B.Sc. (London School of Economics), M.A. (Windsor), Ph.D. (Queen's)-1968.

Krause, Robert M.; B.A., M.A. (Windsor)-1970.

Pawley, Howard; B.A. (Winnipeg), LL.B. (Manitoba), LL.D. (Windsor), Q.C., P.C.-1991.

Adjunct Assistant Professor

Gecelovsky, Paul; B.A., M.A. (Windsor), Ph.D. (Alberta)-2000.

Kelly, John F.; B.A. Ed. (Michigan), M.P.A. (Wayne State), J.D. (Michigan), Ph.D. (Wayne)-2002.

4.17.1 PROGRAMS OF STUDY

Minor, general degree, four-year Honours degree, and combined four-year Honours degree are available in Political Science.

Minor in Political Science

Six courses as follows:

(a) 45-100;
(b) one of 45-130 or 45-160;
(c) four Political Science courses at the 200 level or above.

Minor in Diaspora Studies

Requirements: Six courses: 07-236, 45-170, 49-112 and three of the following: 07-235, 26-354, 26-361, 26-371, 34-255, 40-245, 40-262, 40-462, 43-361, 43-369, 45-370, 46-235, 46-236, 46-342, 46-445, 47-210, 48/49-240, 48/49-241, 48/49-333.

General Political Science

Total courses: thirty.

Major requirements: twelve courses, including 45-100, 45-130, and 45-160; plus one of 45-201, 45-211, 45-212, 45-213, 45-220, 45-313, 45-314, and 45-320 (or 45-321). (Students interested in switching to a Political Science four-year Honours degree should take 02-250, 45-275, and two political theory courses from 45-251, 45-252, or 45-351.)

Option requirements (see 2.4.14 for subject areas): eight courses, including:

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) four courses from any area of study, including Political Science (Students interested in a Political Science four-year Honours degree should take 41-110 and 41-111.);
(b) six courses from any area of study, excluding Political Science.

Honours Political Science

Total courses: forty.

Major requirements: nineteen courses, including 45-100, 45-130, 45-160, and 45-275; and two of 45-201, 45-211, 45-212, 45-213, 45-220, 45-309, 45-313, 45-314, 45-320 and 45-321; plus two of 45-251, 45-252, and 45-351; and two of 45-232, 45-237, 45-241, 45-244, 45-346, and 45-365; plus two of 45-264, 45-268, 45-360, 45-361, 45-363, 45-367, and 45-464; seven additional courses, five of which must be at the 300-400 level (and three of those five at the 400 level).

Other requirements (see 2.4.14 for subject areas):

(a) 02-250, 41-110, and 41-111;
(b) six courses from Sociology, Anthropology, Communication Studies, Geography, History and Psychology;
(c) two courses from Arts, Languages or Science;
(d) four courses from any area of study, including Political Science;
(e) six courses from any area of study, excluding Political Science. (At least two of 41-231, 41-232 and 41-283 are strongly recommended.)

Combined Honours Programs

Total courses: forty:

Major requirements-Political Science: fifteen courses, including:

(a) 45-100, 45-130, 45-160, and 45-275;
(b) one of 45-201, 45-211, 45-212, 45-213, 45-220, 45-313, 45-314, 45-320, or 45-321;
(c) two of 45-251, 45-252, 45-351;
(d) eight additional courses of which at least three must be at the 400 level;
(e) Plus an introductory statistics course (02-250 or the equivalent).

Major requirements-Other Area of Study: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including:

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements: additional options (if required) to a total of forty.

Combined Honours in Diaspora Studies

Total Courses: forty

Major requirements-Diaspora Studies: 14 courses as follows

(a) 45-170, 07-236, 40-262, 47-210, 49-112;
(b) three of 07-235, 26-354, 34-255, 46-235, 46-236, 46-342, 46-445, 48/49-333;
(c) two of 26-361, 40-245, 40-462, 48/49-240, 48/49-241;
(d) two of 26-371, 43-361, 43-369, 45-3XX;
(e) one of 40-234, 40-337, 45-275, 48-210, 48/49-355;
(f) One Diaspora practicum (to be designed/designated).

Major requirements–Other area of study: as prescribed by that area of study.

Options requirements (see 2.4.14 for subject areas):

(a) two Arts courses;
(b) two science or language courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements: additional courses (if required) to a total of 40 courses.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 45-100, 45-160, 45-220, 45-232, 45-233, 45-252, 45-411, 45-412, 45-421, 45-431, 45-461, 45-464.

Minor Concentration: 45-100, 45-160, 45-232, 45-233, 45-431, 45-461.

4.17.2 COURSE DESCRIPTIONS

Political Science 45-100, 45-130, and 45-160 are required of all general and four-year Honours students. It is recommended that these be taken in the first year or as corequisite with 200-level courses. Four-year Honours students are advised where possible to complete 02-250 and 45-275 during their second year. Non-majors wishing to do particular courses as options may do so except where specific prerequisites are stated. Not all courses will necessarily be offered each year. All courses are three hours a week unless otherwise indicated.

45-100. Introduction to Canadian Government and Politics
An introduction to the politics and government of Canada. The course will focus on political culture, the constitution, federalism, the executive, parliament, public service, courts, political parties, interest groups, and elections. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

45-130. Comparative Politics in a Changing World
Introduces students to issues such as democracy, authoritarianism, nationalism, political culture, and how political power is organized. The course focuses on the democratic states of the West, but also examines non-democratic states such as China and the transitional democracies of Eastern Europe. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

45-160. Issues in World Politics
An examination of competing perspectives on international relations and of such critical themes as power, security, war, imperialism, nationalism, interdependence, development and underdevelopment, human rights, environmental concerns, and the quest for a new world order. (3 lecture hours or 2 lecture hours, 1 tutorial hour a week.)

45-170. Introduction to Diaspora Studies: There's No Place Like Home
This course introduces students to diasporas-scattered populations living in exile from their ancestral homelands. The course focuses on the significance of migration, exile, belonging, and nostalgia (for ancestral homelands) for diasporas throughout the world. Students submit projects (incorporating oral histories, for example) on the diaspora of their choice.

45-201. Current Issues in Canadian Politics
An examination of one or more current issues in Canadian politics, for example, energy and resources, the environment, native peoples, aging, women's rights, urban problems, and health care.

45-211. Women and Politics
An introduction to the principal themes in the study of women in Canadian politics. Topics may include: feminist theory, women in Canadian political institutions, the status of women in the Canadian economy, and gender equality rights in the Charter.

45-212. Environmental Policy and Politics
The course examines the domestic and international context of environmental policy-making in Canada. Topics examined may include global warming, Great Lakes pollution, and endangered species.

45-213. Public Opinion, Mass Media and Canadian Democracy
An evaluation of the relationship between public opinion and democratic politics, how opinions, beliefs and attitudes are shaped by the family, educational system, peer groups, and in particular, mass media. Particular attention will be devoted to the role of the mass media in influencing public opinion and public policy.

45-214. Legal Process in Canada
An introduction to the legal system in Canada, including the sources of Canadian law, the general concepts of constitutional and administrative law, the court structure, and the place of the law and the courts in the community. (Also offered as Law 99-110.)

45-220. Introduction to Public Administration
An introductory examination of the major developments in private and public administrative and management theory and practice. Includes institutional structure, crown corporations, regulatory agencies, personnel, and financial management. Both federal and provincial problems are examined. (Prerequisite: 45-100 or consent of instructor.)

45-221. Canadian Public Administration and Policy
An introduction to the processes of public policy formation in Canada. Includes an analysis of political/bureaucratic relationships, decision making theory, and the role of interest groups in the context of selected contemporary policy issues. (Prerequisite: 45-220 or consent of instructor.)

45-222. Administrative Law and Professional Ethics
An introduction to the basis and exercise of administrative discretion by public servants, including law and judicial review. Includes a review of the role of professional ethics as a guide to public administrative behaviour. (Prerequisite: 45-220 or consent of instructor.)

45-232. Government and Politics of the United States
The organization and structure of national government in the United States, with emphasis upon congressional/executive relationships, political parties, and the electoral process.

45-233. Politics of the Developing World
An examination of the politics of developing areas, with a focus on economic and political development, ethnic conflict and the role of overseas development assistance in building government institutions. In given years, emphasis may be on Africa, Asia or Latin America and the Caribbean.

45-237. Political Geography of Russia and the Former Soviet Republics
An overview of the physical, cultural, historical, and political forces shaping the region and aspects of internal and international politics in the region. (Also offered as Geography 42-312.) (3 lecture hours a week.)

45-241. Contemporary African Politics
Characteristic domestic and international problems of African states south of the Sahara, including resource scarcity, ethnic diversity, political stability, and relations with the Great Powers.

45-244. Government and Politics in Europe
Examines contemporary issues such as democratic development, nationalism, and regionalism, immigration and racism, the status of women, social welfare programs, and the consolidation and expansion of the European Union.

45-251. Classical Political Thought
An introduction to the history of political thought from the ancient Greeks to the end of the Middle Ages. Topics may include human nature, justice, natural law, and the relationship between Church and State.

45-252. Modern Political Thought
Toward the new science of politics from Machiavelli to Rousseau and the French Revolution.

45-255. Music, Policy, and the State
A comparative analysis of issues raised by the state's role in the production, distribution, and performance of music. Examines the political and social uses and consequences of music including censorship, artistic freedom, ideological domination, group conflict, economic development, and marketplace regulation. The focus will be on popular music forms such as rock, rap, hip hop, folk, reggae, country, jazz, blues and others as suggested by students. (45-100, or consent of instructor.)

45-260. Politics, History, and Asian Religions
An introduction to Hinduism, Sikhism, Jainism, Buddhism, Taoism, Confucianism, and Shinto, with attention to their role in history and politics. (Also offered as Oriental Studies 10-317.)

45-261. Politics, History, and Western Religions
An introduction to Judaism, Zoroastrianism, Christianity, Islam, and BaHai, with attention to their role in history and politics.

45-264. Introduction to Canadian Foreign Policy
An overview of the formulation and trends of Canadian foreign policy from World War I to the present, together with an examination of the domestic and external determinants of Canadian foreign policy and of the foreign policy making process. (Prerequisite: 45-100, or 45-160, or consent of instructor.)

45-267. Strategic Studies
An examination of the theories, tools, and concepts that explain war and how international violence can be used for political ends. The focus will be primarily on the modern state system, especially on the post-WWII environment. Among topics to be addressed are theories of war, deterrence, arms control, the "democratic peace" thesis, and proliferation of weapons of mass destruction. (Prerequisite: 45-160 or consent of the instructor.)

45-268. International Organizations
An introduction to the problems and possibilities of international co-operation and global governance among states and non-state actors. The course will provide a survey of various international organizations. These may include the United Nations, NATO, the European Union, and NAFTA. The role of non-governmental organizations in world politics is also examined. (Prerequisite: 45-160 or consent of instructor.)

45-275. Introduction to Research Methods
Introduces students to quantitative and qualitative social research. Looks at how surveys and focus groups are used and abused for political and commercial purposes. Examines what field and archival research can teach us about human behaviour and social, political, and economic trends. (Prerequisite: 02-250.)

45-288. Selected Topics: Current Political Issues
Selected topics based on current political issues. Topics may vary from year to year. (May be repeated for credit if topics vary.)

45-309. Canadian Provincial Government
A comparative study of provincial governments and politics in Canada including an examination of the powers exercised by provinces, the institutions of provincial government and the behaviour of provincial electorates and politicians. In given terms, Ontario, Quebec, the Atlantic or the Western provinces may be given particular attention. (Prerequisite: 45-100 or consent of instructor.)

45-313. Federalism and Federal-Provincial Relations
The theory and practice of contemporary federalism and the roles played by the federal and provincial governments in the Canadian policy process. Topics may include the division of powers in the Canadian Constitution, the evolution of Canadian Federalism, the impact of the Quebec issue on Canadian politics, and intergovernmental relations. (Prerequisite: 45-100 or consent of instructor.)

45-314. Constitutional Law and Politics in Canada
The nature and purpose of constitution and major issues in Canadian constitutional politics. Topics may include judicial review, the development of human rights law in Canada, the impact of the Charter of Rights on Canadian politics and government, and the Meech Lake and Charlottetown constitutional accords. (Prerequisite: 45-100 or consent of instructor.)

45-320. Political Parties and Elections
An analysis of the development and functions of parties and of the social, psychological, and political influences on voting in Canada.

45-321. The Legislative Process
An introduction to representative democracy, parliamentary behaviour, and legislative process. May include role-playing exercises and a simulation of the Federal House of Commons.

45-323. Government and Business
An introduction to the intricate relationship of government to business. Included are: government services to business; business and policy development; and regulation and/or de-regulation and regulatory agencies. (Prerequisite: 45-100 or consent of instructor.)

45-326. (Municipal) Urban Administration
A study of administrative structures and the principles of administrative organization in local government including budgetary systems, personnel management, the conduct of public relations, and the application of systems methods. (Prerequisites: 45-220 and 45-221, or consent of instructor.)

45-328. Public Financial Management
An introduction to managing public finances, including the link between public policy, revenue and expenditures, budgets and budget systems, and accountability. (Prerequisites: 45-220 and 45-221, or consent of instructor.)

45-329. Public Personnel Management
An introduction to personnel management under a merit system including the roles of public service commissions (recruitment, training, career development, dismissal) and public sector labour relations agencies (collective bargaining); political rights, employment equity. (Prerequisites: 45-220 and 45-221, or consent of instructor.)

45-346. Asian Government and Politics
Comparative analysis of institutions and political processes of Southeast Asia, South Asia, China, or Japan.

45-351. Community and Power in Modern European Thought
An exploration of the subject of community and power in European thought between 1850 and the late twentieth century. Special attention

will be paid to Marxism/Leninism, elitist theory, fascism, and structuralism/poststructuralism. (Also offered as History 43-326.)

45-354. Political Problems of Economic Development
The course takes a comprehensive approach to the study of economic development, drawing connections between theory (including development paradigms) and practice. In given years, the focus may be on South-East Asia, Central Asia, Africa, China, Eastern Europe, or Latin America. (Prerequisite: 45-160 or consent of instructor.)

45-355. Political Economy of International Trade
An examination of the most prevalent dilemmas facing the global trading system. The main focus is on the World Trade Organization and its global agreements on goods, agriculture, services and intellectual property. Additional topics include regional trade blocs, international trade in money, foreign direct investment, and environmental and labour issues. (Prerequisite: 45-160 or consent of instructor.)

45-356. Theories of International Political Economy
An examination of the major theoretical perspectives in the field of international political economy. This course will cover both classical and modern theories, including mercantilism, liberalism, Marxism, feminism and post-modernism. (Prerequisite: 45-160 or consent of Instructor.)

45-360. International Conflict and Its Resolution
The nature of conflict and how it is managed in the international community; explicit and tacit bargaining strategies and techniques of conflict resolution. (Prerequisite: 45-160 or consent of instructor.)

45-361. U.S. Foreign Policy
The United States policy-making process and the substance of policy in relation to the former communist world, developing countries, and allies such as Canada and Western Europe. (Prerequisite: 45-160 or consent of instructor.)

45-363. Principles of International Law
An introduction to the role of international law in international relations, this course will consider the role of justice in the international system and will examine the basic principles of modern international law, including sources, subjects, and procedures. (Prerequisite: 45-160 or consent of instructor.)

45-365. The Politics of the Middle East
The nature and causes of the various conflicts in the region, the role of outside powers and international organizations, and the prospects for conflict resolution. (Prerequisite: 45-160 or consent of instructor.)

45-367 The Politics of the European Union
Examines the development and operation of the European Union. Key issues on the agenda of the European Union are examined, including: the introduction of the single currency; the development of a common foreign and security policy; and the possible enlargement of the European Union. The extent to which the European Union challenges existing state structures is examined throughout the course.

45-370. Africa and the African Diaspora
The course explores the experiences and relationships that Africans, Afro-Caribbeans, Black-Canadians, and African-Americans have with their host countries and their ancestral homeland–Africa. Topics may include the myth of a monolithic African Diaspora, slavery (forced migrations), exile, colonialism, Eurocentrism, Afrocentrism, "Back to Africa" movements, and multiple interpretations of Blackness. (Prerequisite: 45-170.)

45-371. Religion and Politics
A study of the relationship between religion and politics, with special attention to millenarian (*e.g.*, Nation of Islam/Black Muslims; Christian Identity) and/or fundamentalist movements (*e.g.*, Moral Majority, Islamic Jihad.)

45-379. Politics and Culture
An examination of political themes as reflected in different forms of popular culture, including cinema and the media. Topics may include: war and cinema, and how commercial interests are portrayed in mass media. While the course may focus on different forms of cultural expression, the emphasis will be on understanding and evaluating how politically relevant themes are influenced and shaped for the mass public.

45-399. Practicum in Government and Politics
Practical work in the office of an elected or appointed official, with oral and written reports to the supervising faculty member. (To be taken only with permission of instructor and a program advisor in Political Science.)

45-411. Canadian Politics: Participation and Processes
A review of current literature on topics that may include parties, elections, voting behaviour, pressure groups, representation, new social movements, public opinion, and ideologies. (Admission by consent of instructor.)

45-412. Canadian Federalism
A review of current literature and development on such topics as federalism, intergovernmental relations, and the role of Quebec. (Admission by consent of instructor.)

45-421. Seminar in Canadian Public Policy
A detailed analysis of the Canadian public policy process. (Admission by consent of the instructor.)

45-422. Seminar in Public Policy Analysis
A survey of the evaluative side of public policy including formulation, adoption, program operations and evaluation techniques. (Admission by consent of the instructor.)

45-431. Seminar in Comparative Politics
A comparative examination of national political systems emphasizing areas such as political culture, political parties, elites, and interest groups. In given terms, the focus may be on industrialized or developing countries. (Admission by consent of the instructor.)

45-434. Seminar in Politics of the United States
An analysis of selected topics in United States politics and government.

May include an examination of foreign perspectives on U.S. politics, Canadian-U.S. relations, parties and elections, civil liberties and civil rights, or other important topics in United States politics. (Admission by consent of instructor.)

45-451. Seminar in Contemporary Political Theory
An examination of selected topics in political theory, with special emphasis on the literature of the twentieth century. (Admission by consent of the instructor.)

45-461. Seminar in Theories of International Relations
A survey of competing perspectives and approaches employed in the contemporary study of international relations. (Admission by consent of the instructor.)

45-462. Interdisciplinary Approaches to Research in International Relations
A research oriented seminar that will encourage the use of interdisciplinary perspectives in the examination of selected problems in international relations. (Admission by consent of instructor.)

45-464. International Political Economy
An overview of the major theoretical perspectives and issues in international political economy. Issues addressed may include: international trade, foreign investment and multinational corporations, international monetary institutions, and crisis and change in the international system. (Prerequisite: 45-160 or consent of instructor.)

45-488. Selected Topics in Political Science
Topics of current interest which may vary from year to year. (May be repeated for credit with the permission of a program advisor in Political Science.)

45-492. Public Service Management Internship Practicum
Supervised work experience in a public service management environment. (Admission only by consent of program advisor.) (Offered on a Pass/Non-pass basis only.) (Must be taken concurrently with 45-493.)

45-493. Public Service Management Internship Seminar
A critical examination of selected theories and concepts applicable to research and management practices in the public sector. (Admission by consent of a program advisor.) (Must be taken concurrently with 45-492.).

45-499. Directed Reading in an Approved Special Field
Intended for students with special interest in areas not covered in sufficient depth by other courses. (To be taken only with permission of instructor and a program advisor in Political Science.)

4.18 Psychology

(Ext. 2215)

OFFICERS OF INSTRUCTION

Professors Emeriti

Holland, Cornelius J.; B.S. (St. Joseph's, Philadelphia), M.A. (Detroit), Ph.D. (Catholic U. of America)-1967.

Kobasigawa, Akira; B.A., M.A. (George Peabody College), Ph.D. (Iowa)-1969.

Auld, Frank; B.A. (Drew), M.A., Ph.D. (Yale)-1970.

Minton, Henry L.; B.A. (New York), M.A. (Southern Illinois), Ph.D. (Pennsylvania State)-1970.

McCabe, Ann E.; B.Sc. (St. Norbert College), M.S. (Iowa State), Ph.D. (Wisconsin)-1973.

University Professor

Page, Stewart; B.A., M.A. (Western Ontario), Ph.D. (Toronto)-1981.

Professors

Cohen, Jerome S.; B.A. (Michigan State), M.A., Ph.D. (Wayne State)-1968.

Schneider, Frank W.; B.A. (Ohio Wesleyan), M.S. (Ohio), Ph.D. (Florida)-1968.

Frisch, Giora Ron; B.A. (City University, N.Y.), Ph.D. (Tennessee)-1969.

Orr, R. Robert; B.A. (Valparaiso), M.A., Ph.D. (Iowa)-1969.

Lafreniere, Kathryn D.; B.A. (Windsor), M.A., Ph.D. (York)-1991.

Senn, Charlene Y.;B.Sc.,M.Sc. (Calgary), PhD. (York)-1991.

Paivio, Sandra C.; B.A., M.Ed. (Western Ontario), Ph.D. (York)-1998.

Associate Professors

Taub, Barry R.; B.A. (S.U.N.Y. Stony Brook), M.A., Ph.D. (Waterloo)-1972. (Director, Psychological Services Centre)

Porter, James E.; B.A. (Toronto), M.A. (Roosevelt), Ph.D. (Windsor)-1980. (Psychological Services Centre)

Voelker, Sylvia L.; B.A. (Indiana), M.A., Ph.D. (Wayne State)-1984.

Shore, Douglas L.; B.A., M.A., Ph.D. (Wayne State)-1985.

Towson, Shelagh M.J.; B.A. (York), M.A. (Wisconsin), Ph.D. (Waterloo)-1985. (Head of the Department)

Thomas, Cheryl D.; B.A., M.A., Ph.D. (Simon Fraser)-1987.

Hakim-Larson, Julie A.; B.S. (Michigan State), M.S. (Eastern Michigan), Ph.D. (Wayne State)-1991.

Cramer, Kenneth M.; B.A., M.A., Ph.D. (Manitoba)-1998.

Menna, Rosanne; B.A. (Brock), M.A., Ph.D. (Toronto)-1998.

Buchanan, Lori; B.A. (Wilfrid Laurier), M.A., Ph.D. (Waterloo)-2001.

Hart, Kenneth E.; B.A. (Laurentian), M.A. (Lakehead), Ph.D. (Houston)-2001.

Baird, Anne; B.Sc. (Duke); M.A., Ph.D. (Wayne State)-2003.

Assistant Professors

Casey, Joseph; B.A. (Windsor), M.A. (Carleton), Ph.D. (Windsor)-2000.

Coutts, Larry; B.A. (Winnipeg), M.A., Ph.D (Windsor)-2000.

Hibbard, Stephen; B.A. (Santa Clara), M.A. (California State), Ph.D. (Tennessee)-2000.

Jarry, Josee L.; B.A. (Sherbrooke), M.Ps. (Montreal), Ph.D. (Toronto)-2001.

Kuo, Ben C.; B.A., M.Ed. (Toronto), Ph.D. (Nebraska at Lincoln)-2001.

Gragg, Marcia; B.A. (Ottawa), M.A., Ph.D. (Windsor)-2002.

Kwantes, Catherine; B.A. (Calvin College), M.Sc. (Eastern Michigan), M.A., Ph.D. (Wayne State)-2002.

Bartfay, Emma; B.Sc. (Brandon), M.M. (Waterloo), Ph.D. (Western Ontario)-2003.

Jackson, Dennis L.; B.A., M.A., Ph.D. (Wichita State)-2003.

Sirois, Fuschia M.; Hons. B.Sc., Hons. B.A. (Ottawa), M.A., Ph.D. (Carleton)-2003.

Babb, Kimberley A.; B.A., M.A. (University of California, Irvine)-2004.

Scoboria, Alan; B.A. (Albion College), M.A., Ph.D. (Connecticut)-2004.

Adjunct Associate Professors

Broga, Mary; B.A. (Waterloo), M.A., Ph.D. (Western Ontario)-1987.

Rudzinski, Donald; B.A. (Illinois), M.A. (Roosevelt), Ph.D. (Windsor)-1991.

Adjunct Assistant Professors

Abrash, Donald; B.A., M.A., Ph.D. (Windsor)-1994.

Fuerst, Darren; B.A. (York), M.A., Ph.D. (Windsor)-1994.

Vokes, Ted; B.A. (York), M.A., Ph.D. (Windsor)-1999.

4.18.1 PROGRAMS OF STUDY

Minor, general degree, four-year Honours degree(with and without Thesis), and combined four-year Honours degree programs are available in Psychology. In addition, Development Psychology Honours (with and without Thesis) and combined four-year Honours in Developmental Psychology, as well as a Combined Honours B.Sc. in Biological Sciences and Psychology: Behaviour, Cognition, and Neuroscience, are available.

Minor in Psychology

Requirements: Six courses in Psychology, including 46-115, 46-116, and four courses at the 200 level or above.

Minor in Child Psychology

Requirements: Six courses in Psychology, including 46-115, 46-116, and four of 46-223, 46-224, 46-322, 46-324, 47-327, 46-422, 46-423, 46-424, 46-425, and 46-427.

General Psychology

Total courses: thirty.

Major requirements: ten courses, including 46-115 and 46-116; plus at least one of 46-220, 46-223, or 46-236; and at least two 300-level courses.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) 02-250;
(b) three courses from any area of study, including Psychology;
(c) eight courses from any area of study, excluding Psychology.

Honours Psychology

This program is one of two four-year Honours programs in psychology. It is intended for students who wish to study the discipline of psychology over a four-year period, including those who might wish to study at the graduate level in professions or disciplines other than psychology.

Total courses: forty.

Major requirements: eighteen courses, including 46-115, 46-116, 46-229 or 46-230, 46-320, 46-335 or 46-353 or 46-358; plus at least one of 46-220, 46-223, or 46-236. The total number of courses must include at least four 300-level courses and three 400-level courses.

Option requirements (see 2.4.14 for subject areas): six courses, consisting of

(a) two Arts or Languages courses;
(b) two Science courses;
(c) two additional courses from Arts, Languages or Science.

Other requirements:

(a) 02-250;
(b) five courses from any area of study, including Psychology;
(c) ten courses from any area of study, excluding Psychology.

RECOMMENDED COURSE SEQUENCE

First Year: 46-115 and 46-116.

Second Year: 02-250, 46-229 or 46-230, and one of 46-220, 46-223, or 46-236.

Third or Fourth Year: 46-320, 46-335 or 46-353 or 46-358.

Honours Psychology with Thesis

This program is oriented primarily toward students with a serious interest in psychological research and/or who intend to study at the graduate level in psychology, or perhaps in related areas such as sociology, anthropology, criminology, or social work. Students taking this program should be able to do independent research (thesis) work, and have competence in statistics and research methods. In the fourth year, the program requires completion within a two-term period (Fall and Winter terms only) of a thesis. The thesis is an independent research study, completed in conjunction with a program advisor. Entry to the fourth year thesis courses, 46-496 and 46-497, requires a major average of at least 8.0. Students should consult with a Psychology program advisor or the thesis program coordinator before undertaking an Honours Psychology with Thesis program.

Total courses: forty.

Major requirements: eighteen courses, including 46-115, 46-116, 46-229 or 46-230, 46-313, 46-320, 46-335 or 46-353 or 46-358, 46-496, and 46-497; and at least one of 46-220, 46-223, or 46-236. The total number of courses must include at least four 300-level courses and three 400-level courses.

Option requirements (see 2.4.14 for subject areas): six courses consisting of

(a) two Arts or Languages courses;
(b) two Science courses;
(c) two additional courses from Arts, Languages, or Science.

Other requirements:

(a) 02-250;
(b) five courses from any area of study, including Psychology;
(c) ten courses from any area of study, excluding Psychology.

RECOMMENDED COURSE SEQUENCE

First Year: 46-115 and 46-116.

Second Year: 02-250, 46-229 or 46-230, and one of 46-220, 46-223, or 46-236.

Third Year: 46-313, 46-320, 46-335 or 46-353 or 46-358.

Fourth Year: 46-496 and 46-497.

Honours Developmental Psychology

This program is one of two four-year Honours programs in developmental psychology. It is intended for students who wish to study the discipline of lifespan developmental psychology (child, adolescent, and/or adult development) over a four-year period, including those who might wish to study at the graduate level in professions or disciplines other than psychology.

Total courses: forty.

Major requirements: 18 courses, including 46-115 & 46-116, 46-229 or 46-230, 46-320, 46-353, 46-427 and at least two 200-level courses, two 300-level courses, and two 400-level courses from the following list: 46-223, 46-224, 46-225, 46-322, 46-323, 46-324, 46-327, 46-422, 46-423, 46-424, 46-425.

Option requirements:

(a) two Arts or Languages courses;
(b) two Science courses;
(c) two additional courses from Arts, Languages or Science.

Other requirements:

(a) 02-250;
(b) two courses from any area of study, including Psychology;
(c) thirteen courses from any area of study, excluding Psychology.

Honours Developmental Psychology with Thesis

This program is oriented primarily toward students with a serious interest in psychological research and/or who intend to study at the graduate level in psychology, or perhaps in related areas such as sociology, anthropology, criminology, or social work. Students taking this program should be able to do independent research (thesis) work, and have competence in statistics and research methods. In the fourth year, the program requires completion within a two-term period (Fall and Winter terms only) of a thesis. The thesis is an independent research study, completed in conjunction with a program advisor. Entry to the fourth year thesis courses, 46-496 and 46-497, requires a major average of at least

8.0. Students should consult with a Psychology program advisor or the thesis program coordinator before undertaking an Honours Developmental Psychology with Thesis program.

Total courses: forty.

Major requirements: 18 courses, including 46-115 and 46-116, 46-229 or 46-230, 46-313, 46-320, 46-353, 46-427, 46-496 and 46-497, and at least two 200-level courses, two 300-level courses, and two 400-level courses from the following list: 46-223,46-224, 46-225, 46-322, 46-323, 46-324, 46-327, 46-422, 46-423, 46-424, 46-425.

Option requirements:

(a) two Arts or Languages courses;
(b) two Science courses;
(c) two additional courses from Arts, Languages or Science.

Other requirements:

(a) 02-250;
(b) two courses from any area of study, including Psychology;
(c) thirteen courses from any area of study, excluding Psychology.

Combined B.Sc. Honours Program in Biological Sciences and Psychology: Behaviour, Cognition and Neuroscience

Neuroscience is a strong and growing field that strives to understand brain function at the molecular, behavioural and cognitive levels. This interdisciplinary program comprises required courses primarily from the departments of Biological Sciences and Psychology. Students also participate in bi-weekly research colloquia. In their final year, students prepare a research-based thesis in behaviour, cognition or neuroscience. Students must maintain a G.P.A. of 8.0 or higher in Biology and Psychology courses.

Total courses: forty.

Major requirements: Biological Sciences: 55-140, 55-141, 55-210, 55-211, 55-213, 55-341, 55-485; plus four additional Biology courses.

Major requirements: Psychology: 46-115, 46-116, 46-223, 46-256 (or 46-336), 46-313, 46-322 (or 46-323), 46-353, 46-335 (or 46-355), 46-358, 46-457 and one other Psychology course.

Major requirements: Biological Sciences or Psychology: one of 55-320, 46-229, or 46-230; and either 55-420 (a 6.00 credit course), or 46-496 and 46-497. (The Psychology thesis will be within the subject area of behavioural and cognitive neuroscience.)

Other requirements:

(a) 65-205 (or 02-250);
(b) one pair of both 64-140 and 64-141, or both 60-104 or 60-106 and 60-205, or both 61-140 and 61-141, or both 67-100 and 67-102;
(c) 59-140, 59-141, 59-230, 59-261;
(d) one course from Arts;
(e) one course from Social Sciences (excluding Psychology);
(f) four additional courses at the 300 level or above in Biology, Psychology, or Chemistry;
(g) two courses from any area of study, including Psychology and Biology.

Non-credit requirement: Colloquia and Seminars in Current Behaviour, Cognitive and Neuroscience Research: bi-weekly presentations of recent research by researchers within the university and from other universities and research institutions. Attendance by key faculty members and all students is mandatory.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 55-140 and 55-141, 59-140 and 59-141, 46-115 and 46-116, and 65-205 (or 02-250); and at least one pair of both 64-140 and 64-141 or both 60-104 or 60-106 and 60-205, or both 61-140 and 61-141, or both 67-100 and 67-102. (If 64-140 is selected, 62-130 or 62-140 should also be taken in the Fall semester.)

Second Year: ten courses, including 55-210, 55-211, 46-229 or 46-230*, 55-213, 46-223, 46-256, 59-230 and 59-261.

Third Year: ten courses, including 55-320*, 55-341, 46-353, 46-358, 46-313, and 46-336.

Fourth Year: ten courses, including 46-322 (or 46-323), 55-485, 46-355, 46-457, and a research Project (55-420, or 46-496 and 46-497).

*Students will take one of 46-229 or 46-230 in second year or 55-320 in third year.

Recommended additional Biology courses: 55-204, 55-205, 55-324, 55-325, 55-350, 55-355, 55-440, 55-484.

Recommended additional Science options: 59-291, 59-363 (or 59-362), 59-365, 59-466.

Combined Honours Programs in Psychology

Total courses: forty.

Major requirements - Psychology: fourteen courses, including 46-115, 46-116, 46-229 or 46-230, and 46-320; plus one of 46-220, 46-223, or 46-236; and one of 46-335, 46-353 or 46-358. The total number of Psychology courses must include at least four 300-level courses and two 400-level courses.

Major requirements- Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) 02-250;
(b) additional options (if required) to a total of forty.

Combined Honours Programs in Psychology with Thesis

Total courses: forty.

Major requirements-Psychology: fourteen courses, including 46-115, 46-116, 46-229 or 46-230, and 46-320; plus 46-313 or an equivalent statistics course from another area of study; plus one of 46-220, 46-223, or 46-236; plus one of 46-335, 46-353 or 46-358; and 46-496 and 46-497. The total number of Psychology courses must include at least four 300-level courses. Entry to the fourth year thesis courses, 46-496 and 46-497, requires a major average of at least 8.0. Students should consult with a Psychology program advisor or the thesis program coordinator before undertaking a combined Honours in Psychology with Thesis program.

Major requirements - Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) 02-250;
(b) additional options (if required) to a total of forty.

Combined Honours Programs in Developmental Psychology

Total courses: forty.

Major requirements - Developmental Psychology: fourteen courses, including 46-115, 46-116, 46-229 or 46-230, 46-320, 46-353, 46-427, and six of: 46-223, 46-224, 46-225, 46-313, 46-322, 46-323, 46-327, 46-422, 46-423, 46-424, 46-425. The total number of Psychology courses must include at least four 300-level courses and two 400-level courses.

Major requirements - Other Subject: as prescribed by that area of study.

Option requirements - (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) 02-250;
(b) additional options (if required) to a total of forty.

Combined Honours Programs in Developmental Psychology with Thesis

Total courses: forty.

Major requirements - Developmental Psychology: fourteen courses, including 46-115, 46-116, 46-229 or 46-230, 46-313 or an equivalent statistics course from another area of study, 46-320, 46-353, 46-427, 46-496, 46-497, and five of: 46-223, 46-224, 46-225, 46-322, 46-323, 46-327, 46-422, 46-423, 46-424, 46-425. The total number of Psychology courses must include at least four 300-level courses. Entry to the fourth year thesis courses, 46-496 and 46-497, requires a major average of at least 8.0. Students should consult with a Psychology program advisor or the thesis program coordinator before undertaking a Combined Honours Developmental Psychology with Thesis program.

Major requirements - Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): eight courses including

(a) two Arts or Languages courses;
(b) two Science courses;
(c) four additional courses from any area of study, excluding Social Sciences.

Other requirements:

(a) 02-250;
(b) additional options (if required) to a total of forty.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 46-115; 46-116; 46-229 or 46-230; one of 46-220, 46-223, 46-236; 02-250; one 46-335, 46-354, 46-358; four 300-level or above courses, one of which at least must be at the 400-level; two additional Psychology courses.

Minor Concentration: 46-115; 46-116; two 200-level courses; one 300-level course; one 400-level course.

4.18.2 COURSE DESCRIPTIONS

Not all courses will be offered each year. All courses are three hours a week unless otherwise indicated.

All courses are three hours a week unless otherwise indicated.

Priority for registration in 300- and 400-level courses may be given to students with General Psychology Majors, Psychology Honours or Combined Honours.

46-115. Introduction to Psychology as a Behavioural Science
Introduction to selected areas in psychology including learning, perception, physiological psychology, emotion, and motivation.

46-116. Introduction to Psychology as a Social Science
Introduction to selected areas in psychology including developmental, social, personality, and clinical.

46-115 and 46-116 are prerequisites for all other courses in Psychology. Some courses may require additional prerequisites.

46-220. Introduction to Adjustment and Personality
A survey of major approaches to the study of personality with a particular focus on the processes involved in adjustment.

46-223. Developmental Psychology: The Child
The study of normal child development from conception to puberty, including physical, cognitive, and social development within the child's family, school, and cultural contexts. Specific topics include temperament, language development, intelligence testing, personality development, and parenting styles.

46-224. Developmental Psychology: Adolescence
The study of normal adolescent development from puberty to early adulthood. Topics include physical changes at puberty, cognitive and social development, and the impact of adolescent development within various contexts, including families, peer groups, and schools.

46-225. Developmental Psychology: Adulthood and Aging
The study of adult development including stages in adulthood, problems of aging, and issues related to death and dying.

46-229. Experimental Psychology
Introduction to basic experimental methods and design for establishing causal relationships in psychology, illustrated with laboratory exercises in human perception and cognition. Also covered are comparisons with non- and quasi- experimental research methods for testing theoretically derived hypotheses and consideration of research ethics and appropriate style for reporting findings. (Credit will be granted for only one of 46-229 and 46-230.) (2 lecture and 2 laboratory hours a week: limited enrollment.) (Antirequisite: 46-230.)

46-230. Social Science Research Methods
Introduction to experimental and non-experimental research methods and designs commonly used in psychology and other social sciences (e.g., experiments, quasi-experiments, survey research, observational studies, content analysis). Includes conducting research exercises/projects dealing with social, personality, developmental, and/or educational issues, writing research reports, and consideration of research ethics. (Credit will be granted for only one of 46-229 and 46-230.) (2 lecture, 2 laboratory hours a week.) (Antirequisite: 46-229.)

46-235. Identity Processes
An exploration of the pivotal role identity plays in the organization and actions of social life. (Also offered as Sociology 48-235.) (Prerequisites: both 46-115 and 46-116, or 48-101 and either of 48-102 or 49-112.)

46-236. Introduction to Social Psychology
An introduction to the theories, methods, findings, and problems associated with the study of the individual in the social context. Topics include social cognition; interpersonal behaviour (attraction, aggression, altruism); social attitudes, prejudice, and discrimination; social influence and group processes (conformity, leadership, intergroup relations). (Also offered as Sociology 48-236.) (Prerequisites: 46-115 and 46-116, or 48-101 and 48-102.)

46-237. Introduction to Clinical Psychology
A survey of clinical and abnormal psychology, including historical development, theoretical perspectives on causes and intervention, classification of disorders, diagnosis, and assessment. The course also covers legal and ethical issues arising in the context of major psychological abnormalities, with some focus on developmental, psychophysiological, and neurological disorders. (Prerequisites: 46-115 and 46-116.) (Antirequisite: 46-232.)

46-240. Psychology of Sex and Gender
Review of philosophical, historical, theoretical, and research literature in the psychology of sex and gender. Topics include male/female stereotypes; similarities/differences based on research data; and current social issues.

46-256. Introduction to the Brain and Human Behaviour
Reviews basic research relating brain and behaviour with a focus on human functioning. Includes the study of neuronal and synaptic activity and results from current research and case histories which link human behaviour to basic neuroanatomical and biochemical brain systems. (May not be taken concurrently with 46-336 or 46-337.)

46-310. Tutorial
Individual projects in specific areas of psychology. (May be repeated for credit.) (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-313. Advanced Statistics
One-way, two-way, and higher order ANOVA, repeated measures ANOVA, multiple comparisons, correlation and univariate regression, introduction to multivariate regression and the general linear model, with an emphasis on computer data analysis. (Prerequisite: 02-250.)

46-315. Recent Research in Basic Psychology
Current issues in psychology will be selected from the areas of physiological, learning, motivation, cognition, and perception. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-316. Recent Research in Human Psychology
Current issues in psychology will be selected from the areas of developmental, social, personality, and clinical psychology. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-320. Tests and Measurement
An introduction to basic concepts of psychological testing, with a focus on test development, measurement, and test evaluation. Standard tests used to assess personality, achievement, and aptitudes will be surveyed. (Prerequisite: 02-250.)

46-322. Child Psychopathology
An overview of theory and research related to the assessment, diagnosis, and treatment of childhood and adolescent disorders. Risk factors, vulnerability to stress, and protective factors will be addressed in relation to adjustment disorders, conduct disorder, depression, and anxiety in children and adolescents. (Prerequisite: 46-223 or 46-224.)

46-323. Developmental Disabilities
An overview of theory and research related to the biological foundation of childhood and adolescent developmental disabilities. Mental retardation, sensory and motor impairments, learning disabilities, and disorders with physical manifestations are included in the topics covered. (Prerequisite: 46-223 or 46-224.)

46-324. Educational Psychology
Psychology of the learning process and the variables that affect learning such as intelligence, motivation, attitudes, interpersonal relations, and cultural background. (Prerequisite: 46-223.)

46-327. Psychological Perspectives on Parenting
Contemporary theories and practices of parenting throughout the life cycle, with an emphasis on the psychological aspects of the family system. (Prerequisite: 46-223.)

46-330. Personality Theory and Research
Survey of personality theories and relevant research. Theories may include psychoanalytic, trait, behavioral, humanistic, cognitive, and biological. Some research topics relevant to personality theory will be outlined and illustrated with reference to selected content areas of personality.

46-332. Human Motivation and Emotion
A survey of theories, models, and research on the psychological aspects of human motivation and emotion. Social, cognitive, behavioural, and biological perspectives on human motivation and emotion will be examined and applied to areas such as achievement, relationships, health, stress and anxiety, depression, addictions, creativity, and well-being. (Prerequisites: 46-115 and 46-116.)

46-334. Applied Social Psychology
The application of social psychology to solving social issues. Topics include improving job satisfaction and organizational life, promoting community health, meeting social welfare needs, dealing with environmental problems, improving educational systems, and addressing the issues of social justice and equality. The course may involve a fieldwork component. (Prerequisite: 46-236.)

46-335. Human Sensation and Perception
The study of underlying mechanisms and processes of human sensation and perception, methods of measuring human sensory abilities, and the perceptual processes for integrating and interpreting such information. (Prerequisite: 46-229 or 46-230.) (2 lecture, 2 laboratory hours a week.)

46-336. Behavioural Neuroscience
Issues relevant to behavioural neuroscience. Functional neuroanatomy and models of brain systems related to perception, emotion, motivation, learning, and memory. Introduction to neurotransmitter systems and their relationship to behaviour. (May not be taken concurrently with 46-256.) (Prerequisites: 46-115, 46-116, either 46-256 or 55-204 and three additional courses in Psychology.)

46-337. Human Cognitive Neuroscience
Issues relevant to the brain and human behaviour. Recent research selected from areas of developmental, cognitive, and clinical neuropsychology. Introduction to cognitive neuroscience modelling. (Prerequisites: 46-115, 46-116, either 46-256 or 55-204 and three additional courses in Psychology.)

46-342. Culture and Psychology
This course examines psychological theory and research on the commonalities and variations in human behaviour within and across cultures. Topics may include individualism and collectivism, perspectives on the self, communication and interpersonal relations, intergroup relations, organizational behaviour, and the consequences of cross-cultural contact. (Prerequisite: 46-236.)

46-348. Abnormal Psychology
A consideration of the specific disorders included in the current Diagnostic and Statistical Manual of Mental Disorders, including theoretical perspectives about abnormal behaviour and psychopathology. The course also includes consideration of relevant research concerning causes, treatment, diagnosis, and assessment of the disorders covered. (Prerequisite: 46-237.) (Antirequisite: 46-233.)

46-353. Learning and Behaviour
Basic principles and theories of classical and operant conditioning and their application to human behaviour. (Prerequisite: 46-229 or 46-230.) (2 lecture, 2 laboratory hours a week.)

46-355. Comparative Psychology
Introduction to animal behaviour from the viewpoint of its role in the natural life of the individual and the species. A synthesis of contributions by comparative psychologists, ethologists, ecologists, and zoologists. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-358. Cognitive Processes
A review of current contributions to the understanding of attentional, memory, problem solving, and reasoning processes. (Prerequisite: 46-229 or 46-230.) (3 lecture, 1 laboratory hours a week.)

46-370. Organizational Psychology
The study of human behaviour in organizational settings and the organization itself. Topics include organizational design, organizational change and development, organizational culture, norms and roles, work motivation, job satisfaction, communication, work teams decision making, power and politics, and leadership. (Prerequisites: 46-115 and 46-116; or Labour Studies students must have at least Semester 5 standing; or consent of instructor.)

46-371. Personnel Psychology
The study of human resource issues in work and other organizational

settings. Topics include job analysis, job design, job evaluation, selection and promotion techniques, employment equity issues, performance management, training and development, compensation and reward systems, and the changing nature of jobs. (Prerequisites: 46-115 and 46-116, or consent of instructor.)

46-400. Selected Topics in Psychology
Seminar on a selected topic in psychology. Content will vary with instructor. (Prerequisites: 46-115, 46-116, four additional courses in Psychology, including courses as specified by the instructor. May be repeated for credit.)

46-415. History and Systems of Psychology
The emergence and development of psychology as a science. A review and evaluation of major systems of psychology, such as structuralism, functionalism, behaviourism, Gestalt psychology, and psychoanalysis. Emphasis will be placed on the contributions of the systems to contemporary theoretical conceptions and trends. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-420. Psychology of Music
A study of the principles underlying the practice of music therapy and musical behaviour. The study of psychological aspects of musical behaviour; psycho-acoustics, music perception, affective and physiological responses to music, music learning, and measurement. (Also offered as Music 32-420.) (Prerequisite: 32-120 or 46-115 and 46-116.)

46-422. Advanced Developmental Psychology: Emotional Development
This seminar examines issues related to emotional development from infancy through adult years. The experience, expression, and regulation of emotion will be discussed from various historical and academic perspectives. (Prerequisite: 46-223 or 46-224.)

46-423. Advanced Developmental Psychology: Cognitive Development
An examination of current theories, research methods, and findings in the area of cognitive development. (Prerequisite: 46-223 or 46-224.)

46-424. Advanced Developmental Psychology: Social Development
This seminar examines established and newly-emerging theories of development and their impact on social development research. Emphasis is placed on describing social developmental outcomes (*e.g.*, gender, emotion, morality), and the influence of biological factors (*e.g.*, temperament) and socialization agents (*e.g.*, parents, media) on such outcomes. (Prerequisite: 46-223 or 46-224.)

46-425. Seminar in Developmental Psychology
Focus on a particular topic within the area of developmental psychology. Topics will vary from term to term. (May be repeated for credit.) (Prerequisites: 46-115, 46-116, 46-223 and three additional courses in Psychology.)

46-427. Methods of Behavioural Change
Survey of theories and methods of behavioural change, including behavioural assessment and analysis, relaxation training, graduated exposure, contingency management, and cognitive restructuring. (Prerequisite: 46-353.)

46-428. Practicum in Developmental Psychology
Supervised practicum in learning-based behaviour change strategies. Students will practice behavioural assessment and systematic remediation of clinical problems through application of operant techniques in community placements. (Prerequisites: 46-427 and consent of instructor; limited to Developmental Psychology majors) (1.5 lecture hours and 8 practicum hours per week.)

46-430. Clinical and Counselling Psychology
The principles and techniques underlying clinical interviewing and modern psychotherapeutic methods. Emphasis will be placed upon the application of clinical interviewing and modern psychotherapeutic methods, as well as the application of clinical methods in clinics, hospitals, schools, mental health settings, and community agencies. (Prerequisite: 46-237.) (2 lecture, 2 laboratory hours a week.)

46-432. Community Psychology
An examination of societal and environmental influences on the community and individual community members, the development of the community mental health movement, and current issues in theory, research, and practices in community psychology. Emphasis will be placed on prevention, crisis intervention, and effecting social change. An overview of community-based professional and volunteer services will be presented. Community responses to issues such as homelessness, suicide, and violence against women will be considered. (Prerequisite: 46-236.)

46-433. Seminar in Law and Psychology
Issues in the interaction between law and psychology; discussion of the use/misuse/nonuse of behavioural sciences in the law; emphasis on how psychology can best be applied to family, criminal, and civil law. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-435. Health Psychology
Application of psychology to the areas of health promotion, prevention and treatment, and improvement of health-care delivery. Theory, research, and practice in health psychology and behavioural medicine will be examined. Specific areas of emphasis may include stress, illness, and coping; patient-practitioner interaction; adjustment to chronic illness; reproductive health issues; and cross-cultural conceptions of illness and healing. (Prerequisite: 46-236.)

46-436. Seminar in Psychopathology
Focus on a particular topic within the area of abnormal behaviours. Topics will vary from term to term. (Prerequisites: 46-237.)

46-440. Seminar in the Psychology of Women
An examination of the feminist critique of mainstream psychology research of the last century, of feminist approaches to research and theorizing, and applications of feminist psychology to the study of a number of topics in the psychology of women (*e.g.*, mental health, violence against women, sexuality). (Prerequisite: 46-240 or consent of instructor.)

46-445. Stereotyping, Prejudice, and Discrimination
Psychological theory and research on stereotyping, prejudice, and discrimination; their formation and function; the role of individual and sociocultural factors in their development and maintenance; individual responses and psychological interventions. (Prerequisite: 46-236.)

46-457. Comparative Cognition
Evidence of general and specialized cognitive processes in human and nonhuman organisms will be investigated. Topics to be covered include memory systems, concept formation, and nature of stimulus representation. Current research on these and other topics will be reviewed and analyzed. (Prerequisite: 46-353 or 46-358.)

46-458. Artificial Intelligence and Human Thinking
Current issues related to artificial and human intelligence, reasoning, decision making, and knowledge representation. Integrates relevant concepts from psychology, philosophy, linguistics, computer science, and cognitive neuroscience. An individual project is required. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-463. The History of Sexuality in North America
The cultural ideology, social regulation, and experience of reproduction and sexual relations with an emphasis on women. Topics include childbirth, slavery and sex, abortion and birth control, and the role of psychology and popular culture in the development of modern heterosexual and homosexual identities. (Also offered as History 43-463.) (Prerequisite: one of 43-249, 43-250, 46-240, or 46-440.)

46-475. Popular Literature in Psychology
A forum for critical examination and analysis of popular literature written by psychologists or others functioning in the role of counselor or lay expert. The main goal is to identify both traditional and novel criteria for assessing the validity of popular literature and its contribution to knowledge. (Prerequisites: 46-115, 46-116, and four additional courses in Psychology.)

46-496. Thesis: Seminar
Experience in conducting psychological research is viewed as necessary for graduate work in psychology. This course is designed to provide such experience through planning, developing, and writing a research proposal under individual faculty supervision. Group sessions on research ethics, procedures, writing, and data analysis. (Prerequisites: either 46-229 or 46-230; and 46-313 or equivalent; and one of 46-335, 46-353, or 46-358; and cumulative and major averages of at least 8.0.)

46-497. Thesis: Research
Students will conduct and write an undergraduate thesis under individual faculty supervision. The thesis is developed and begun while taking 46-496). (Prerequisite: 46-496.)

4.19 Social Work

(Ext. 3064)

OFFICERS OF INSTRUCTION

Professors Emeriti

Taylor, Patricia Ann; B.A. (Assumption), B.S.W., M.S.W. (Toronto)-1968.

Kroeker, Bernhard J.; B.Ed. (Alberta), B.S.W., M.S.W. (Toronto)-1969.

Professors

Holosko, Michael J.; B.A.(Hons.) (York), M.S.W. (Toronto), Ph.D. (Pittsburgh)-1985.

Gorey, Kevin M.; B.A., M.S.W., Ph.D. (S.U.N.Y. Buffalo)-1994.

Associate Professors

Gallant, Wilfred A.; B.A. (St. Francis X.), M.S.W. (Maritime School of Social Work), Ed. D. (Wayne State), R.S.W.-1973.

Cassano, D. Rosemary; B.A., B.S.W., M.S.W., Ph.D. (Toronto), R.S.W.-1979.

Leslie, Donald R.; B.A. (Guelph), M.S.W. (British Columbia), Ph.D. (Georgia)-1994.

Angell, Brent G.; B.A. (Trent), M.S.W. (Wilfrid Laurier), Ph.D. (Case Western Reserve University)-2003. (Director of the School)

Assistant Professors

Taylor, Laura E.; B.A. (McMaster), M.S.W. (Wilfrid Laurier), Ph.D. (Toronto)-2001.

Dunlop, Judith M.; B.S.W. (Regina), M.S.W. (Windsor), Ph.D. (Memorial), R.S.W.-2002.

Anucha, Uzo; B.S.W., M.S.W. (York), Ph.D. (Wilfrid Laurier)-2003.

Calderwood, Kim; B.A. (Waterloo), M.S.W. (Wilfrid Laurier), Ph.D. (Toronto), R.S.W.-2003.

Harper, Kim; B.A. (York), M.S.W., Ph.D. (Wilfred Laurier)-2003.

Field Administrator

Medcalf, Mary; B.S.W., M.S.W. (Windsor)-2002.

Field Liaison Specialist

McAvoy, Freida L.; B.A., M.S.W. (Wilfrid Laurier), R.S.W.-1999.

Field Education Instructors

Field placements are in Windsor, Essex County, Chatham-Kent, Sarnia, and Metropolitan Detroit.

List of Field Instructors

Airgid, Crona; Children's Crisis Centre
Allison, Melinda; Alzheimer Society
Baillargeon, Sherri; Canadian Mental Health Assoc
Baird, Alice; Brentwood Recovery Home
Baker, Anne; Multiple Sclerosis Society
Baldwin, Jane; Help-Link Central Access
Battisti, Carmela; Kid's Alliance
Bernacchi, Caron; Canadian Mental Health Association
Bouffard, Diana; Windsor Family Forum, Mental Health Program for Older Adults
Boyce, Catherine; Windsor Regional Hospital - Western Campus
Brady, Michelle; Catholic Family Services
Burgoyne, Rita; Glengarda Child & Family Services
Burling, Bill; Regional Mental Health Care
Byrne, Chris; Richmond Terrace Nursing Home
Byrne, Elaine; Conseil Scoloire de District des Ecole Catholique
Carter, Pat; Regional Mental Health - St. Thomas
Cattaneo, Vivian; Hiatus House
Clemens, Walt; Drouillard Place
Cowan, Kerri; Children's Achievement Centre
Culmone, Rose; Big Sisters Association
Cusumano, Betty; Teen Health Centre
Deschamps, Tammy; Windsor-Essex Children's Aid Society
Diotte, Kim; Windsor - Essex Children's Aid Society
Docherty, Jill; Extendicare
Dube, Liv; Chatham-Kent Integrated Children's Services
Dumoucelle, Monique; Windsor-Essex Children's Aid Society
Dutka, Nancy; Veteran's Affairs
Esposito, Liz; The Inn of Windsor
Farrell, Julie; Thamesview Lodge-Chatham
Ferraro-Tabone,Jackie; Windsor Women's Incentive Centre
Fisher, Glenda; WRH, Community Mental Health Clinic
Fleming, Liz; PACT Team 1
Forte, Martha; Glengarda Child & Family Services
Franche, Gino; Youth Justice Services - Chatham
French, Liz; Citizen Advocacy
Gatt, Tina; Council for the Prevention of Child Abuse
Giberson, Evelyn; Huron Lodge Municipal Home For Seniors
Gilbert, Shelley; Legal Assistance of Windsor
Goodhue, Linda; Windsor-Essex Children's Aid Society
Glazier, Pam; Chatham-Kent Integrated Children's Services
Grayer-Cook, Charlene; Chatham-Kent Health Alliance
Grewal, Inderjit; Windsor Women Working With Immigrant Women
Groen, Mary Lou; Windsor - Essex Children's Aid Society
Hannon, Nancy; Children's Achievement Centre
Harmon, Eric; Regional Mental Health - St. Thoma
Harrison, Giselle; Sexual Assault Crisis Centre
Hartman, Sarah; Communities in Schools, Harms School - Detroit
Hughes, Theresa; Sexual Assault Crisis Centre
Humeniuk, Darlene; Ministry of Public Safety and Security, Youth Probation
Iacono, Barb; Citizen Advocacy
Jakab, Denes; Big Brothers
Kuhn, Terry; Hotel-Dieu Grace Hospital
Landry, Judy; Windsor Women's Incentive Centre
Lebert, Sherri; The Inn of Windsor
Lescinsky, Pat; WRH - Metropolitan Campus
Lucier, Mary Kaye; Bulimia Anorexia Nervosa Association
MacDonald, Bill; Hotel Dieu-Community Crisis Centre
MacGuire, Joanne; Windsor Regional Cancer Centre
MacKay-Barr, Megan; Alzheimer Society of Chatham-Kent
McPhail, Christine; Ministry of Public Safety & Security, Youth Probation
Malowitz, Sandi; The Windsor Jewish Community Centre
Matthe, Cathy; Windsor-Essex Children's Aid Society
Mitchell, Colleen; United Way/Centraide
Morden, Blake; Teen Health Centre
Morneau, Kathy; Children's Achievement
Moroze, Tracey; Canadian Mental Health Association
Morton, Liz; WRH- Western Campus-Complex Care
Petahtegoose, Paul; Can Am Indian Friendship Centre
Price, Susan; St. Leonard's House
Price, Dawn; PACT Team 2
Robinson, Kathy; Drouillard Place
Rodgers, Jody; Essex County Association for Community Living
Shaw, Mary; Chatham-Kent Integrated Children's Service
Sheardown, Kelly; Windsor - Essex Children's Aid Society
Simpson, Darlene; House of Sophrosyne
Slobodnick, Michelle; Glengarda Child & Family Services
Staples, Tina; Windsor - Essex Children's Aid Society
Taggart, Cheryl; Citizen Advocacy
Taman, Pat; Well-Come Centre
Trepanier, Marcel; Kingsville Youth Association
Van Houle, Jackie; Chatham-Kent Health Alliance
Ware, Joy; Legal Assistance of Windsor
Witcher, Julie; WRH-Western Campus Mental Health Program for Older Adults
Zimmerman, Barb; Well-Come Centre

4.19.1 SOCIAL WORK: PROGRAMS OF STUDY

Honours Bachelor of Social Work
Honours Bachelor of Social Work (for University Graduates)
Honours Bachelor of Social Work in Social Work and Women's Studies (Combined Honours)

4.19.2 PROGRAM REGULATIONS

ADMISSION REQUIREMENTS

Honours Bachelor of Social Work

Years I and 2: Admission to the pre-professional program is governed by the general requirements of the University. A minimum of twenty courses (including four Social Work courses, a statistics course, two Science courses, and ten courses from Arts, Languages and Social Sciences) is required prior to admission to Year 3.

In preparation for application to the professional program in Year 3, students are strongly encouraged to engage in volunteer experiences in human services agencies and organizations in the community.

Aboriginal peoples, persons with disabilities, and members of visible minorities are encouraged to apply.

Years 3 and 4: Admission to the professional program in Year 3 requires that students apply to the Office of the Registrar prior to February 1. Applications are available from the Office of the Registrar or the School of Social Work. A minimum average of 8.0 in Social Work courses is required. References must accompany the application. An interview may be required, and early applications are encouraged. Entry is for the next Fall term only, and enrollment is limited. Students who are accepted to Year 3 will be notified by the Office of the Registrar. Selection of candidates for admission will be based on grades and other relevant criteria determined by the Social Work Admissions Committee.

The Year 3 and 4 accredited Social Work program is intended for full-time study. A full-time course load in years 3 and 4 is defined as 6 courses per term, including 2 placement courses per term. Students who are not able to attend on a full-time basis at any point after admission to the program must seek advice from the School of Social Work. Students who have not taken a course in the Social Work program within one calendar year of admission will be required to leave the program so that other applications may be accommodated.

Time for degree completion: Students are expected to complete their degree plan of study on a full-time basis. Those who may require additional time to complete their degree requirements must present their request in writing to the Undergraduate Studies Admission and Retention Committee. Requests from persons with disabilities requiring accommodation are welcomed.

Transfer from other programs: Applicants transferring from other programs will be assessed individually by the Office of the Registrar and are subject to the same admission procedure to Year 3 as outlined above.

Honours Bachelor of Social Work (for University Graduates)

Two-Year Program [Program II]:

University graduates with a three-year degree in Arts or Social Sciences or 30 courses in Arts or Social Sciences, with a minimum cumulative G.P.A. of 8.0, or an average of at least 8.0 in their last twenty courses taken, including at least one course in statistics or research methods, may be considered for admission to a two-year, four-semester program leading to a Bachelor of Social Work (B.S.W.) degree. Applicants should have volunteer or work experience in human service agencies or community organizations. Applicants must apply to the Office of the Registrar prior to February 1 for September admission.

One Year Advanced Program [Program III]:

University graduates with a four-year degree in Arts or Social Sciences or 40 courses in Arts or Social Sciences, with a minimum cumulative G.P.A. of 8.0, or an average of at least 8.0 in their last twenty courses taken, including at least one course in statistics or research methods, may be considered for admission to a one-year, three-semester advanced program leading to a B.S.W. degree. Volunteer or work experience in human service agencies or community organizations is a requirement for admission. Applicants must apply to the Office of the Registrar prior to March 1 for September admission.

Honours Bachelor of Social Work in Social Work and Women's Studies (Combined Honours)

[Program IV]

In this joint honours degree program, students have to meet the entry requirements for both areas. Admission to years 1 and 2 is open to all qualified students. However, admission to the professional program in year 3 requires application prior to February 1st for a September admission. See 4.19.2 Program Regulations - Admission Requirements for Social Work. For admission consideration, students will have completed a minimum of 20 courses including required courses from Social Work and Women's Studies. Approximately 10 students per year will be accepted.

4.19.3 PROGRAMS OF STUDY

The undergraduate programs are organized as sequences which combine studies in the social sciences, the humanities, and other course options along with professional courses in social work. The objective of the programs is to prepare graduates for generalist Social Work practice and for graduate Social Work study.

Field education is an essential requirement of the Social Work program, and successful completion of eight Field Practice courses is required for graduation. This may involve travel and/or weekend hours, and students are responsible for transportation to and from their field placement. All students will be assigned a field placement in a human service organization or community setting.

Theory and Practice of Generalist Social Work courses 47-336, 47-337, 47-436, and 47-437 are taken prior to or concurrent with Field Practice courses.

The *School of Social Work Attendance Policy* requires social work majors and combined WS/SW majors to attend all classes for courses at the 300 and 400 level in social work.

Honours Bachelor of Social Work

Total courses: forty-four:

Major requirements: 47-117, 47-118, 47-204, 47-210, 47-303, 47-304, 47-336, 47-337, 47-344, 47-361, 47-362, 47-363, 47-364, 47-436, 47-437, 47-447, 47-461, 47-462, 47-463, and 47-464; plus eight Social Work elective courses at the 300 or 400 level (including two electives in areas relevant to Social Work. These two electives must be approved by the Undergraduate Chair.)

Other requirements (see 2.4.14 for subject areas):

(a) 02-250;
(b) two courses from Science;
(c) ten courses from Arts, Languages, or Social Sciences, excluding Social Work;
(d) three courses from any area of study, excluding Social Work.

RECOMMENDED COURSE SEQUENCE

Year 1: 47-117, 47-118, and eight course options (Recommended: 46-115, 46-116, 48-101, 48-102).

Year 2: 47-204, 47-210, 02-250, and seven course options (Recommended: 46-223, 46-224, 46-225, 48-204).

Year 3: 47-303, 47-304, 47-336, 47-337, 47-344, 47-361, 47-362, 47-363, and 47-364; plus additional Social Work and outside electives at the 300 or 400 level.

Year 4: 47-436, 47-437, 47-447, 47-461, 47-462, 47-463, and 47-464; plus additional Social Work and outside electives at the 300 or 400 level.

Social Work Electives: 47-305, 47-346, 47-347, 47-356, 47-357, 47-370, 47-410, 47-412, 47-434, 47-448, 47-455, 47-456, 47-457, 47-458, 47-459, 47-470.

Honours Bachelor of Social Work (for University Graduates)

ONE-YEAR ADVANCED PROGRAM (Program III)

Total courses: seventeen.

This program must be taken in 12 consecutive months on a full-time basis. Students must complete all 17 courses at the University of Windsor.

Required:

Fall Semester: 47-303, 47-304, 47-336, 47-361, 47-362, and 47-436; plus one Social Work elective. (One course as an overload, subject to fees.)

Winter Semester: 47-337, 47-363, 47-364, 47-437, and 47-447; plus one Social Work elective.

Summer Semester: 47-461, 47-462, 47-463, and 47-464.

TWO-YEAR PROGRAM (Program II)

Total courses: twenty-four.

Required:

Year 1: 47-303, 47-304, 47-336, 47-337, 47-344, 47-361, 47-362, 47-363, and 47-364; plus additional Social Work and outside electives at the 300 or 400 level.

Year 2: 47-436, 47-437, 47-447, 47-461, 47-462, 47-463, and 47-464; plus additional Social Work and outside electives at the 300 or 400 level.

Social Work Electives for B.S.W. for University Graduates Programs: 47-204, 47-210, 47-305, 47-346, 47-347, 47-356, 47-357, 47-370, 47-410, 47-412, 47-434, 47-448, 47-455, 47-456, 47-457, 47-458, 47-459, 47-470.

Social Work courses taken as part of a previous undergraduate degree may not be counted for credit for Programs II and III. If a course or courses required for Program II or Program III were taken as part of a previous undergraduate degree, another Social Work course or courses (or a course or courses in cognate disciplines) must be selected and substituted with the approval of the Director of the School (or designate) or the undergraduate studies committee.

Honours Bachelor of Social Work in Social Work and Women's Studies (Combined Honours)

Total courses: 44

Social Work - Major requirements: 47-117, 47-118, 47-204, 47-210, 47-303, 47-304, 47-336, 47-337, 37-344, 47-361, 47-362, 47-363, 47-364, 47-436, 47-437, 47-447, 47-462, 47-463, 47-464 plus 3 additional Social Work electives.

Women's Studies - Major requirements: 53-100, 53-201, 53-220, 53-300, 53-301, 53-310, 53-347, 53-370, 53-400, 53-458, 53-470; plus 3 Women's Studies (53-) electives, and 2 Women's Studies/Women's Emphasis electives.

Other Requirements:

(a) one Science elective;
(b) 02-02-250;
(c) four courses from any area of study, excluding Social Work and Women's Studies.

RECOMMENDED COURSE SEQUENCE

Ten courses in year 1: 47-117, 47-118, 53-100, 53-201, 1 Women's Studies elective, 2 Women's Studies/Women's Emphasis electives and 3 courses from any area of study, excluding Social Work and Women's Studies.

Ten courses in Year 2: 47-204, 47-210, 53-310, 53-458; 53-220 and another science credit, 2 Women's Studies electives, 02-02-250, and 1 elective from any area of study, excluding Social Work and Women's Studies.

Twelve courses in Year 3: 47-303, 47-304, 47-336, 47-337, 47-344, 47-361, 47-362, 47-363, 47-364, 53-347, 53-370; 53-300 or 53-301.

Twelve courses in Year 4: 47-436, 47-437, 47-447, 47-462, 47-463, 47-464, 53-470, 53-300 or 53-301, 53-400, 53-470; plus 3 Social Work electives.

4.19.4 COURSE DESCRIPTIONS

Social Work courses 47-117, 47-118, 47-204, and 47-210 are open to all students in the University. Acceptance to the B.S.W. program is required for registration in all other required 300- and 400-level courses. All Social Work elective courses in the professional program at the 300 and 400 level are restricted to senior level (*i.e.*, beyond term 4) students in Social Work or cognate disciplines or require the permission of the instructor. Social Work majors will be given priority when registering for these courses.

All courses are three hours a week unless otherwise indicated.

Social Work electives can be taken interchangeably by Year 3 and Year 4 students, except where prerequisites have been identified.

Not all courses listed will necessarily be offered each year.

47-117. Meeting Human Needs through Social Welfare
Examines the historical, philosophical and political aspects of the development and delivery of the Canadian Social Welfare System. Special attention will be focussed on the needs and services available to vulnerable populations.

47-118. Meeting Human Needs through Social Work
Examines the ways in which social workers in general practice intervene to meet the social needs of Canadians. Attention will be given to the development of an understanding of generalist social work practice within an ecological and systems perspective.

47-204. Issues and Perspectives in Social Welfare
Examines various ideologies that shape the social welfare system and their impact on citizens, clients and organizations. The impact of these diverse perspectives on the different roles of social workers are examined with particular emphasis on value conflicts and how these conflicts shape and affect policies and programs. (Prerequisites: 47-117 and 47-118 or permission of instructor.)

47-210. Social Work and Diversity
Examines oppression and anti-oppressive social work practice as they relate to social inequality and life circumstances. Various forms of institutionalized oppression such as racism, ableism, ageism, colonialism, heterosexism, anti-semitism, and sexism are analyzed. The experiences, needs, and responses of populations that have been historically excluded, disadvantaged, and oppressed are examined. Social Work practice which fosters inclusion, participation, and social justice is emphasized. (Prerequisites: 47-117 and 47-118 or permission of instructor.)

47-303. Social Policy and Social Welfare
Introduces the student to the formulation and analysis of social policy. The student uses knowledge of social services as a basis for assessing and recommending changes in existing programs or services, and for introducing new services. Special attention is given to identifying policy gaps in services and unmet needs of vulnerable populations within the generalist practice framework. (Prerequisite: 3rd or 4th year Social Work or Combined Social Work/Women's Studies Major, or permission of instructor.)

47-304. Professional Communication in Generalist Social Work Practice
Examines the various types of professional communication utilized in generalist social work practice. Selected conceptual frameworks for verbal, non-verbal and written communication are reviewed and analyzed. Professional communication skills are developed through the use of laboratory exercises which focus on translating conceptual frameworks for communication into action in generalist social work practice. (Must be taken concurrently with 47-336, 47-361, and 47-362.) (Prerequisite: 3rd or 4th year Social Work or Combined Social Work/Women's Studies Major, or permission of instructor.)

47-305. Organizational Practices in Human Services
Provides an overview of historical and contemporary organizational and inter-organizations theories of management. Examines the role of human service organizations in promoting social justice and emphasizes social work administrative practices such as planning and goal setting, personnel management, budgeting, motivation, decision-making, continuous quality improvement, team building, and the management of a diverse workforce.(Open to senior students. Social Work and Combined Social Work/Women's Studies majors will be given registration priority.)

47-336. Theory and Practice of Generalist Social Work I
Examines the knowledge base, principles and techniques of social work generalist practice and the use of social work values in the context of offering help focusing on individuals (micro-level). Included are the use of interpersonal relationships as a medium for helping and the use of theories of human interaction within various systems as a base for problem assessment. Emphasis will be on practice with individuals in their social context. Time will be taken to ensure the integration of classroom learning with student's experiences in their field placements. (Must be taken concurrently with 47-304, 47-361, and 47-362.)

47-337. Theory and Practice of Generalist Social Work II
Builds upon the generalist practice model of social work presented in 47-336. It extends generalist social work concepts to small groups as client systems. Focus will be on analysis and application of generalist knowledge, values and skills for assessment and intervention with small groups. Time will be devoted to ensure the integration of classroom learning with students' experiences in their field placements. (Must be taken concurrently with 47-363, and 47-364.) (Prerequisite: 47-336.)

47-344. Research I: Foundations of Social Work Research
Prepares students to critically analyze social work research applicable to generalist practice. Foundation principles of rational and empirical inquiry are examined across the continuum of qualitative and quantitative research designs which may be appropriately employed in a variety of practice contexts. The purpose is to enable the practical interpretation of social work research to be used integratively in practice with diverse clients, particularly those who have been marginalized or oppressed. (Prerequisite: 3rd or 4th year Social Work or Combined Social Work/Women's Studies Major, or permission of instructor.)

47-346. Risk and Resilience: Perspectives on Human Development
Examines human development in the social environment from a strengths-based perspective. Using a biopsychosocial orientation, emphasis is placed on identifying risk and protective factors that affect coping and adaptation to stressful life events. Focuses on how social systems (families, groups, organizations, institutions, and communities) promote or deter such efforts. Implications for multilevel interventions are discussed and evaluated. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-347. Abuse in the Family
Examines aspects of abuse and violence in the family. The primary focus is on generalist social work family intervention in cases of abuse or violence, and on societal provision for sheltered separation and family reconstitution or dissolution. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.) (Also offered as 53-347.)

47-350. Field Practice I
Provides students with professionally supervised experiences in community agencies and programs. Field education provides opportunities to carry generalist social work practice responsibilities. Open only to third year Social Work majors. (Must be taken concurrently with 47-336 and 47-337.) (Approximately 53 days in two semesters. Students must register for both semesters in order to earn credit.) (A 6.00 credit hour course.) (Available only by permission of the instructor and only to students who were registered in Social Work prior to July 1, 2001.)

47-356. Serving Older People
The role of the social worker in such areas as institutionalization, community care and social support, separation and loss, family structures, and retirement, with emphasis on social policy as a determinant of services and practice. (Open to senior students. Social Work majors will be given registration priority.)

47-357. Child Welfare
Examines issues in the present structure and functioning of services for children. The rights of children and their need for services will be examined in relation to existing services, such as protection, adoption, foster care, health services, and compulsory education, with special attention to extra-family parenting responsibilities. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-361. Field Practice I - A
Provides students with professionally supervised experience in community agencies and programs and with opportunities to carry generalist social work practice responsibilities. (Open only to third-year Social Work majors. Must be taken concurrently with 47-304, 47-336, and 47-362. 100 hours per semester, normally 1 day per week.)

47-362. Field Practice I - B
(Open only to third-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-304, 47-336, and 47-361. 100 hours per semester, normally 1 day per week.)

47-363. Field Practice I - C
(Open only to third-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-337 and 47-364. 100 hours per semester, normally 1 day per week.)

47-364. Field Practice I - D
(Open only to third-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-337 and 47-363. 100 hours per semester, normally 1 day per week.)

47-370. Mothering and Motherhood
This course examines Western society's ideas of motherhood, in particular the social construction of "good" and "bad" mothers, from an interdisciplinary perspective. Differences associated with class, race, ethnicity, and sexual preference will be considered. (Prerequisite: three Women's Studies courses and semester 4 standing.) (Also offered as Women's Studies 53-370.)

47-410. Social Work and the Law
Explores the evolution of law in our society, along with a critical examination of the institutions which law has spawned. The legislative, administrative, and judicial functions of law will be studied in terms of their social implications. Significant current legislation will be reviewed to understand the context, purpose, development, and impact. Finding, tracking, referencing, and analyzing legislation is an integral part of this course. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-412. Selected Topics in Social Work
Selected topics according to faculty and student interests may be offered. Topics may include issues related to social work practice, social welfare, or fields of practice. (May be repeated for credit if the course content differs.) (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-434. Social Work with Children
This course is designed to provide students with knowledge and understanding of social work practice with children. The focus is upon the development of a framework of knowledge for making practice decisions involving the child client. The design, implementation, and evaluation of alternative social work intervention strategies are included. The special set of techniques utilized in social work practice with children will be highlighted. (Prerequisite: 47-436.)

47-436. Theory and Practice of Generalist Social Work III
Builds upon the generalist model of social work practice presented in courses 47-336 and 47-337. It extends generalist social work concepts to families as multi-client systems. Focus will be on analysis and application of generalist knowledge, values and skills for assessment and intervention with families. Time will be taken to ensure the integration of classroom learning with students' experiences in their field placements. (Prerequisite: 47-337 or Program 3 standing.) (Must be taken concurrently with 47-461 and 47-462.)

47-437. Theory and Practice of Generalist Social Work IV
Applies the generalist social work practice model at the macro level. It focuses on planning, implementing, and evaluating interventions with communities and human service organizations. Special emphasis will be placed upon addressing the needs and issues of oppressed and culturally diverse groups. In addition, the integration of classroom learning with the students' experiences in their field placements is emphasized. (Prerequisite: 47-436.) (Must be taken concurrently with 47-463 and 47-464.) (Combined Social Work/Women's Studies majors take 47-437 concurrently with 47-463 and 53-400.)

47-447. Research II: Evaluation of Social Work Practice
Prepares students to evaluate generalist social work practice. It builds on the principles covered in Foundations of Social Work Research and focuses on conducting research relevant to the evaluation of individual practice interventions, programs and policies. The course's purpose is to enable students to incorporate such methods in their practice with diverse clients, particularly with those who have been marginalized or oppressed, to effectively serve them. (Prerequisite: 47-344 or Program 3 standing.)

47-448. Professional Issues in Social Work
This course examines ethical issues and dilemmas in social work practice, policy and research. It focuses on specific practice frameworks, schools of thought, theoretical and conceptual frameworks, and current social work issues. Topics may include: professional boundaries, suitability, advocacy, social control versus social empowerment, and issues around involuntary clients. (Open to senior students. Social Work majors will be given registration priority.)

47-450. Field Practice II
Open only to fourth year Social Work majors. Provides students with professionally supervised experiences in community agencies and programs. Provides enhanced opportunities to integrate knowledge and skills sufficient for responsible entry into practice upon graduation. (Must be taken concurrently with 47-436 and 47-437.) (Approximately 53 days in two semesters; students must register for both semesters in order to get credit.) (A 6.00 credit hour course.) (Available only by permission of the instructor and only to students who were registered in Social Work prior to July 1, 2001.)

47-455. Social Work and Mental Health
This course focuses on social work practice in the field of mental health. It will integrate policy, practice and research to mental health issues across the life-span. The course will examine social work practice assessment and intervention techniques. Both chronic and acute mental health issues will be examined. Community-based care and institutional care perspectives will be presented. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-456. Social Work and Health
Explores generalist social work practice with various client systems in transaction with the Canadian health care system. Systems' structural characteristics as well as their philosophical underpinnings will be surveyed in a historical and theoretical context. This will be accomplished with current social work models using the person-in-environment framework and general systems theory. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-457. Social Work and Addictions
Provides social work students with practice knowledge concerning the etiology, implications, and treatment issues related to addictions and substance abuse. Topics will include the history and consequences of addictions and substance abuse, addictions and the family, special at-risk groups, social policy and legal issues, medical and social-psychological aspects, and current research issues. (Open to senior students. Social Work and Combined Social Work/Women's Studies majors will be given registration priority.)

47-458. Women's Issues and Social Work
Examines gender issues, social processes and policies which construct women's' realities. The course will critique issues such as: poverty, equality, unemployment and welfare, child-care, reproductive rights, mental health, physical health and domestic violence. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.) (Also offered as 53-458.)

47-459. Social Work and Criminal Justice
The role of social work in various correctional areas and the place of corrections within the criminal justice field will be critically examined, along with some of the issues which currently confront these fields of practice. Emphasis throughout will be on the community context of practice and reference to such concepts as prevention, recidivism, and treatment will be discussed in terms of the implications for practice. (Open to senior students. Social Work majors or Combined Social Work/Women's Studies majors will be given registration priority.)

47-461. Field Practice II - A
Provides students with professionally supervised experience in community agencies and programs and with opportunities to carry generalist social work practice responsibilities. Provides enhanced opportunities to integrate knowledge and skills sufficient for responsible entry into social work practice upon graduation. (Open only to fourth-year Social Work or Combined Social Work/Women's Studies majors.) (Must be taken concurrently with 47-436 and 47-462.) (100 hours per semester, normally 1 day per week.)

47-462. Field Practice II - B
(Open only to fourth-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-436 and 47-461. 100 hours per semester, normally 1 day per week.)

47-463. Field Practice II - C
(Open only to fourth-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-437 and 47-464. 100 hours per semester, normally 1 day per week.)

47-464. Field Practice II - D
(Open only to fourth-year Social Work majors or Combined Social Work/Women's Studies majors. Must be taken concurrently with 47-437 and 47-463. 100 hours per semester, normally 1 day per week.)

47-470. Counselling Girls and Women
Examines the principles, processes, and techniques utilized in counselling girls and women as a component of generalist social work practice. Structural factors in the social context which affect the experience of girls and women of all ages as well as aspects of their development are considered in the assessment of obstacles that may result in the need for counselling from a generalist social worker. Individual, group, and family counselling that empowers girls and women to overcome obstacles and fulfill their potential in the context of social and cultural diversity is emphasized. (Prerequisites: 47-304, 47-336, 47-337.) (Also offered as 53-470.)

4.20 Sociology and Anthropology

(Ext. 2188)

OFFICERS OF INSTRUCTION

SOCIOLOGY

Professors Emeriti

Ferguson, John D.; B.A., M.A. (Toronto), Ph.D. (Columbia)-1968.

Whitehurst, Robert N.; B.A. (Butler), M.S., Ph.D. (Purdue)-1969.

University Professors

Adam, Barry D.; B.A. (Simon Fraser), M.A., Ph.D. (Toronto)-1976.

Maticka-Tyndale, Eleanor; B.A. (State University of New York, Binghamton), M.A. (McGill), Ph.D. (Calgary)-1993.

Professors

Ramcharan, Subhas; B.A., M.Sc. (U. of West Indies); Ph.D. (York)-1971.

Phipps, Alan G.; B.A. (Manchester), M.A. (Queen's), Ph.D. (Iowa), M.C.I.P.-1988.

Associate Professors

Shuraydi, Muhammad; B.A. (American U. of Beirut), Ph.D. (Alberta)-1973.

Booth, Gerald V.; B.A. (Victoria), M.A., Ph.D. (Southern Illinois)-1975.

Drakich, Janice; B.A., M.A. (Windsor), Ph.D. (York)-1989.

Basok, Tanya; B.A., M.A., Ph.D. (York)-1989.

Gannagé, Charlene; B.A., M.A., Ph.D. (Toronto)-1992.

Sears, Alan; B.A., M.A. (Carleton), Ph.D. (Warwick)-1992. (Program Chair, Labour Studies)

Ilcan, Suzan M.; B.A. (Saint Mary's) M.A. (Dalhousie), Ph.D. (Carleton)-1994.

Hall, Alan; B.A. (Bishop's), M.A. (Guelph), Ph.D. (Toronto)-1994.

Lewis, Jacqueline; B.A., M.A., Ph.D. (Toronto)-1994.

Nakhaie, M. Reza; B.A. (National University of Iran), M.A. (Guelph), Ph.D. (Waterloo)-1997.

deLint, Willem; B.A., M.A., Ph.D. (Toronto)-2002.

Assistant Professors

Mogyorody, Veronika; B.A. (Windsor), M.A. (Wayne State), B.Arch. (Detroit), Ph.D. (Rensselaer)-1976.

Lippert, Randy; B.A. (Lethbridge), M.A. (Ottawa), Ph.D. (British Columbia)-2000.

Mann, Ruth M.; B.A. (York), M.A., Ph.D. (Toronto)-2000.

O'Connor, Daniel; B.A., M.A. (Manitoba), Ph.D. (Carleton)-2000.

Arnold, Robert; B.A., M.A. (Saskatchewan), Ph.D. (McMaster)-2001.

Luginaah, Isaac; B.Sc. (Cape Coast, Ghana), M.Sc. (Queen's University of Belfast), M.E.S. (York), Ph.D. (McMaster)-2001.

Soulliere, Danielle; B.A., M.A. (Windsor), Ph.D. (Wayne State)-2001.

Cassidy, Tanya; B.A., M.A. (Windsor), Ph.D. (Chicago)-2003.

Deukmedjian, John E.; B.A. (Waterloo), M.A., Ph.D. (Toronto)-2003.

Guan, Jian; B.A. (Central National University), M.A. (China), M.A. (Hull), Ph.D. (Oklahoma State)-2003.

Omorodion, Francisca; B.A.(Hon) (McMaster), M.A. (Toronto), M.A. (Exeter), Ph.D. (Benin)-2003.

Williams, James W.; B.A. (Queen's), M.A., Ph.D. (York)-2003.

ANTHROPOLOGY

Associate Professors

Hedley, Max J.; B.A. (York, Eng.), M.A., Ph.D. (Alberta)-1976.

Phillips, Lynne; B.A. (British Columbia), M.A., Ph.D. (Toronto)-1989. (Head of the Department)

Assistant Professors

Reid, Peter E. W.; B.A. (Toronto), M.A. (Manitoba), Ph.D. (SUNY at Buffalo)-1976.

George, Glynis; B.A., M.A., Ph.D. (Toronto)-2000.

Adjunct Associate Professors

Caruso, Douglas J.; B.A. (British Columbia), M.A. (Minnesota)-1976.

Marger, Martin; B.A. (Miami), M.S. (Florida), Ph.D. (Michigan State)-2002.

Adjunct Assistant Professors

Clark, Barry; M.Th.St. (Wilfrid Laurier)-1999.

M'Closkey, Kathy; B.A., M.A. (Windsor), Ph.D. (York)-1999.

Quist-Adade, Charles; M.A. (Leningrad State U.), Ph.D. (St. Petersburg State U.)-1999.

Bourouh, Chaoura; B.A. (Constantine), M.A., Ph.D. (American U.)-2000.

Soni-Sinha, Urvashi; B.A., M.A., M.Phil. (Delhi), Ph.D. (Warwick)-2003.

Adjunct Lecturers

Brophy, James; B.A. (Windsor)-2002.

Keith, Margaret; B.A. (Windsor)-2002.

4.20.1 PROGRAMS OF STUDY - SOCIOLOGY

Minor, general degree, four-year Honours degree, and combined four-year Honours degree programs are available in Sociology.

The study of sociology is an opportunity to learn about the many aspects of social relations, ranging from face-to-face, intimate and family relationships, to those among such social groups as households, genders, classes, movements, race and ethnic groups, unions, corporations, and governments, as well as industrial and developing societies. The faculty have particular strengths in researching social justice issues concerning AIDS, crime, occupational health, decline of family farms, First Nations, third world development, health care, employment equity, prison reform, sex work, gay and lesbian communities, immigrant workers, and Latin America and the Middle East. Please note in particular the following course sequences:

Criminology: 48-260, 48-261, 48-262, 48-361, 48-362, 48-363, 48-367, 48-368, 48-369, 48-370, 48-371, 48-372, 48-460, 48-461, 48-464, 48-465, 48-466.

Family, Sex, and Gender: 48-104, 48-204, 48-205, 48-206, 49-214, 48-251, 48-306, 48-329, 48-350, 48-351, 48-352, 48-354, 48-409, 48-461.

International Development: 49-112, 48-226, 48-227, 48-232, 48-321, 48-325, 48-327, 48-330, 48-332, 48-340, 48-352, 48-411.

Race and Ethnic Relations: 48-232, 48-240, 48-241, 48-333, 49-331, 49-406.

Social Planning: 48-180, 48-225, 48-226 (or 49-226), 48-227, 48-228, 48-241 (or 49-241), 48-280, 48-281, 48-326, 48-352 (or 49-352), 48-354, 48-380, 48-381, 48-480, 50-192, 50-341, 50-401, 50-452, 43-347.

Work: 48-225, 48-228, 48-321, 48-326, 48-332.

Minor in Latin American Studies

Required: six courses, including two of 23-261, 43-272, 48-330 (or 49-330); two of 23-331, 43-271, 43-462, 48-226 (or 49-226), 48-227, 48-232 (or 49-232), 48-352 (or 49-352), 48-411 (or 49-411); and 23-100 and 23-101, or two higher level courses in Spanish language (as appropriate).

Minor in Sociology

Required: six Sociology (48-) courses, including 48-101, 48-102, and four courses at the 200 level or above.

Minor in Studies of Sexuality

Required: six of 48-205, 53-215, 53-220, 46-240, 48-350, 48-351, 43-463 (or 46-463).

General Sociology

Total courses: thirty.

Major requirements: ten courses, including 48-101, 48-102, 48-202, 48-210, 48-302, and 48-310 (or 49-355); plus three additional Sociology (48-) courses at the 300 or 400 level; and 49-112.

Option requirements (see 2.4.14 for subject areas):

(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) four courses from any area of study, excluding Social Sciences;
(d) six courses from any area of study, including Sociology (48-);
(e) six courses from any area of study, excluding Sociology (48-) and any Anthropology (49-) courses cross-listed with Sociology.

Honours Sociology

Total courses: forty.

Major requirements: nineteen courses, including 48-101, 48-102, 48-202, 48-210, 48-302, 48-308, and 48-310 (or 49-355); two 400-level courses, including one of 48-403, 48-404, 48-405, 48-408, 48-415 (or 49-415); two additional Sociology (48-) courses at the 300 or 400 level; plus 49-112 and one additional Anthropology (49-) course which is not cross-listed with Sociology.

Other requirements (see 2.4.14 for subject areas):

(a) 02-250;
(b) two courses from Arts or Languages;
(c) two courses from Science;
(d) four courses from Arts, Languages, or Social Sciences, including Sociology (48-);
(e) twelve courses from any area of study, excluding Sociology (48-) and any Anthropology (49-) courses cross-listed with Sociology.

Combined Honours Sociology Programs

Total courses: forty.

Major requirements - Sociology: fifteen courses including 48-101, 48-102, 48-202, 48-210, 48-302, 48-308, 48-310 (or 49-355); and two 400-level courses, including one of 48-403, 48-404, 48-405, 48-408, 48-415 (or 49-415); plus 49-112. Two additional Sociology (48-) courses must be taken at the 300 or 400 level. An introductory statistics course (02-250 or the equivalent) is required. An equivalent statistics course may be substituted for 48-308, in which case one additional Sociology (48-) or Anthropology (49-) course is required.

Major requirements - Other Subject: as prescribed by that area of study.

Other requirements:

(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) additional options (if required) to a total of forty.

Combined Honours Sociology and Criminology

Admission requirements and application procedures for entry to the third year of the combined Sociology and Criminology Honours program are as described for the Criminology Honours degree.

Total courses: forty.

Major requirements:

(a) 48-101, 48-102, 48-202, 48-207, 48-210, 48-260, 48-261, 48-262, 48-302, 48-308, 48-310 (or 49-355), and 48-363; plus two 400-level courses, including one of 48-403, 48-404, 48-405, 48-408, 48-415 (or 49-415); plus 49-112;
(b) 02-250; and 34-129 or 34-226;
(c) three of 48-361, 48-362, 48-367, 48-368, 48-369, 48-370, 48-371, 48-372, and 49-323;
(d) one of 48-410, 48-460, 48-461, 48-464, 48-465, 48-466.

Other requirements:

(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) eight courses from Arts, Languages, or Social Sciences, including Sociology;
(d) seven courses from any area of study, excluding Sociology (48-) and any Anthropology (49-) courses which are cross-listed with Sociology.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 48-101; 48-102; 48-202; 02-250; 48-210; 48-302; 48-310; three 300-level or above courses; two of 48-404, 48-405, 48-406, 48-408.

Minor Concentration: 48-101; 48-102; 48-202; 02-250; 48-302; 48-310.

4.20.2 COURSE DESCRIPTIONS - SOCIOLOGY

Not all courses listed will necessarily be offered each year. All courses are three hours a week unless otherwise indicated.

48-101. Principles and Methods of Sociology
The course is designed to acquaint students with the basic theories and

methods used by sociologists. Emphasis will be placed on such concepts as culture, socialization, sex roles, organizations, stratification, and deviancy. (3 lecture, or 2 lecture, 1 tutorial/laboratory hour a week.)

48-102. Social Institutions and Social Change
The course will focus on the description and analysis of institutions such as the family, religion, education, polity, and economy. Changes in society reflected in population and urban living, and theories of change will be discussed. (Prerequisite: 48-101.) (3 lecture, or 2 lecture, 1 tutorial/laboratory hour a week.)

48-104. Family Development
An introductory examination of families and their members through a life cycle from physiological, psychological, and sociological perspectives.

48-180. Introduction to Social Planning and Geography
A survey of the development of spatial aspects of urban life, principles of urban land use, and interaction patterns of urban activities. (Also offered as Geography 42-150 and Planning 50-150.) (3 lecture hours a week.)

48-202. Foundations of Sociological Theory
The theories of Comte, Marx, Durkheim, Weber, and others who contributed to the development of the discipline of sociology. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-204. Sociology of Families
Theories of the family are reviewed in both historical and cross-cultural context as an introduction to family relations and forms. Recent historical changes involving aspects of modernism are considered as they have affected structure and organization of families in Canada and other parts of the world. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-205. Sociology of Sex
An analysis of sexual differentiation, sex role acquisition, sexual attitudes, sexual behaviour, and the sex structure of Canadian society. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-206. Family Dynamics
An analysis of family dynamics throughout the family life cycle. Specific topics include socialization processes, dating, mate-selection, sexual expression, marital interaction, parent-child relationships, divorce, remarriage, and aging. (Prerequisite: 48-104.)

48-207. Canadian Social Problems
An analysis of the diverse problem areas in the complex Canadian society, including the effects of social, technological, and culture change on institutions, and the problems caused by social disorganization, intergroup conflict, deviance, and crime. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-210. Quantitative Research
Introduction to social research focusing on classical (positivist and post-positivist) research paradigms. The use of existing data, experimental methods, and survey methods will be covered. (Prerequisites: 48-101 and either 48-102 or 49-112; or Labour Studies students must have at least Semester 3 standing.)

48-225. Work and Organizations
An examination of the changing world of work from a variety of theoretical perspectives. The course examines workplace organization, including management strategies and workers' responses. Special topics include: work in the automobile, clothing, or other specific industries, contemporary changes in work organization and organizational issues involving class, ethnicity, and gender. (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100; or Labour Studies students must have at least Semester 3 standing.)

48-226. Introduction to International Development
An overview of the history and contemporary problems of economic development and underdevelopment and their effects upon marginalized populations; an assessment of issues such as the impact of colonialism, the nature and function of the global economy, the problems of food production, economic dependency, cultural resistance, and social change. (Also offered as Anthropology 49-226.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

48-227. Globalization and Social Change
An analysis of global and local social factors leading to the rise and decline of authoritarian, liberal democratic and post-revolutionary state systems in Canadian and Latin American societies. Topics include the formation of international elites and trading blocs, the pressure to restructure, and popular responses to globalization. (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

48-228. Class, Wealth and Power in Canada
The study of structured social inequality. The existence of class and power structures and their effects on the lives of Canadians. The relation of different forms of inequality based on class, ethnicity, and gender. The various strategies people employ to respond to inequality. (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

48-232. Indigenous Peoples: A Comparative Perspective
A cross-cultural examination of issues concerning indigenous peoples in Canada and other parts of the world through a discussion of topics such as land claims, resource development, resistance, cultural rights, popular movements, and government policy. (Also offered as Anthropology 49-232.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

48-234. Sociology of Everyday Life
A study of how face-to-face, person-to-person interaction is sustained in human society. The course is built around the fact that human beings operate on the level of symbolic meanings. It thus takes into account the ways in which framing, or definition of a situation influences the character of the interaction. Included is the study of the underlying structures of social interaction, such as the organization of talk, spatial relationships, and body-language. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-235. Identity Processes
An exploration of the pivotal role identity plays in the organization and actions of social life. (Also offered as Psychology 46-235.) (Prerequisites: 48-101 and either 48-102 or 49-112; alternate prerequisites: 46-115 and 46-116.)

48-236. Introduction to Social Psychology
An introduction to the theories, methods, findings, and problems associated with the study of the individual in the social context. Topics include social cognition; interpersonal behaviour (attraction, aggression, altruism); social attitudes, prejudice, and discrimination; social influence and group processes (conformity, leadership, intergroup relations). (Also offered as Psychology 46-236.) (Prerequisites: 46-115 and 46-116; or 48-101 and 48-102.)

48-240. Ethnic Relations in Canada
A study of ethnic minorities in pluralistic Canada, with particular focus on immigration trends, theories of assimilation and ethnic retention, policies of multiculturalism, differential adaptation, separatist movements, and the pursuit of collective rights. (Also offered as Anthropology 49-240.) (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112, or consent of instructor.)

48-241. Race and Racism in Canada
An analysis of the nature and practice of racism, and the role and status of racial minorities in Canada, focusing on causes and consequences of racism, forms of discrimination, anti-racist struggles, and policy initiatives for the creation of an egalitarian society. (Also offered as Anthropology 49-241.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100, or consent of the instructor.)

48-251. Women and Diversity
Examines the intersection of gender with other oppressions experienced by groups such as women of colour, older women, disabled women, working-class women, and lesbians. The perspective taken is the critical analysis of gender offered by feminism(s). (Also offered as Women's Studies 53-201.)

48-280. Urban Design
An introduction to the visual and spatial elements which affect urban form. The course includes a survey of analytical methods employed in the design process, such as: assessment and monitoring of user needs, analysis of environmental contexts, and the incorporation of new technologies. (Also offered as Planning 50-251.) (3 lecture hours a week.)

48-281. Contemporary Architecture
A survey of the roots of contemporary architectural theory through an examination of representative structures since the Industrial Revolution. Students will be introduced to those individuals who have played a central role in the development of architectural thought in North America. (Also offered as Planning 50-291 and Art History 28-391.) (3 lecture hours a week.)

48-302. Contemporary Sociological Theory
A review of modern theoretical approaches in sociology. Emphasis is placed on current schools of thought, such as Symbolic Interactionism, Structural-Functionalism and other approaches. (Prerequisite: 48-202.)

48-306. Sociology of Women
An overview of the economic, educational, familial, political, and religious factors affecting the position of women in society. A socio-historical analysis of the change in the roles and status of women in Canada and internationally with a view to understanding the nature of their impact upon major societal institutions. (Also offered as Anthropology 49-306.) (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112.)

48-308. Intermediate Statistics
Basic inferential statistics, including estimation, confidence intervals, and hypothesis testing. Also included is the application of computer packages to selected statistical problems. (Also offered as Geography 42-231 and Planning 50-231.) (Prerequisite: 02-250.) (2 lecture hours, 1 laboratory hour a week.)

48-310. Qualitative Research
An introduction to interpretive research strategies, such as participant observation, historical comparative analysis, interviewing, and discourse analysis. Ethical issues raised in research will also be discussed. (Prerequisites: 48-101, 48-210, and either 48-102 or 49-112; or Labour Studies students must have at least Semester 5 standing.)

48-321. Formal Organizations in Comparative Perspective
An examination of the organization of work in national and cultural contexts. The focus is on the influence of societies, including their traditions, languages, and institutions on the organization of work. This course examines organizations in comparative perspective, looking at Japanese or other managerial strategies in industrialized and newly industrializing countries. (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112; or Labour Studies students must have at least Semester 5 standing.)

48-325. Introduction to African Development
A multidisciplinary course introducing students to developmental issues currently confronting African countries and peoples, focusing on the sub-Saharan region. Using a sectoral approach, including health, education, agriculture, and the environment, the course reviews multiple and conflicting approaches to development and addresses both the potentials and the barriers associated with them. (Also offered as Geography 42-361 and Anthropology 49-325.)

48-326. Work and Occupations
An examination of occupations and the changing labour market. This course examines the ways people choose occupations and develop careers, the nature of professions and professionalization, unemployment and its consequences, and the influence of occupations on individuals and society in a wider sense. Special topics include the impact of technological change on the occupational structure of younger and other populations. (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100; or Labour Studies students must have at least Semester 5 standing.)

48-327. Social Movements
An examination of theories and case studies of world revolutions, class struggles, and various social movements, such as the feminist, gay and lesbian, labour, native, ecological, and other movements. (Also offered

as Labour Studies 54-327.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100; or Labour Studies students must have at least Semester 5 standing.)

48-329. The Family and Social Change
An analysis of social change and the family in contemporary societies, with emphasis on current trends in the Canadian family, including such issues as aging, divorce, children's issues, gender equality, and evolving family forms. (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112; and 48-204.)

48-330. Latin America: A Comparative Perspective
Selected problems of rural and urban development, the debt crisis, nationalism, and cultural change will be examined through an analysis of specific Latin American countries. (Also offered as Anthropology 49-330.)

48-332. Labour and the Industrialization Process
The development of Canadian industry and workers' responses to industrialization are examined. Special topics may include early industrialization and its effects, the development of monopoly capitalism, the emergence of service and other new industries, the impact of new technologies, changes in the division of labour, the impact of globalization and economic restructuring, the development of new management approaches such as lean production, changes in women's work, the development of labour unions, and the role of women, youth, and minorities at work. (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100; or Labour Studies students must have at least Semester 5 standing.)

48-333. Nationalism and Ethnic Conflict
An analysis of ethnic identity, ethnic group formation, ethnopolitical mobilization, nationalism, racism, ethnic conflicts, ethnic violence including genocide, and conflict resolution in various societies throughout the world. (Also offered as Anthropology 49-333.) (Prerequisites: any two of 48-101, 48-102, 49-111, 49-112, or 54-100.)

48-334. Dynamics of Interaction
Interaction with others is a central activity in everyday life. This course examines processes of interaction, such as negotiation, conflict, coalition building, and communication in the context of interpersonal and group relations. (Prerequisites: 48-101 and either 48-102 or 49-112; 48-235 is recommended.)

48-336. Medical Anthropology/Sociology
A brief history of the development of the discipline. Problems and the nature of health and diseases in ancient and modern human populations; concepts of health and disease and indigenous medical systems. Aspects of social organization and the prevalence of diseases. Roles of curers, medical practitioners, support staff, patients, and their interrelations; technological innovations and the problems of health. (Also offered as Anthropology 49-336.) (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112.)

48-340. Food and Global Sustainability
A comparative examination of the emergence of a global food system and its implications for culture and the environment. (Also offered as Anthropology 49-340.)

48-350. Theories of Sexuality
A consideration of various theoretical models applied to the study of human sexuality. Specific topics include socio-historical perspectives, feminist issues, men's studies, gay and lesbian studies, forms of sexual imagery and expression, and the social impact of sexually transmitted disease. (Prerequisite: 48-205 or consent of instructor.)

48-351. Gay and Lesbian Studies
A multidisciplinary review of critical issues in the social organization and representation of same-sex bonding, including discussion of: cross-cultural studies, historical constructions of homosexuality and romantic friendship, coming out and identity, relationships and family, theories of homophobia and sexual repression, the development of communities and social movements in modern societies, the impacts of AIDS, and the emergence of queer theory.

48-352. Women and International Development
An examination of the impact of global processes on gender relations, including a consideration of the importance of cross-cultural variations in the family, political/economic systems, and gender ideologies. (Also offered as Anthropology 49-352.) (Prerequisite: 48-226 or 49-226, or consent of instructor.)

48-354. Gender, Space, and Time
An examination of sociological and anthropological approaches to the study of space-time relations within the field of gender studies, including a focus on the development of gendered environments and cultural practices. (Also offered as Anthropology 49-354.) (Prerequisites: 48-101 and 48-102, or 49-111 and 49-112.)

48-355. Life Histories and Anthropology
An exploration of life history methods as a technique of fieldwork within anthropology, and its relationship to ethics, data collection, and knowledge production. (Also offered as Anthropology 49-355.) (Prerequisite: 49-112 or consent of instructor.)

48-375. Social Justice and Global Change
An examination of issues of social justice arising from the intensification of social and economic inequalities within an increasingly globalized world. Topics may include the emerging international human rights framework, national and transnational struggles to bring about social change, and post-colonialism. (Also offered as Anthropology 49-375.) (Prerequisite: 48-101 and either 48-102 or 49-112; or 49-213.)

48-380. Social Planning and Geography
An introduction to the history of social geographical ideas, and the modern and post-modern concepts in social geography, with special application to western cities. (Also offered as Geography 42-337 and Planning 50-337.) (Prerequisite: one of 42-130, 42-131, 42-150, 48-180 or 50-150.) (3 lecture hours a week.)

48-381. Neighbourhood Planning
The theory and methods of urban planning in Canadian communities, with emphasis on: social issues in inner city neighbourhoods, planning

for the inner city, and the roles of planners in residential communities. (Also offered as Planning 50-342.) (3 lecture hours a week.)

48-403. Culture and Ideology
The study of the influence of social location on human understanding, including the social organization, creation, and distribution of knowledge. Topics may include how social practices shape scientific knowledge, the origins of common sense and conventional wisdom, how politics affect medical definitions, and cultural constructions of class, gender, race, and sexuality. (Prerequisite: 48-302, or consent of instructor.)

48-404. Theories of Postmodernism
An inquiry into the sociological dimensions of the current debate over modernity, postmodernity, and poststructuralism. The course will critically discuss Enlightenment legacy embodied in contemporary debates over science, knowledge, representation, subjectivity, power, and liberation. It will ask such questions as: Is the modern world coming to an end, or a new beginning? Do conventional ways of conceptualizing social relations need reformulation? Have metanarratives come to an end? (Prerequisite: 48-302, or consent of instructor.)

48-405. Symbolic Interactionist Theories
An exploration of the methodological and theoretical perspectives within symbolic interactionism. These distinct perspectives encompass the classical Meadian tradition, dramaturgy, ethomethodology, reality construction, and the most recent thoughtways of reflexive sociology and cultural studies. (Prerequisite: 48-302, or consent of instructor.)

48-406. Marxist Social Theories
An examination of the central concepts of Marxist theories. The course will cover the evolution of Marxist theories as well as current debates about the relationship of Marxism to feminism, social movements, culture, and contemporary class structures. (Prerequisites: 48-202, and 48-302 or consent of instructor.)

48-408. Feminist Theories
Classical and contemporary theories and research in feminist analysis, which may include liberal, radical, socialist, postcolonial, and poststructural versions of feminism, and queer theory. (Prerequisite: 48-302, or consent of instructor.)

48-409. Family, Gender and Culture
A critical examination of key issues and debates in the study of family relations with an emphasis on gender politics and ideologies. Topics may range from explanations of the diverse images and meanings of families to issues of moral regulation, pro-family movements, and reproductive policies. (Prerequisite: 48-204 or consent of instructor.)

48-410. Crime and Culture in a Global Context
This seminar course examines the cultural construction of crime. The course will focus on the effects of imposing laws, methods of judging, and definitions of criminality in various social cultural contexts, including those that are indigenous and colonized. (Also offered as Anthropology 49-410.) (Prerequisites: 49-213 or 48-260, and one of 48-310, 49-330, 49-352, 49-355, or 49-375.)

48-411. Challenging Global Development
A critical examination of theories and policies of global development and underdevelopment, including explorations of alternatives to modernization. (Also offered as Anthropology 49-411.) (Prerequisites: 48-226 or 49-226, or consent of instructor.)

48-415. Culture, Class, and Power
Discussion of the theoretical issues raised by application of cultural theory in a global context, including a discussion of contemporary theoretical approaches to understanding the way local cultural practice is influenced by macrosocial processes, and including an assessment of the post-modernist critique of anthropology. (Also offered as Anthropology 49-415.) (Prerequisite: 48-302, or any two 200-level or higher Anthropology (49-) courses, or consent of instructor.)

48-416. Methods of Survey Research
The design, implementation, and analysis of sample surveys will be carried out through completion of a sample survey. Topics will include research design, questionnaire construction, and techniques of interviewing, coding, and data analysis. (Prerequisites: 48-210, 48-308, or consent of instructor.) (3 lecture hours, or 2 lecture hours, 1 tutorial/laboratory hour a week.)

48-418. Contemporary Ethnography
Contemporary approaches to ethnographic writing, including an exploration of the methodological and theoretical implications of the ethnography in the social sciences (Also offered as Anthropology 49-418.) (Prerequisite: 49-213 or consent of instructor.)

48-420. Special Topics in Power and Social Change
The focus of this seminar may vary from term to term; consult a Sociology program advisor for details. (Prerequisite: 48-302, or consent of instructor.)

48-421. Special Topics in Social Psychology
Topics may vary from term to term; consult a Sociology program advisor for details. (Prerequisite: 48-302, or consent of instructor.)

48-425. Field Studies
A field course designed to give advanced students the opportunity to study cultures and environments in Canada and elsewhere. The focus and selected topics will vary with the geographic location. An additional fee will be charged to cover travel and accommodation costs. (Also offered as Anthropology 49-425.) (Prerequisites: 49-111, 49-112, and three 200- or 300-level courses.)

48-447. Social Justice Practicum
This course offers students the opportunity to apply their academic knowledge within community organization settings. Students will be given the opportunity to learn about the day-to-day operation and structure of a participating social justice agency through observation of, and discussion with, staff and executive members. Students will be assigned a major project to carry out for the agency under the supervision of the course instructor and an on-site practicum supervisor. Students will be expected to meet regularly with the course instructor and to provide oral

and written reports on their experience during the term. (Open to Sociology, Anthropology, Criminology, and Family and Social Relations majors with semester 7 standing, major grade average of 9.0, and successful completion of 48/49-375. Additional specific prerequisites: Sociology majors: 48-302; Anthropology majors: 49-213 plus any two 200-level or higher anthropology courses; Family and Social Relations majors: 48-204 and permission of program adviser.) (Course enrollment is limited and a letter of application is required.) (Also offered as Anthropology 49-447.)

48-480. Housing Policy
A study of social issues related to housing. Emphasis is on the supply, demand, and legal aspects of housing policy, as well as current, pressing issues such as affordability and sustainability. (Also offered as Planning 50-403.) (3 lecture hours a week.)

48-496. Honours Essay
Independent research or internship conducted under the supervision of an individual faculty member. (Prerequisites: 48-302, and one of 48-310, 49-355, or consent of instructor.)

4.20.3 PROGRAMS OF STUDY - CRIMINOLOGY

Certificate in Criminology

See "Certificate Programs", 4.23.2.

The Criminology degree combines courses from several areas to provide a broad liberal arts background with specialization in all areas of criminology: theory and methods, crime and criminals, criminal justice, and sociology of law.

Honours Criminology

The number of places available in the third year of the Criminology Honours program is limited, and admission will be competitive. Entry shall be for the Fall term only. Students are eligible to apply for entry into the criminology program only after completing twenty but no more than thirty courses. In particular, applicants must have successfully completed the following courses: 48-101, 48-102, 48-202, 48-207, 48-260, 48-261, 48-262 and either 34-129 or 34-226. Applications and information sheets are available at the Office of the Registrar and must be returned to that office by May 1st. No late applications will be accepted. Decisions will be rendered by June 1st, with notification shortly thereafter.

Total courses: forty.

Major requirements: nineteen courses, including
- (a) 48-101, 48-102 (or 49-112), 48-202, 48-207, 48-210, 48-260, 48-261, 48-262, 48-302, 48-308, 48-310 (or 49-355) and 48-363;
- (b) 02-250; and 34-129 or 34-226;
- (c) three of 48-361, 48-362, 48-367, 48-368, 48-369, 48-370, 48-371, 48-372, and 49-323;
- (d) two of 48-410 (or 49-410), 48-460, 48-461, 48-464, 48-465, 48-466.

Other requirements (see 2.4.14 for subject areas):
- (a) five courses from Arts, Languages, or Social Sciences, including Sociology;
- (b) two courses Arts or Languages;
- (c) two courses from Science;
- (d) twelve courses from any area of study, excluding Sociology (48-) and any Anthropology (49-) courses cross-listed with Sociology.

RECOMMENDED COURSES

See Criminology website: www.uwindsor.ca/criminology

Notes:

1) Criminology Honours students interested in graduate studies should take one course from 48-403, 48-404, 48-405, 48-406, 48-408, or 48-415 (or 49-415), since these courses or their equivalents are required for admission to the graduate program in Sociology.

2) Students interested in government service should include French language courses among their options; other non-English language courses also are recommended.

Combined Honours Criminology Programs

Admission requirements and application procedures for entry to the third year of any program combining Criminology Honours with another subject are as above for Criminology Honours.

Total courses: forty.

Major requirements- Criminology: eighteen courses, consisting of:
- (a) 48-101, 48-102 (or 49-112), 48-202, 48-207, 48-210, 48-260, 48-261, 48-262, 48-302, 48-308, 48-310 (or 49-355) and 48-363;
- (b) 02-250; and 34-129 or 34-226;
- (c) three of 48-361, 48-362, 48-367, 48-368, 48-369, 48-370, 48-371, 48-372, and 49-323;
- (d) one of 48-410 (or 49-410), 48-460, 48-461, 48-464, 48-465, 48-466.

An equivalent statistics course may be substituted for 48-308, in which case one additional Sociology (48-) or Anthropology (49-) course is required.

Major requirements - Other Area of Study: as prescribed by that area of study.

Other requirements (see 2.4.14 for subject areas):
- (a) two courses from Arts or Languages;
- (b) two courses from Science;
- (c) additional options (if required) to a total of forty.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 48-101; 48-102 or 48-112; 48-202; 48-210; 48-260; 48-262; 48-310 or 48-355; 48-363; two of 48-307, 48-361, 48-362, 48-364, 48-365, 48-367, 48-368, 48-370; one of 48-410, 48-460, 48-461, 48-464, 48-465, 48-466; one other criminology course.

Minor Concentration: No Minor Concentration offered.

4.20.4 COURSE DESCRIPTIONS - CRIMINOLOGY

48-260. Introduction to Criminology
Theories and research in crime causation, the nature and extent of crime, and policy responses. (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-261. Law and Social Justice
This course explores the relationships among law, rights, and social justice. It introduces basic legal concepts, theories, and structures and examines how these bear on inequalities and collective efforts to effect social change. (Prerequisite: 48-101 or consent of instructor.)

48-262. Administration of Criminal Justice
This course seeks to provide the student with a basic understanding of some of the fundamental principles of Canadian criminal law and of selected features of the administration of criminal justice in Canada. Topics such as the history and background of the criminal law, the basis of criminal liability, the criminal courts, discretion in the criminal process, and penal policy will be discussed. (Also offered as Law 99-215.) (Open only to students enrolled in Criminology or Certificate in Criminology and Criminal Justice programs.) (Prerequisites: 48-101 and either 48-102 or 49-112.)

48-361. Youth in Conflict with the Law
The course covers theories of delinquency causation, the youth justice system, Young Criminal Justice Act, prevention, and treatment programs. (Prerequisite: 48-260.)

48-362. Victimology
Victimology is a subfield of criminology that Focuses on victims within the study of crime. Topics explored may include: victimology patterns, the process and aftermath of the victimization experience, the involvement and treatment of victims in the criminal justice system, legal remedies and services available to victims, restorative justice initiatives, and victims' rights. (Prerequisite: 48-260.)

48-363. Penology
Study of the correctional institution including the impact of prison on inmates, the prison subculture, prison architecture, and administration, special institutions, and the assessment of education, occupational, recreational, and treatment programs. (Prerequisite: 48-260.) (Restricted to students admitted to third year Criminology or combined Criminology.)

48-367. Corporate and Governmental Crime
This course focuses on understanding corporate and governmental crime and criminal activities of organizational and institutional actors. Issues addressed may include government corruption, genocide, environmental crime, occupational health and safety, food safety, combine offenses, securities and various other kinds of fraud. The development and enforcement of criminal and civil corporate law will be examined along with different theoretical perspectives on criminal behaviour. (Prerequisites: 48-260, 48-261, and 48-262, or consent of instructor.)

48-368. Policing Society
An overview of the institutional context of public and private policing in Canadian society. The student will be introduced to the historical development of policing and to the concepts of police discretion, accountability, organization, and autonomy. (Prerequisites: 48-260, 48-261, and 48-262.)

48-369. Crime Control and Security
This course presents a critical analysis of crime control and community safety in their recent developments. Topics may include: the impact of prevention strategies on environmental design, social programmes, gated communities, the surveillance industry, and community policing. (Prerequisites: 48-207,48-260, and 48-261.)

48-370. Selected Topics in Criminology
Course content varies by instructor and can be taken more than once if content changes. Details about the course will be made available through the department. (Prerequisites: 48-260, 48-261, and 48-262.)

48-371. Alcohol, Drugs, and Society
A primarily social science orientation to alcohol and drugs with a focus on social structure, social learning, and public policy. Advanced concepts and issues surrounding substance use and abuse are introduced in a critical examination of current theoretical and research paradigms. Legislative, law enforcement, treatment, and prevention strategies are described and evaluated. Special topics include problems of alcohol and drugs related to sports, work, crime, and the current "war on drugs". (Prerequisite: 48-260.)

48-372. Political Policing
A critical examination of the policing of politics. Topics may include counter-terrorism, national security, state surveillance, and the role of (national) security politics in the current Canadian and international context. Political policing methods, legislative authorization, and constitutional contexts may also be explored. (Prerequisites: 48-260, 48-261, and 48-262.)

48-460. Social Construction of Deviance
An investigation of theory and research concerned with deviant behaviour. Topics may include: moral entrepreneurs and symbolic crusades, the medicalization on deviance, elite deviance, labeling mental illness and drunk driving, studies of the police, social agencies, correctional programs, and the treatment of mental illness. (Prerequisites: 48-207, 48-210, 48-260, 48-261, 48-262, 48-302 and 48-310 (or 49-355), or consent of instructor.)

48-461. Family Law and Social Policy
This course examines the law and government policies applicable to the family with a view to determining their impact upon the family. Particular

topics may include family law reform, divorce and property rights, the care and custody of children, and definitions of family. (Prerequisites: 48-207, 48-210, 48-260, 48-261, 48-302, and 48-310 (or 49-355), or consent of instructor.)

48-464. Sociology of Law
An investigation of the theoretical and research problems in jurisprudence, legal structures and practice. Focus of the course will vary by instructor. (Prerequisites: 48-207, 48-210, 48-260, 48-261, 48-262, 48-302 and 48-310 (or 49-355), or consent of instructor.)

48-465. Women, Law, and Crime
This course will examine major issues in the study of law and crime relevant to women. It will include a discussion of females as criminal offenders and as victims of crime, as well as addressing a variety of current topics in feminist legal scholarship, such as an examination of legislation governing women's bodies (*e.g.*, abortion, sexual assault, prostitution, pornography, reproductive technologies). Focus of the course will vary by instructor. (Prerequisites: 48-207, 48-210, 48-260, 48-261, 48-262, 48-302, and 48-310 (or 49-355), or consent of instructor.)

48-466. Contemporary Perspectives on Crime
An advanced critical analysis of theory and research on crime. (Prerequisites: 48-207, 48-210, 48-260, 48-261, 48-262, 48-302, and 48-310 (or 49-355), or consent of instructor.)

4.20.5 PROGRAMS OF STUDY - ANTHROPOLOGY

Minor, general degree, four-year Honours degree, and combined four-year Honours degree programs are available in Anthropology.

The Anthropology program in the Department of Sociology and Anthropology is organized around the study and analysis of culture in contemporary and ancient societies.

The major in Anthropology is designed to provide a broad background in cultural issues from the perspectives of archaeology, physical anthropology, and socio-cultural anthropology.

The Honours degree in Anthropology provides a greater depth and understanding of research methods and cultural theory in the discipline. It offers students the opportunity to fulfill the requirements for high school teaching certificates, to become more proficient in dealing with social research, and to allow for greater concentration in specialized areas of anthropology.

Minor in Anthropology

Required: six Anthropology (49-) courses, including 49-111, 49-112; and at least one of 49-213, 49-215, or 49-217.

General Anthropology

Total courses: thirty.

Major requirements: twelve courses, including 49-111, 49-112, four 200-level courses in Anthropology, and six additional Anthropology courses. At least four Anthropology courses must be at or above the 300 level.

Other requirements (see 2.4.14 for subject areas):
(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) four courses from areas of study outside of Social Sciences;
(d) four courses from any area of study, including Anthropology (49-) and any Sociology (48-) courses which are cross-listed with Anthropology;
(e) six courses from any area of study, excluding Anthropology (49-) and any Sociology (48-) courses which are cross-listed with Anthropology.

Honours Anthropology

Total courses: forty.

Major requirements: twenty courses, including 49-111, 49-112, 49-355, 49-356, and 49-415; plus three additional 200-level Anthropology (49-) courses; plus five additional 300-level Anthropology (49-) courses; and six additional Anthropology (49-) courses; plus 02-250.

Other requirements (see 2.4.14 for subject areas):
(a) two Sociology (48-) courses which are not cross-listed with Anthropology (49-);
(b) two courses from Arts or Languages;
(c) two courses from Science;
(d) six more courses from Arts, Languages, Social Sciences, or Science, excluding Anthropology (49-) and any Sociology (48-) courses which are cross-listed with Anthropology;
(e) four more courses from Arts, Languages, Social Sciences, or Science, including Anthropology (49-) and any Sociology (48-) courses which are cross-listed with Anthropology;
(f) four courses from any area of study, excluding Anthropology (49-) and any Sociology (48-) courses which are cross-listed with Anthropology.

Note: Anthropology Honours students interested in graduate studies in Sociology should include the following courses in their program: 48-302, 48-308, plus two courses from 48-403, 48-404, 48-405, 48-406, or their equivalents.

Combined Honours Anthropology Programs

Total courses: forty.

Major requirements-Anthropology: sixteen courses, including 49-111, 49-112, 49-355, 49-356, and 49-415; plus three Anthropology (49-) courses at the 200 level; and five Anthropology (49-) courses at the 300 level; plus two additional Anthropology (49-) courses; and 02-250.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) two courses from Arts or Languages;
(b) two courses from Science;
(c) additional options (if required) to a total of forty.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 49-111; 49-112; four 200-level (49-) courses; 49-356; three 300-level (49-) courses; 49-415; 49-418.

Minor Concentration: 49-111; 49-112; one 200-level (49-) course; 49-356; 49-415; 49-418.

4.20.6 COURSE DESCRIPTIONS - ANTHROPOLOGY

Not all courses listed will necessarily be offered each year. All courses are three hours a week unless otherwise indicated.

Students wishing to concentrate in the area of international development in anthropology should consider the following guide for course selection: 49-112, 49-226 (or 48-226), 48-227, 49-232 (or 48-232), 48-321, 49-325 (or 48-325), 48-327 (or 54-327), 49-330 (or 48-330), 49-331, 48-332, 49-340 (or 48-340), 49-352 (or 48-352), and 49-411 (or 48-411).

49-111. Introduction to Physical Anthropology and Archaeology
An introduction to the biological evolution of humanity and the cultural evolution of human society, including a consideration of the significance of humanity's evolutionary past for an understanding of the contemporary world.

49-112. Culture in Comparative Perspective
An introduction to the variety of human cultures throughout the contemporary world. An examination of the significance of cultural anthropology for overcoming the barriers preventing the understanding of other cultures and ourselves.

49-213. Perspectives on Culture
An examination of the emergence, development, meaning, and idea of culture. The different ways the concept is used in applied anthropology, ethnographic research, and popular discourse are discussed. (Prerequisite: 49-112 or consent of the instructor.)

49-214. Gender and Culture in Anthropology
Current perspectives in anthropology on the intersection of gender and culture. Examines cross-culturally the themes of gender relations, concepts of masculinity and femininity, and gender-related power and politics. (Prerequisite: 49-112.)

49-215. Principles of Physical Anthropology
A study of humans as biological beings, humans in evolutionary context and their specializations; their nearest living relatives and varieties. Sources and the nature of variations in living human populations; significance of the variations and the concept of race; approaches to the problems of evolution of human populations. (Prerequisites: 49-111 and 49-112, or consent of instructor.)

49-217. Principles of Archaeology
A survey of the history, theory, and methods of anthropological archaeology. Emphasis is placed on archaeology's role as a social science, aimed at documenting and explaining past human cultural behaviour. (Prerequisites: 49-111 and 49-112, or consent of instructor.)

49-220. Regional Aboriginal Archaeology
Several important processes in the historical evolution of Native cultures in the Lower Great Lakes region are examined through the results of recent archaeological research. Topics include the peopling of the region, the development of farming, and early interactions with European culture. (Prerequisites: 49-111 and 49-112.)

49-226. Introduction to International Development
An overview of the history and contemporary problems of economic development and underdevelopment and their effects upon marginalized populations; an assessment of issues such as the impact of colonialism, the nature and function of the global economy, the problems of food production, economic dependency, cultural resistance, and social change. (Also offered as Sociology 48-226.) (Prerequisites: any two of 49-111, 49-112, 48-101, 48-102, or 54-100, or consent of instructor.)

49-232. Indigenous Peoples: A Comparative Perspective
A cross-cultural examination of issues concerning indigenous peoples in Canada and other parts of the world through a discussion of topics such as land claims, resource development, resistance, cultural rights, popular movements, and government policy. (Also offered as Sociology 48-232.) (Prerequisites: any two of 49-111, 49-112, 48-101, 48-102, or 54-100.)

49-233. Selected Topics in World Ethnography
Issues arising from the worldwide variation in the human condition are examined using ethnographic descriptions from different parts of the world. Topics may include cultural ecology, political organization, warfare, colonialism, and ethnic and national identities. The topics and cultures discussed may vary from year to year. (Prerequisites: 49-111 and 49-112.)

49-240. Ethnic Relations in Canada
A study of ethnic minorities in pluralistic Canada, with particular focus on immigration trends, theories of assimilation and ethnic retention, policies of multiculturalism, differential adaptation, separatist movements, and the pursuit of collective rights. (Also offered as Sociology 48-240.)

49-241. Race and Racism in Canada
An analysis of the nature and practice of racism, and the role and status of racial minorities in Canada, focusing on causes and consequences of racism, forms of discrimination, anti-racist struggles, and policy initiatives for the creation of an egalitarian society. (Also offered as Sociology 48-241.) (Prerequisites: any two of 49-111, 49-112, 48-101, 48-102, or 54-100, or consent of the instructor.)

49-306. Sociology of Women
An overview of the economic, educational, familial, political, and religious factors affecting the position of women in society. A socio-historical analysis of the change in the roles and status of women in Canada

and internationally with a view to understanding the nature of their impact upon major societal institutions. (Also offered as Sociology 48-306.) (Prerequisites: 49-111 and 49-112, or 48-101 and 48-102.)

49-317. Selected Topics in World Archaeology
Current archaeological thinking on several important episodes of humanity's cultural evolution are discussed. Topics include the human condition in the Pleistocene, the development of farming, the origins of civilization, and the archaeology of ethnicity. (Prerequisite: 49-217.)

49-318. Field School: Excavation and Recovery Methods
An introduction to the use of field recovery methods used in archaeology and/or forensic investigations. Emphasis is placed on the collection of information, analyzing data, description and classification, and interpretation. (Additional fees may be necessary to defray the costs of accommodation or meals on site.) (Prerequisites: 49-111, 49-112, and 49-217.)

49-323. Forensic Anthropology
This course introduces forensic (law-court) archaeology and physical anthropology. It discusses the detection, recovery, and condition of human remains, problems of identification and individualization, and the evidence that human remains can yield about cause and manner of death. (Prerequisite: 49-215, or consent of instructor.) (Restricted to majors in Anthropology, Sociology, Criminology, Family and Social Relations.)

49-325. Introduction to African Development
A multidisciplinary course introducing students to developmental issues currently confronting African countries and peoples, focusing on the sub-Saharan region. Using a sectoral approach, including health, education, agriculture, and the environment, the course reviews multiple and conflicting approaches to development and addresses both the potentials and the barriers associated with them. (Also offered as Geography 42-361 and Sociology 48-325.)

49-330. Latin America: A Comparative Perspective
Selected problems of rural and urban development, the debt crisis, nationalism, and cultural change will be examined through an analysis of specific Latin American countries. (Also offered as Sociology 48-330.)

49-331. Aboriginal Peoples of Canada
An examination of aboriginal communities in Canada and the processes leading to their transformation. The course will focus on specific ethnographic examples and provide an in-depth analysis of different ways of life. (Prerequisite: 49-232 or 48-232 or consent of instructor.)

49-333. Nationalism and Ethnic Conflict
An analysis of ethnic identity, ethnic group formation, ethnopolitical mobilization, nationalism, racism, ethnic conflicts, ethnic violence including genocide, and conflict resolution in various societies throughout the world. (Also offered as Sociology 48-333.) (Prerequisites: any two of 49-111, 49-112, 48-101, 48-102, or 54-100.)

49-336. Medical Anthropology/Sociology
A brief history of the development of the discipline. Problems and the nature of health and diseases in ancient and modern human populations; concepts of health and disease and indigenous medical systems. Aspects of social organization and the prevalence of diseases. Roles of curers, medical practitioners, support staff, patients, and their interrelations; technological innovations and the problems of health. (Also offered as Sociology 48-336.) (Prerequisites: 49-111 and 49-112, or 48-101 and 48-102.)

49-338. Selected Topics in Material Culture
The presentation and interpretation of material artifacts of culture. Topics may include museology, visual displays, the social construction of the past, and may vary from year to year.

49-340. Food and Global Sustainability
A comparative examination of the emergence of a global food system and its implications for culture and the environment. (Also offered as Sociology 48-340.)

49-352. Women and International Development
An examination of the impact of global processes on gender relations, including a consideration of the importance of cross-cultural variations in the family, political/economic systems, and gender ideologies. (Also offered as Sociology 48-352.) (Prerequisite: 49-226, or 48-226, or consent of instructor.)

49-354. Gender, Space, and Time
An examination of sociological and anthropological approaches to the study of space-time relations within the field of gender studies, including a focus on the development of gendered environments and cultural practices. (Also offered as Sociology 48-354.) (Prerequisites: 49-111 and 49-112, or 48-101 and 48-102.)

49-355. Life Histories and Anthropology
An exploration of life history methods as a technique of fieldwork within anthropology, and its relationship to ethics, data collection, and knowledge production. (Also offered as Anthropology 48-355.) (Prerequisite: 49-112 or consent of instructor.)

49-356. Cultural Theory
Through a selective examination of classical theories, this seminar offers a discussion of the value and limitations of interpretive anthropology. (Prerequisite: 49-112 or consent of instructor.)

49-375. Social Justice and Global Change
An examination of issues of social justice arising from the intensification of social and economic inequalities within an increasingly globalized world. Topics may include the emerging international human rights framework, national and transnational struggles to bring about social change, and post-colonialism. (Also offered as Sociology 48-375.) (Prerequisite: 48-101 and either 48-102 or 49-112; or 49-213.)

49-380. Selected Topics in Early Complex Societies
Several Old and New World cases of the rise of complex society or civilization are considered, focussing on such topics as ecological requirements, specialization and stratification, techniques of rule, and the collapse of complexity. (Prerequisites: 49-111 and 49-112.)

49-382. Selected Topics in European Prehistory
Topics including the Mesolithic background, the Early Neolithic origins of farming, the Late Neolithic time of troubles and the Bronze/Iron Age rise of political complexity will be considered with reference to data from Germany, Scandinavia, Poland, Ireland and other regions. (Prerequisite: 49-217.)

49-406. Aboriginal Peoples
Advanced seminar on issues relating to aboriginal peoples in Canada and elsewhere.

49-410. Crime and Culture in a Global Context
This seminar course examines the cultural construction of crime. The course will focus on the effects of imposing laws, methods of judging, and definitions of criminality in various social cultural contexts, including those that are indigenous and colonized. (Also offered as Sociology 48-410.) (Prerequisites: 49-213 or 48-260, and one of 48-310, 49-330, 49-352, 49-355, or 49-375.)

49-411. Challenging Global Development
A critical examination of theories and policies of global development and underdevelopment, including explorations of alternatives to modernization. (Also offered as Sociology 49-411.) (Prerequisites: 48-226 or 49-226, or consent of instructor.)

49-415. Culture, Class, and Power
Discussion of the theoretical issues raised by application of cultural theory in a global context, including a discussion of contemporary theoretical approaches to understanding the way local cultural practice is influenced by macrosocial processes, and including an assessment of the post-modernist critique of anthropology. (Also offered as Sociology 48-415.) (Prerequisites: 48-202 and 48-302, or any two 200-level or higher Anthropology courses, or consent of instructor.)

49-418. Contemporary Ethnography
Contemporary approaches to ethnographic writing, including an exploration of the methodological and theoretical implications of the ethnography in the social sciences (Also offered as Anthropology 48-418.) (Prerequisite: 49-213 or consent of instructor.)

49-425. Field Studies
A field course designed to give advanced students the opportunity to study cultures and environments in Canada and elsewhere. The focus and selected topics will vary with the geographic location. (An additional fee may be charged to cover travel and accommodation costs.) (Also offered as Sociology 48-425.) (Prerequisites: 49-111, 49-112, and three 200- or 300-level courses.)

49-441. Topics in Anthropology
(May be offered as a seminar course if enrollment warrants, or as an independent study course.)

49-445. Directed Studies in Anthropological Research I
The student will carry through a limited research project under the direct supervision of a faculty member. (Prerequisite or corequisite: 49-441.)

49-446. Directed Studies in Anthropological Research II
The student will carry through a limited research project under the direct supervision of a faculty member. (Prerequisite or corequisite: 49-441.)

49-447. Social Justice Practicum
This course offers students the opportunity to apply their academic knowledge within community organization settings. Students will be given the opportunity to learn about the day-to-day operation and structure of a participating social justice agency through observation of, and discussion with, staff and executive members. Students will be assigned a major project to carry out for the agency under the supervision of the course instructor and an on-site practicum supervisor. Students will be expected to meet regularly with the course instructor and to provide oral and written reports on their experience during the term. (Open to Sociology, Anthropology, Criminology, and Family and Social Relations majors with semester 7 standing, major grade average of 9.0, and successful completion of 48/49-375. Additional specific prerequisites: Sociology majors: 48-302; Anthropology majors: 49-213 plus any two 200-level or higher anthropology courses; Family and Social Relations majors: 48-204 and permission of program adviser.) (Course enrollment is limited and a letter of application is required.) (Also offered as Sociology 48-447.)

4.20.7 PROGRAMS OF STUDY - PLANNING

No new majors will be admitted to the Honours Program in Planning. Students currently enrolled in the Planning B.A. program should consult a program advisor or the Dean's office.

4.20.8 COURSE DESCRIPTIONS - PLANNING

50-150. Introduction to Social Planning and Geography
A survey of the development of spatial aspects of urban life, principles of urban land use, and interaction patterns of urban activities. (Also offered as Geography 42-150 and Sociology 48-180.) (3 lecture hours a week.)

50-192. Urban Planning Research Techniques
An introduction to planning and its techniques, such as mapping, remote sensing, surveys, and spatial statistics. Course objectives are to improve basic mathematical and scientific knowledge, essay writing, and computer skills. (Prerequisite: 50-150 or 42-150 or 48-180 or consent of instructor.) (1.5 lecture, 1.5 laboratory hours a week.)

50-231. Intermediate Statistics
After a review of univariate and bivariate statistical methods, an introduction to multivariate statistics for geographers and planners. Computer analysis of selected geographical data sets. (Also offered as Geography 42-231 and Sociology 48-308.) (Prerequisite; 02-250 or equivalent.) (2 lecture, 2 laboratory hours a week.)

50-251. Urban Design
An introduction to the visual and spatial elements which affect urban form. The course includes a survey of analytical methods employed in the design process, such as: assessment and monitoring of user needs, analysis of environmental contexts, and the incorporation of new technologies. (Also offered as Sociology 48-280.) (3 lecture hours a week.)

50-291. Contemporary Architecture
A survey of the roots of contemporary architectural theory through an examination of representative structures since the Industrial Revolution. Students will be introduced to those individuals who have played a central role in the development of architectural thought in North America. (Also offered as Sociology 48-281 and Art History 28-391.) (3 lecture hours a week.)

50-298. Technology and Social Values
An exploration of the mutual influence between technological development and social values. The course entails a study of the history of scientific thought and examines such issues as receptivity to technological change in different societies and different historical eras. Emphasis will be on late modern and contemporary developments such as the effect of computer technology on work, human relations, and the evolution of cities.

50-320. Women, Power, and the Environment
This course focuses on environmental issues as they affect women across cultures. It provides a feminist critical analysis of the power relations in modern societies that cause environmental degradation and examines the theories, policies, and institutions that contribute to unsustainable practices. Emphasis is placed on the women-nature debate within various environmental social movements and the historical role women have played as activists. (Also offered as Women's Studies 53-320.) (Prerequisite: completion of at least ten courses in any program.)

50-337. Social Planning and Geography
An introduction to the history of social geographical ideas, and the modern and post-modern concepts in social geography, with special application to western cities. (Also offered as Geography 42-337 and Sociology 48-380.) (Prerequisite: one of 42-130, 42-131, 42-150, or 48-180, or 50-150.) (3 lecture hours a week.)

50-341. Planning Theory and Methods
A survey of approaches to planning , including strategic and communicative planning; principles of urban design and planning with the natural environment; and an overview of planning tools such as population projection and cost-benefit analysis. (Prerequisite: 50-150.) (3 lecture hours a week.)

50-342. Neighbourhood Planning
The theory and methods of urban planning in Canadian communities, with emphasis on: social issues in inner city neighbourhoods, planning for the inner city, and the roles of planners in residential communities. (Also offered as Sociology 48-381.) (3 lecture hours a week.)

50-391. Design Studio
An introduction to the basic principles and graphic communication skills used in the design of the built environment. The course is project-oriented and introduces the student to spatial organization, site analysis, and presentation techniques employed in planning, architecture, and landscape architecture. (Prerequisite: 50-251.) (1 lecture hour, 2 studio hours a week.)

50-393. Environmental Planning
An introduction to the principles of sustainable development as applied to urban planning. This course will focus on the policies, standards, and practices used in creating and maintaining environmentally responsible communities. Topics will include growth management, mixed land use, adaptive infrastructures, alternative transportation, energy conservation, and waste management.

50-397. Computer-Aided Design/Drafting
Hands-on instruction introducing students to hardware and software involved in computer-aided design/drafting. The course requires students to do a series of projects illustrating the capabilities and applications of the CADD system. (Prerequisite: 50-391 or consent of instructor.) (1 lecture hour, 2 laboratory hours a week.)

50-401. Urban Planning in Ontario
Analysis of the present practice and strategy of urban planning, with particular emphasis on Ontario. Case studies are used to illustrate planning legislation, legal tools (official plans, zoning, sub-division control), establishment of community standards for land use, analysis of traffic and its impact, recurrent land use problem areas (downtown, heritage districts, waterfronts), and site planning. (Prerequisite: 50-341.) (3 lecture hours a week.)

50-403. Housing Policy
A study of social issues related to housing. Emphasis is on the supply, demand, and legal aspects of housing policy, as well as current, pressing issues such as affordability and sustainability. (Also offered as Sociology 48-480.) (3 lecture hours a week.)

50-415. Analysis of Western European Planning Practices
A seminar course focusing on current planning issues: environmental, urban, regional, housing, tourism, transportation, *etc.* (Prerequisite: third year standing or consent of instructor.) (3 lecture hours a week.)

50-450. Advanced Topics in Planning
Directed readings and research on a topic selected in consultation with instructor. (Credit may be obtained for only one of 42-450 or 50-450.) (2 seminar hours a week.)

50-452. Recreation Planning
The process of planning for leisure needs is discussed and carried out through a consultant report. Recreational behaviour, theories, and distributive mechanisms are analyzed. Planning for the recreational needs of specific groups such as children, tourists, and the elderly are examined. (3 lecture hours a week.)

50-490. Research Strategies in Planning
A seminar course on concepts and methodologies in research leading to formulation of a research project. (Also offered as Geography 42-490.) (Prerequisite: four-year Honours, make-up, or special student status with at least twelve courses in Planning, or consent of instructor.)

50-491. Planning Research Projects
Guided research based on primary and secondary sources on a research project. (Also offered as Geography 42-491.) (Prerequisite: 50-490.) (Compulsory for four-year Honours, make-up, or special students.)

4.21 Visual Arts

(Ext. 2828)

OFFICERS OF INSTRUCTION

Professor Emeritus

Baxter, Iain; B.Sc., M.Ed. (Idaho), M.F.A. (Washington State)-1988.

Professors

Gold/Smith, Susan B.; B.A., M.A. (Wayne State)-1970.

Dingler, Daniel W.; B.F.A. (Layton School of Art), M.F.A. (Cranbrook Academy of Art)-1971.

Associate Professors

Farrell, Michael J.; B.A., M.A. (Florida State)-1968.

Law, William C.; B.F.A. (Atlanta School of Art), M.F.A. (Tulane)-1970.

Francis Pekley, Brenda; M.F.A. (Saskatchewan)-2003. (Director of the School)

Assistant Professors

MacDowell, Cyndra; B.A.E. (Queens), M.F.A. (Concordia)-2002.

Torinus, Sigi; B.A. (Academy of Art, Braunschweig, Germany), M.A. (Hameln, Germany), M.F.A. (San Francisco State U.)-2002.

Sessional Lecturers

Duck, Adèle; B.F.A. (Windsor), M.F.A. (Florida State)-1976.

Brown, Brian E.; B.F.A. (Windsor), M.F.A. (Southern Illinois)-1977.

Strickland, Rod; B.F.A. (Windsor), M.F.A. (Tennessee)-1984.

4.21.1 GENERAL INFORMATION

Transfer Students: Students who have taken art courses at other post-secondary institutions and desire credit for basic courses in Visual Arts must submit a portfolio of their own work for evaluation by Visual Arts, together with an official transcript of their record and catalogues describing the courses taken, all of which must be submitted no later than two weeks before the first day of classes. Transfer students who wish to receive art history credit for courses taken at other institutions may be required to take a qualifying examination during the first week of regularly scheduled classes. The examination will cover those Art History courses from which the student wishes to be exempted.

Program Requirements

1) 28-150 must be taken in the first year.

2) Visual Arts students must take 27-105 and 27-106 concurrently in the first term, and 27-107 must be taken in the first year.

3) Registration in any studio courses numbered in the 27-400s requires a successful B.F.A. portfolio evaluation, completion of eighteen studio courses as well as any specific prerequisite course(s). Prior to registering in 400-level courses students must receive advising in Visual Arts.

4) Each fourth-year B.F.A. student who has completed the portfolio evaluation will be required to participate in the B.F.A. Candidates' Exhibit. The selection of work to be exhibited is to be made with the approval of the student's major instructor.

4.21.2 PROGRAMS OF STUDY

A minor is available in Visual Arts. General B.A. degree programs are offered in Visual Arts and Art History. Four-year Honours B.A. degree programs are offered in Visual Arts and Communication Studies, and Visual Arts and Art History. Combined, four-year B.A. Honours programs are available in Visual Arts. An Honours B.F.A. program is offered in Visual Arts.

Requirements for degree programs in Visual Arts make reference to the following groups of courses:

Basic Courses: 27-105, 27-106, 27-107, and Art History 28-150, 28-214 and 28-215.

Drawing: 27-203, 27-303, 27-365, 27-400, 27-401, and 27-470.

Painting: 27-213, 27-313, 27-365, 27-410, 27-411, 27-470.

Printmaking: 27-223, 27-224, 27-326, 27-365, 27-420, 27-421, 27-470.

Sculpture: 27-233, 27-333, 27-365, 27-430, 27-431, 27-470.

Integrated Media (Photography; Time-Based Art; Digital Media and Images): 27-243, 27-245, 27-253, 27-343, 27-345, 27-346, 27-353, 27-365, 27-440, 27-441, 27-470.

Internship: 27-380.

Seminar: 27-490.

Art History: see 3.21.5.

Minor in Visual Arts

Requirements: six Visual Arts courses, one of which must be an art history course; and 2 of which must be in the studio area.

Minor in Studio Art

Requirements: six Visual Arts courses, including one of 28-150, 28-214, or 28-215; 27-105; 27-106; plus 3 additional Visual Arts studio courses at the 200 or 300 level.

Minor in Art History

Requirements: six Visual Arts courses including, one of 27-105, 27-106, 27-107 or 27-110; 28-150; 28-214; 28-215; plus 2 additional art history courses.

General B.A. in Visual Arts

Total courses: thirty.

Major requirements: sixteen courses, including 27-105, 27-106, 27-107, and 27-203, and eight other studio courses numbered 27-213 through 27-390, plus 28-150, 28-214, 28-215, and one other Art History courses.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts.

Other requirements:

(a) two other courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts;
(b) 07-202, 07-203;
(c) four more courses from any area of study, excluding Visual Arts.

General B.A. in Art History

Total courses: thirty.

Major requirements: sixteen courses, including 28-150, 28-214 and 28-215, plus nine other Art History courses chosen in consultation with a program advisor in Visual Arts, plus 27-105, 27-106, and 27-107, and one 200-level studio course.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts.

Other requirements:

(a) two other courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts;
(b) 07-202, 07-203;
(c) four more courses from any area of study, excluding Visual Arts.

B.A. Honours in Visual Arts and Communication Studies

Total courses: forty.

Major requirements-Visual Arts: seventeen courses, consisting of 27-105, 27-106, and 27-107, plus eleven other studio courses numbered 27-203 through 27-390 (at least four courses must be at the 300 level), plus 28-150, 28-214, and 28-215.

Major requirements-Communication Studies: sixteen courses including 40-101, 40-200, 40-202, 40-225, 40-234, 40-257, 40-275 plus nine additional courses, at least three of which must be at the 300 or 400 level, and at least two of those must be at the 400 level.

Other requirements: at least two Language or Science courses; plus five additional options.

B.A. in Honours Visual Arts and Art History

Total courses: forty.

Major requirements-Visual Arts: fourteen courses, consisting of 27-105, 27-106, and 27-107, plus eleven other studio courses numbered 27-203 through 27-390 (at least four courses must be at the 300 level).

Major requirements-Art History: fourteen courses, including 28-150, 28-214 and 28-215, plus eleven other Art History courses numbered 28-300 through 28-456.

Other requirements:

(a) four courses in the same foreign language;
(b) four History courses chosen in consultation with an Art History advisor;
(c) four options from any area of study, excluding Visual Arts (27-) and Art History (28-).

Combined B.A. Honours Degree Programs

Total courses: forty.

Major requirements-Visual Arts: seventeen courses, consisting of 27-105, 27-106, and 27-107, plus eleven other studio courses numbered 27-203 through 27-390, with at least four courses at the 300 level, plus 28-150, 28-214, and 28-215.

Major requirements-Other Subject: as prescribed by that area of study.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts.

Other requirements: additional options (if required) to a total of forty courses.

Bachelor of Fine Arts in Visual Arts

Total courses: forty.

Major requirements: 27-105, 27-106, 27-107, 27-203, 27-303, 27-370, and 27-490; plus four other 200-level courses, one from each of the following four areas: painting, printmaking (Intaglio, Lithography), sculpture, integrated media (Photography, Time-Based Art, Digital Media and Images), and nine additional studio courses; and two workshop courses not necessarily in the same studio area; and two major studio courses from the same studio area; plus 28-150, 28-214, 28-215, and three other Art History courses; and a positive B.F.A. portfolio evaluation.

Option requirements (see 2.4.14 for subject areas): six courses including

(a) two Social Science courses;
(b) two Language courses in the same language or two Science courses;
(c) two additional courses from Arts, Languages, Social Sciences, or Science, excluding Visual Arts.

Other requirements: four additional options.

Portfolio Evaluation: A successful portfolio evaluation is required. Additionally, studio courses numbered in the 27-400s, which are necessary for completion of the B.F.A. degree, are restricted to students who have received a successful portfolio evaluation.

Before submitting a portfolio, the student must have earned credit in at least: 27-105, 27-106, 27-107, 27-203, 28-214, and 28-215; plus four other 200-level courses, one from each of the following four areas: painting, printmaking (Intaglio, Lithography), sculpture, integrated media (Photography, Time-Based Art, Digital Media and Images), and at least two additional 300-level studio courses. The student also must have a minimum average of 5.0 in Art History courses.

Students who are otherwise in good standing, but whose portfolio evaluation is not successful may:

(a) be allowed to continue in the B.F.A. program on a conditional basis, subject to re-evaluation;
(b) be allowed to transfer to the general Bachelor of Arts-Visual Arts program.

Consult a program advisor in Visual Arts for details regarding portfolio requirements and procedures.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 27-105, 27-106, 27-107, 28-150; eight additional Visual Arts courses at the 200-level or above including four 300-level or above courses.

Minor Concentrations: 27-105, 27-106, 28-150; three additional Visual Arts courses at the 200-level or above.

4.21.3 MASTER OF FINE ARTS

Visual Arts offers a two-year graduate program leading to the Master of Fine Arts degree, with areas of research in Painting/Drawing, Sculpture, Printmaking and Integrated Media (Video, Sound, Photography and Digital Arts). For complete information consult the Graduate Calendar.

4.21.4 COURSE DESCRIPTIONS - VISUAL ARTS

Not all courses listed will necessarily be offered each year. Studio courses are six hours a week unless otherwise indicated. Art History courses are three hours a week unless otherwise indicated. Prerequisites for all Art History courses are waived for non-Visual Arts majors.

27-105. Studio Fundamentals
Introduction to the basic vocabulary, concepts, and processes of form in visual arts. Includes an exploration of media such as photography and video. (Must be taken concurrently with 27-106 by students in Visual Arts programs.) (Lab fees may apply.)

27-106. Studio Fundamentals
Introduction to the basic vocabulary, concepts, and materials of form in visual arts. Includes an examination of issues in contemporary art and art criticism. (Must be taken concurrently with 27-105 by students in Visual Arts programs.) (Lab fees may apply.)

27-107. Studio Fundamentals
Introduction to the basic vocabulary, concepts, and materials of drawing. (Lab fees may apply.)

27-110. Introductory Drawing (for Non-Majors)
This course introduces a variety of approaches to drawing including drawing from observation, memory and imagination. A range of media and techniques in charcoal, graphite, pen and ink is explored. Additional emphasis is placed on the analysis of aesthetic and expressive aspects of two-dimensional form. (May not be taken for credit in Visual Arts and Combined Visual Arts Programs.) (Lab fees may apply.)

The following courses are open to Visual Arts students only.

27-203. Introductory Drawing
Media, techniques, vocabulary, and concepts of drawing, including the human figure and other subject matter. Development of drawing skills with exposure to more complex drawing situations, approaches, and points of view. Emphasis on a variety of materials (traditional and non-traditional). (Prerequisites: 27-105, 27-106, and 27-107.) (Lab fees may apply.)

27-213. Introductory Painting
Introduction to traditional and contemporary painting concerns, problems in rendering three-dimensional form in space and organization of the two-dimensional surface. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-223. Introductory Printmaking-Intaglio
Introductory and intermediate techniques of contemporary printmaking

practice are taught through Intaglio. The techniques of etching, engraving and monoprints are emphasized. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-224. Introductory Printmaking-Lithography
Introductory and intermediate techniques of contemporary printmaking practice are taught through Lithography including the concept of multiples and retrievability of image through stone, plate, transfer methods and papermaking. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-233. Introductory Sculpture
An introduction to the various concepts and processes of contemporary sculpture practice. Issues will be addressed through group discussion and practical application. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-243. Introduction to Time-Based Art
An introduction to the basic concepts, tools and techniques in production and post-production for digital video, analogue and digital sounds as well as an initiation to performance in relation to video and sound art making. Studio assignments and readings will stimulate students to explore inherent issues related to these media in contemporary art. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-244. Digital Photographic Technologies in Forensics
Students will have the knowledge and skills to create and manipulate state of the art computer enhanced photographic images documenting scenes of crime, forensic evidence, and forensic exhibits for courtroom presentation. They will also have a critical understanding of the fine line between computer enhancement and computer forgery. (Prerequisite: Open only to students in the Bachelor of Forensic Science program.)

27-245. Digital Media and Images
This course introduces students to the tools used to create art in virtual space, the history and investigation of the social, cultural and aesthetic issues pertinent to digital art making. (Prerequisites: 27-105 and 27-106.) (Lab fees may apply.)

27-253. Introductory Photography
This introductory course in chemical and digital photographic processes provides an opportunity for students to explore techniques and concepts within the medium of photography. Students will learn the basic technical skills of operating cameras, processing film, making black and white prints, and digital imaging through a series of concerns specific to photography. (Prerequisites: 27-105 and 27-106.) (Also offered as Communication Studies 40-205.) (Students must have a 35mm adjustable camera to complete this course.) (Lab fees may apply.)

27-303. Drawing
Advanced problems in drawing, emphasizing individual directions, concepts, and various media. (Prerequisite: 27-203.) (May be repeated for credit.) (Lab fees may apply.)

27-313. Painting
Development of the concepts and painting skills encountered in 27-213. Exploration of the creative potential, range, and flexibility of non-traditional techniques, forms and media. (Prerequisites: 27-107 and 27-213.) (May be repeated for credit.) (Lab fees may apply.)

27-326. Printmaking
Continued development of contemporary printmaking practice. Further investigation of process-oriented issue-based image making, with emphasis on student's chosen direction. Students are encouraged to expand their analytical, experimental and creative skills. (May be repeated for credit.) (Prerequisites: one 200-level printmaking course.) (Lab fees may apply.)

27-333. Sculpture
An in-depth study of concepts and processes as they pertain to contemporary sculpture practice. Issues will be addressed through group discussion and practical application. (Prerequisites: 27-107 and 27-233.) (May be repeated for credit.) (Lab fees may apply.)

27-343. Time-Based Art
This course explores applications and concept development of sound, performance and video in relation to physical and cultural spaces: environmental, architectural, popular culture, etc. This studio course encourages the thoughtful engagement of complex ideas through visual and/or audio means within some of the issues in visual culture and contemporary art practices. (Prerequisite: 27-243.) (May be repeated for credit.) (Lab fees may apply.)

27-345. Digital Media and Interactivity
This course introduces students to the basic concepts and tools of interactive multimedia as a creative medium in real space. Students will experiment with interactive structures for creative content development using digital images, sound, text, etc. for disk-based delivery environments. The acquisition of the technical knowledge will be grounded within an exploration of aesthetic and social issues. (May be repeated for credit.) (Prerequisite: 27-245.) (Lab fees may apply.)

27-346. Advanced Digital Media
This course acts as a forum for the critical and artistic development of digital media. Based on studio projects, research and discussions, students will be expected to broaden their approaches to art making in various techniques and processes of digital media. Students will be stimulated towards the development of imaginative and critical skills. (May be repeated for credit.) (Prerequisites: 27-345.) (Lab fees may apply.)

27-353. Advanced Photography
Continuation of the study of traditional and digital imaging processes in the area of camera use, black and white, and related darkroom and digital image techniques. Discussion, critiques and readings encourage students to expand their analytical and creative skills. Experimental approaches to the use of the photographic image, ideas and content are emphasized. (Prerequisite: 27-253.) (May be repeated for credit.) (Students must have a 35mm adjustable camera to complete this course.) (Lab fees may apply.)

27-365. Independent Studio
Individual work on specific projects under the guidance of an instructor.

Consult a program advisor in Visual Arts for areas of study offered. (Prerequisite: one 300-numbered studio course in the subject desired and consent of instructor.) (May be repeated for credit.) (Lab fees may apply.)

27-370. Critical Issues
Development of an understanding of issues which have been addressed by contemporary artists and critics contextualized in history and artistic practices with an emphasis on individual student's concerns. (Prerequisites: 27-105 and 27-106.) (Restricted to B.F.A. Visual Arts students only after successful completion of portfolio review.) (Lab fees may apply.)

27-380. Visual Arts Internship
Practical work experience in arts organizations such as art centres, galleries, artists' studios, and visual arts related professional businesses. (Offered on a Pass/Non-Pass basis.) (Restricted to B.F.A. Visual Arts Majors in good standing after successful completion of portfolio review, and to Visual Arts Combined Honours with an average of 9.0 or better and with permission of the Visual Arts Internship Coordinator.) (100 hours total.)

27-390. Studies in the Visual Arts
Special projects, topics or cross-disciplinary undertakings in the Visual Arts, organized periodically. Specific information on course content will be available from Visual Arts (Prerequisites: consent of instructor.) (May be repeated for credit.) (Lab fees may apply.)

27-400. Studio Major-Drawing
The advanced student is given wide range to work in a chosen medium to synthesize accumulated knowledge and experience with individual criticism provided by the instructor. (Prerequisites: three 300-level drawing courses.) (12 hours a week.) (May not be taken concurrently with more than one 300-level studio course.) (Lab fees may apply.)

27-401. Studio Major-Drawing
The advanced student is given wide range to work in a chosen medium to synthesize accumulated knowledge and experience with individual criticism provided by the instructor. (Prerequisite: 27-400.) (12 hours a week.) (May not be taken concurrently with 300-level studio courses.) (Lab fees may apply.)

27-410. Studio Major-Painting
The advanced student is given wide range to work in a chosen medium and to synthesize accumulated knowledge and experience with individual criticism provided by the instructor. (Prerequisite: three 300-level painting courses.) (12 hours a week.) (May not be taken concurrently with more than one 300-level studio course.) (Lab fees may apply.)

27-411. Studio Major-Painting
The advanced student is given wide range to work in a chosen medium and to synthesize accumulated knowledge and experience with individual criticism provided by the instructor. (Prerequisite: 27-410.) (12 hours a week.) (May not be taken concurrently with 300-level studio courses.) (Lab fees may apply.)

27-420. Studio Major-Printmaking
The student is given wide range to experiment in chosen print media and to synthesize accumulated knowledge and experience with the instructor acting in an advisory capacity. (Prerequisite: three 300-level printmaking courses.) (12 hours a week.) (May not be taken concurrently with more than one 300-level studio course.) (Lab fees may apply.)

27-421. Studio Major-Printmaking
The student is given wide range to experiment in chosen print media and to synthesize accumulated knowledge and experience with the instructor acting in an advisory capacity. (Prerequisite: 27-420.) (12 hours a week.) (May not be taken concurrently with 300-level studio courses.) (Lab fees may apply.)

27-430. Studio Major-Sculpture
The advanced student is given free range to work in a chosen medium and to synthesize previous knowledge and experience with the instructor providing advice and criticism. (Prerequisite: three 300-level sculpture courses.) (12 hours a week.) (May not be taken concurrently with more than one 300-level studio course.) (Lab fees may apply.)

27-431. Studio Major-Sculpture
The advanced student is given free range to work in a chosen medium and to synthesize previous knowledge and experience with the instructor providing advice and criticism. (Prerequisite: 27-430.) (12 hours a week.) (May not be taken concurrently with 300-level studio courses.) (Lab fees may apply.)

27-440. Studio Major - Integrated Media Art
Working under the supervision of an instructor, students begin to define a methodology and critical language for their emerging media practice. Projects are self-directed. Students will be expected to contextualize their studio work within contemporary aesthetic, social and cultural issues. (Prerequisites: 3 out of any of the following 300-level Integrated Media Art courses: Time-Based Art, Digital Media, Advanced Photography.) (12 hours a week.) (May not be taken concurrently with more than one 300-level studio course.) (Lab fees may apply.)

27-441. Studio Major - Integrated Media Art
Working under the supervision of an instructor, students continue to define a methodology and critical language for their emerging media practice. Projects are self-directed. Students will be expected to contextualize their studio work within contemporary aesthetic, social and cultural issues. (Prerequisite: 27-440.) (12 hours a week.) (May not be taken concurrently with 300-level studio courses.) (Lab fees may apply.)

27-470. Workshop
Individual work on specific projects under the guidance of an instructor. Consult Visual Arts for specific areas of study offered. (Prerequisite: one 300-level studio course in the subject area desired and the consent of the instructor and a program advisor in Visual Arts.) (May be repeated once for credit.) (Lab fees may apply.)

27-490. Seminar
Investigation of professional practice and contemporary developments in the arts may include group discussion, visits to galleries, projects, lec-

tures, written assignments. (Restricted to students registered in 400-level Honours Thesis Studio Courses in the B.F.A. program only.) (Lab fees may apply.)

4.21.5 COURSE DESCRIPTIONS - ART HISTORY

Not all courses listed will necessarily be offered each year. Prerequisites for all Art History courses are waived for non-Visual Arts majors. Art History courses are three hours a week unless otherwise indicated.

28-150. Contemporary Visual Culture
A critical investigation of the visual imagery and artifacts of contemporary culture. Drawing upon examples from TV, advertising, cinema, cyber culture, architecture, design and art, students are introduced to such concepts as spectacle, kitsch, simulacrum, hypertext paradigm. (Lab fees may apply.)

28-214. Survey of Art History: Ancient to Medieval
History of art from prehistoric through medieval, with an introduction to composition, the language of the plastic arts and its relationship to culture. (Prerequisite: 28-150.) (Students cannot receive credit for both 28-114 and 28-214.)

28-215. Survey of Art History: Renaissance to Modern
History of art from Italian Renaissance to the twentieth century, with emphasis on the influence of social and philosophical ideas. (Prerequisite. 28-150.) (Students cannot receive credit for both 28-115 and 28-215.)

28-300. Ancient Near East Art
A comprehensive study of the art of Egyptian and Mesopotamian civilizations with emphasis upon those periods which had distinct cultural influence upon the peripheral areas of the Eastern Mediterranean. (Prerequisites for Visual Arts majors: 28-114 and 28-115, or 28-214 and 28-215.)

28-307. Renaissance Art I
The Renaissance in Italy during the fifteenth century with special attention given to the architecture, sculpture, and painting of Florence. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-308. Renaissance Art II
The art of the Renaissance in Italy with a major consideration of the architecture, sculpture, and painting produced in Rome and Venice during the sixteenth century. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-331. Nineteenth-Century European Art
An analysis of the major movements in European painting during the nineteenth century including Neo-Classicism, Romanticism, Realism, Impressionism, and Post-Impressionism. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-336. Early Medieval Art
An examination of the painting, sculpture, and architecture of Europe including the Early Christian, Byzantine, Hiberno-Saxon, Carolingian, and Ottonian periods. (Prerequisite for Visual Arts majors: 28-214.)

28-337. Later Medieval Art
An examination of the evolution of architecture and sculpture in Europe during the Romanesque and Gothic periods. (Prerequisite for Visual Arts majors: 28-214.)

28-338. Islamic Art
An examination of important trends in the artistic development of the Muslim era, including the Umayyad, Tulunid, Fatamid, Seljuk, Mongol, Nasrid, Mamluk, Ottoman, Timurid, Safvid, and Mughal dynasties. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-339. Japanese Art
The architecture, sculpture, and painting of Japan and the relationship of Japanese culture to continental artistic developments. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-340. Art of India
A general survey of Indian architecture, sculpture, and painting with particular emphasis on the development of the Buddha Image. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-341. Art of China
An examination on the architecture, sculpture, and painting of China from the Shang through the Ching dynasties. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-342. The Development of American Art
A study of the art and architecture created in the United States from Colonial times to the twentieth century. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-343. Canadian Art
A study of the development of visual art in Canada from its early beginnings to the present. Gallery visits and primary sources in Ontario will supplement class lectures and readings. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-345. Art of the Twentieth Century-Post-1940
An examination of the sources, movements, and major figures contributing to twentieth century art in Europe and North America from 1940 on. (Prerequisites for Visual Arts majors: 28-214 and 28-215.)

28-391. Contemporary Architecture
A survey of the roots of contemporary architectural theory through an examination of representative structures since the Industrial Revolution. Students will be introduced to those individuals who have played a central role in the development of architectural thought in North America. (Also offered as Sociology 48-281 and Planning 50-291.) (Prerequisites for Visual Arts majors: 28-214 and 28-215.) (3 lecture hours a week.)

28-400. Directed Individual Studies
This course involves examination of a particular problem in a specific area of interest in which a paper will be required. May be repeated for credit with permission of Visual Arts. For specific topics consult a program advisor in Visual Arts. (Prerequisites: 28-214, 28-215, a 300-numbered course in the subject desired and consent of the instructor.)

28-456. Proseminar
A Proseminar course based on group encounters with particular studies in the History of Art, which will be considered by means of readings, discussions, papers, and museum trips. May be repeated for credit with permission. For specific topics consult a program advisor in Visual Arts. (Prerequisites: 28-214, 28-215, and consent of the instructor.)

4.22 Women's Studies

(Ext. 2315)

Program Chair:
Forrest, Anne; B.Sc., M.I.R. (Toronto), Ph.D. (Warwick)-1985. (Associate Professor, Odette School of Business.)

PROGRAM ADVISORY MEMBERS

Professors

Carty, Laurie; Reg.N., B.Sc.N., B.A., M.Ed. (Windsor), Ph.D. (Wayne State)-1980. (Professor, Nursing)

Milne, Pamela J.; B.A., M.A. (Windsor), Ph.D. (McGill)-1984. (Professor, Religious Studies)

Lovett-Doust, Lesley; B.Sc. (Edinburgh), Ph.D. (Wales)-1988. (Professor, Biological Studies)

Senn, Charlene Y.; B.Sc., M.Sc. (Calgary), Ph.D. (York)-1992. (Professor, Psychology)

Associate Professors

Holman, Margery J.; B.A., B.P.H.E. (Windsor), M.Ed. (Wayne State), Ph.D. (Michigan State)-1970. (Associate Professor, Kinesiology)

Cassano, D. Rosemary; B.A., B.S.W., M.S.W., Ph.D. (Toronto), R.S.W.-1979. (Associate Professor, Social Work)

Simmons, Christina; A.B. (Radcliffe), M.A., Ph.D. (Brown)-1990. (Associate Professor, History)

Straus, Barrie Ruth; B.A. (Oregon), M.A., Ph.D. (Iowa)-1990. (Associate Professor, English)

Ilcan, Suzan M.; B.A. (Saint Mary's), M.A. (Dalhousie), Ph.D. (Carleton)-1994. (Associate Professor, Sociology)

Kane, Deborah; Reg.N., B.Sc.N. (Windsor), M.Sc.N. (Western Ontario), Ph.D. (Michigan)-2003. (Associate Professor, Nursing)

Assistant Professors

Mogyorody, Veronika; B.A. (Windsor), M.A. (Wayne State), B.Arch. (Detroit), Ph.D. (Rensselaer)-1976. (Assistant Professor, Sociology)

Davison, Carol Margaret; B.A. (Concordia), M.A. (York), Ph.D. (McGill)-2000. (Assistant Professor, English)

Holbrook, Susan; B.A. (Victoria), M.A., Ph.D. (Calgary)-2000. (Assistant Professor, English)

Sessional Lecturer

Parr, Katherine E.; B.A., M.A., M.Ed. (Windsor)-1982. (Sessional Lecturer, Philosophy)

Librarian

Wolfe, Martha K.; A.B., Emmanuel College (Boston); M.L.S., University of Pittsburgh-1970. (Librarian IV, Collection Services)

Other faculty teaching courses that fulfill the requirements for degree programs in Women's Studies are listed in the "Officers of Instruction" for many different areas of study in Arts, Languages, Social Sciences, Science, and Business.

4.22.1 PROGRAMS OF STUDY

Minor, certificate, general degree, four-year Honours degree, and combined four-year Honours degree programs are available in Women's Studies.

Program requirements in Women's Studies make reference to Women-Emphasis courses. These currently include: English 26-128, 26-301; Philosophy 34-236; Communication Studies 40-362; History 43-216, 43-249, 43-250, 43-335, 43-463; Political Science 45-211; Psychology 46-240, 46-440, 46-445, 46-463; Sociology 48-204, 48-205, 48-206, 48-306, 48-329, 48-350, 48-351, 48-352, 48-354, 48-408, 48-409, 48-461, 48-465; Anthropology 49-214, 49-306, 49-350, 49-352; Nursing 63-241, 63-243; and Kinesiology 95-405.

Various areas of study from time to time offer courses dealing specifically with women under specific course titles or general titles such as, "Special Topics", "Directed Readings", or "Seminars". Information regarding such courses will be available from a program advisor in Women's Studies and they may be taken with permission of the program.

Minor in Women's Studies

Requirements: six Women's Studies (53-) courses, including 53-100.

Certificate in Women's Studies

See "Certificate Programs", 4.23.5.

General B.A. in Women's Studies

Total courses: thirty.

Major requirements:

(a) Women's Studies 53-100, at least two of 53-200, 53-201 or 53-310, plus one of 53-300 or 53-301;
(b) six Women's Studies or Women-Emphasis courses, with at least one at the 100-level.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Arts or Languages;
(b) two courses from Science*;
(c) two courses from Social Sciences, excluding Women's Studies (53-);
(d) fourteen additional courses from any area of study, no more than six of which may be Women's Studies (53-).

* 53-220, 63-241, and 63-243 will satisfy a Science requirement for non-Science majors.

B.A. in Honours Women's Studies

Total courses: forty.

Major requirements:

(a) Women's Studies 53-100, at least two of 53-200, 53-201, or 53-310, plus 53-300, 53-301, and 53-400;
(b) fourteen Women's Studies or Women-Emphasis courses with at least one at the 100-level and one at the 400-level.

Other requirements (see 2.4.14 for subject areas):

(a) two courses from Arts or Languages;
(b) two courses from Science*;
(c) two courses from Social Sciences, excluding Women's Studies (53-);
(d) fourteen additional courses, no more than four of which may be Women's Studies (53-).

* 53-220, 63-241, and 63-243 will satisfy a Science requirement for non-Science majors.

Combined Honours Women's Studies

Total courses: forty.

Required -Women's Studies: 53-100; at least two of 53-200, 53-201, 53-310; plus 53-300, 53-301, and 53-400; plus ten Women's Studies or Women-Emphasis courses with at least one at the 100 level and at least one at the 400 level.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements: as prescribed by the other area of study; plus additional courses to a total of forty.

Honours Bachelor of Social Work in Social Work and Women's Studies (Combined Honours)

Total courses: forty-four

Major requirements - Social Work: 47-117, 47-118, 47-204, 47-210, 47-303, 47-304, 47-336, 47-337, 37-344, 47-361, 47-362, 47-363, 47-364, 47-436, 47-437, 47-447, 47-462, 47-463, 47-464 plus 3 additional Social Work electives.

Major requirements - Women's Studies: 53-100, 53-201, 53-220, 53-300, 53-301, 53-310, 53-347, 53-370, 53-400, 53-458, 53-470; plus 3 Women's Studies (53-) electives, and 2 Women's Studies/Women's Emphasis electives.

Other Requirements:

(a) one Science elective;
(b) 02-02-250;
(c) four courses from any area of study, excluding Social Work and Women's Studies.

RECOMMENDED COURSE SEQUENCE

Ten courses in Year 1: 47-117, 47-118, 53-100, 53-201, 1 Women's Studies elective, 2 Women's Studies/Women's Emphasis electives and 3 courses from any area of study, excluding Social Work and Women's Studies.

Ten courses in Year 2: 47-204, 47-210, 53-310, 53-458; 53-220 and another science credit, 2 Women's Studies electives, 02-02-250, and 1 elective from any area of study, excluding Social Work and Women's Studies.

Twelve courses in Year 3: 47-303, 47-304, 47-336, 47-337, 47-344, 47-361, 47-362, 47-363, 47-364, 53-347, 53-370; 53-300 or 53-301.

Twelve courses in Year 4: 47-436, 47-437, 47-447, 47-462, 47-463, 47-464, 53-470, 53-300 or 53-301, 53-400 plus 3 Social Work electives.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 53-100; 53-220; 53-300; 53-301; two of 53-200, 53-201 or 53-310; six additional Women's Studies or Women's Emphasis courses, at least two of which must be at the 300-level or above.

Minor Concentration: 53-100; 53-220; four additional Women's Studies courses at least one of which can be at the 100-level and at least one of which must be at the 300-level or above.

4.22.2 COURSE DESCRIPTIONS

53-100. Women in Canadian Society
An introduction to Women's Studies of an interdisciplinary nature, designed to illustrate and account for the position of women in Canadian society. Possible areas of enquiry include health, law, politics, history, women and work, representation of women in literature, Canadian women artists and musicians.

53-106. Women and Religion
A comparative, feminist-critical exploration of the status of women and women's religious experience in selected examples of traditional (*e.g.*, Judaism, Christianity, Islam, Hinduism, Buddhism) and non-traditional (*e.g.*, Goddess religions, Wicca, Feminism) religions, ancient and modern. (Can be taken for either Social Science or Arts credit.)

53-120. Gal Pals: Women and Friendship Over Time
This course examines women's friendships across a wide sweep of time and place. Through discussion, reading, and films we will explore topics such as the meaning of friendship for women, how women's friendships have been portrayed in literature and film, the link between friendship and social activism for women, and the political meanings of women's friendship in cultures resistant to woman-centered consciousness.

53-200. History of Women's Movements in North America
An exploration of the collective action of women in the past and present in North America. Areas of study may include women's involvement with the temperance, civil rights, suffrage, trade union, environmental, reproductive rights, and women's liberation movements. (Also offered as History 43-251.)

53-201. Women and Diversity
Examines the intersection of gender with other oppressions experienced by groups such as women of colour, older women, disabled women, working-class women, and lesbians. The perspective taken is the critical analysis of gender offered by feminism(s). (Also offered as Sociology 48-251.)

53-215. Religion and Sexuality
The role of religion in shaping, positively and negatively, the understanding of sexuality and sexual roles. The impact of current re-evaluations of bodiliness and feminine-masculine stereotyping on societal views of marriage, premarital sex, homosexuality, *etc.* (Can be taken for either Social Science or Arts credit.)

53-220. Biology of Sex and Gender
Human reproductive "strategies" are investigated within a framework of evolutionary biology. Attributes of sex and gender are explored as continuous variables resulting from physiological, endochrinological, and phylogenetic factors, along with environmental and cultural influences on sex and gender. Problems of gender chauvinism and biological determinism are discussed. (Prerequisite: Grade 12"U" Biology or equivalent, or any university-level Biology course, or consent of the instructor.) (Can be taken for either Social Science or Science credit.)

53-225. Feminist Theology
An introduction to the various dimensions of feminist theology. These include: post-Christian feminism; feminist hermeneutics; liberation theology; and the stories, both fiction and non-fiction, of women's lives. Students are encouraged to study the material in relation to their own lives and values. (Can be taken for either Social Science or Arts credit.)

53-230. Gender and Moral Choice
This course examines how gender affects personal and public definitions of moral problems and their resolution. Issues such as reproductive choices, childrearing, poverty, and war will be used to explore these ideas. (Can be taken for either Social Science or Arts credit.)

53-240. Helpmates, Harlots, Deliverers, and Disciples: Women and the Bible
A feminist-critical examination of selected passages from the Hebrew bible (Tanak/Old Testament), the Apocrypha, and/or the New Testament, focusing on gender ideology and the depiction of the legal, social, and religious status of women in ancient Israel, early Judaism, and/or early

Christianity. The course will also explore the ways in which biblical gender ideology continues to shape attitudes toward women in contemporary societies. (Can be taken for either Social Science or Arts credit.)

53-250. Women, Movement and Performance
This course explores how women come to know themselves and others through their bodies, gender and racial stereotypes, body image and body language, women's use of space, the gendered construction of sport, and movement as a cultural message. (Prerequisite: one Women's Studies course.)

53-260. Women in the Global Economy
This course introduces students to gender-sensitive analysis of the role of women in the global economy. Course materials cover the place of women in the international division of labour, the role of women in export-oriented industries in the "Third World," and women as "homeworkers" in the First and Third World. Students will utilize relevant empirical material to develop critical thinking and an understanding of gender inequalities in the "development process." (Prerequisites: at least Semester 3 standing.)

53-300. The Meaning of Feminist Inquiry
An exploration of diverse feminist theories supporting women's studies scholarship within the humanities, social sciences, and natural sciences, and the relationship between feminist theories and practices. By deconstructing traditional narratives, students examine questions of identity, objectivity,and evidence. (Prerequisites: two of 53-200, 53-201, or 53-310, or consent of the instructor.)

53-301. Frameworks for Feminist Research
An exploration of the diverse approaches to feminist research in a variety of fields. Students will examine the core questions and approaches that various disciplines bring to the study of women. (Prerequisites: two of 53-200, 53-201, or 53-310, or consent of the instructor.)

53-310. Women and the Law
This course examines the relationship between gender inequality and the legal system. Topics include abortion, marriage, divorce, custody, equal pay, sexual harassment, rape, pornography, and prostitution. Students are introduced to basic legal research tools, such as statutes, regulations, cases, and legal literature. (Prerequisites: two Women's Studies courses.)

53-320. Women, Power, and Environments
This course focuses on environmental issues as they affect women across cultures. It provides a feminist critical analysis of the power relations in modern societies that cause environmental degradation and examines the theories, policies, and institutions that contribute to unsustainable practices. Emphasis is placed on the women-nature debate within various environmental social movements and the historical role women have played as activists. (Also offered as Planning 50-320.) (Prerequisite: at least Semester 3 standing.)

53-330. Victims, Survivors, and Warriors: Violence in the Lives of Women and Girls
An interdisciplinary exploration of violence against women and girls locally and globally. The course will explore the power of language to shape our understanding of issues, the many forms of subtle and explicit violence, the impact of violence on the individual and the status of women, and the creative resistance of women and girls, among other issues. (Prerequisites: two Women's Studies courses and at least semester 4 standing.)

53-340. Women and War
This course examines war through women's eyes, including home fronts during wartime in both combat and non-combat zones, women in combat, the effects of various military tactics and strategies on women, war crimes against women, women refugees, women's activism on war-related issues, and media coverage of women and war. (Prerequisite: two Women's Studies courses and at least semester 4 standing.)

53-347. Abuse in the Family
Examines aspects of abuse and violence in the family. The primary focus is on generalist social work family intervention in cases of abuse or violence, and on societal provision for sheltered separation and family reconstitution or dissolution. (Open to senior students. Social Work majors or combined Social Work/Women's Studies majors will be given registration priority.) (Also offered as 47-347.)

53-350. Special Topics
The content will vary to reflect student need and faculty expertise and may be offered as a cross-listed course with other programs. (Prerequisite: at least semester 4 standing.) (May be repeated for credit if content varies.)

53-360. Women at Work
This course examines women's work experiences in the workplace and in the household from a critical perspective. Topics include the division of labour by sex, the value of women's labour, sexual harassment, and women's union participation. (Prerequisite: 71-140 or 53-100 and semester 4 or above standing.) (Also offered as 71-347.)

53-370. Mothering and Motherhood
This course examines Western society's ideas of motherhood, in particular, the social construction of "good" and "bad" mothers, from an interdisciplinary perspective. Differences associated with class, race, ethnicity, and sexual preference will be considered. (Prerequisite: three Women's Studies courses and at least semester 4 standing.) (Also offered as Social Work 47-370.)

53-380. Feminist Literary Dimensions of the Hebrew Bible
A feminist exploration of the Hebrew Bible as a literary text. Using the work of major feminist biblical scholars, the course will explore rhetorical strategies, characterization, narrative voice, themes, motifs and other literary dimensions of the Hebrew Bible to see how they contribute to the production of gender ideologies in the text. Feminist strategies for rereading, exposing and deconstructing male-authored images of women and femaleness in biblical texts will be examined. (Prerequisite: 53-240.) (Can be taken for either Social Science or Arts credit.)

53-400. Seminar/Practicum
The course involves the study of a problem or theory related to women

or gender which will result in a practicum report or thesis. Students will select individual topics of interest and will be supervised and assisted by a faculty member. (Open only to Semester 7 and Semester 8 students.) (Prerequisites: 53-300 and 53-301.)

53-458. Women's Issues and Social Work
Examines gender issues, social processes and policies which construct women's realities. The course will critique issues such as: poverty, equality, unemployment and welfare, child-care, reproductive rights, mental health, physical health and domestic violence. (Open to senior students. Social Work majors or combined Social Work/Women's Studies majors will be given registration priority.) (Also offered as 47-458.)

53-470. Counselling Girls and Women
Examines the principles, processes, and techniques utilized in counselling girls and women as a component of generalist social work practice. Structural factors in the social context which affect the experience of girls and women of all ages as well as aspects of their development are considered in the assessment of obstacles that may result in the need for counselling from a generalist social worker. Individual, group, and family counselling that empowers girls and women to overcome obstacles and fulfill their potential in the context of social and cultural diversity is emphasized. (Prerequisites: 47-304, 47-336, 47-337.) (Also offered as 47-470.)

4.23 Certificate Programs

4.23.1 CERTIFICATE IN ARTS MANAGEMENT

Total courses: ten.

Requirements:

(a) 70-151, 71-140, 74-231;
(b) 01-360, 40-398, 40-399;
(c) one of 24-210, 26-100, 26-302, 40-225, 40-250, 40-272, 40-381;
(d) three of 24-100, 24-111, 24-200, 24-225, 24-235, 24-325, 24-330, 24-333, 24-351, 24-352, 24-439, 32-106, 32-107, 32-126, 32-127, 32-346, 32-420, 27-370, 28-345, 28-400, including two or four of the 1.50 credit hour courses 33-210, 33-220, 33-260, 33-310.

4.23.2 CERTIFICATE IN CRIMINOLOGY AND CRIMINAL JUSTICE

Total courses: ten.

Requirements:

(a) 34-129 or 34-226;
(b) 48-101, 48-102, 48-260, 48-261 and 48-262;
(c) four of 40-385, 43-287, 45-221, 45-222, 46-220, 48-207, 48-361, 48-362, 48-367, 48-368, 48-369, 48-370, 48-371, 48-372, 49-323, and 53-210.

The Certificate in Criminology and Criminal Justice is intended as a program of part-time study only. Students must apply and be accepted into the program prior to beginning course work. A limited number of students will be admitted each year. Applications may be obtained from the Office of the Registrar and must be returned to that office by the deadline dates of May 1st for admission to the Fall term and November 1st for admission to the Winter term. Under special circumstances, persons on study leave may be permitted to enroll full-time for one term. Such applications must be made in writing directly conforming to the deadlines indicated above.

Courses are included as part of the regular Sociology program and are acceptable for credit towards a degree.

4.23.3 CERTIFICATE IN LABOUR STUDIES

Total courses: ten.

Requirements:

(a) 54-100 or 54-105; 54-200 or 54-204; 54-327; 43-349; 48-225; and 48-326;
(b) four of 46-370, 46-371, 48-228, 48-321, 48-332, 71-344, 40-225 (or 40-325 or 40-425), 71-446 (or 71-448 or 71-449 or 71-481).

4.23.4 CERTIFICATE IN PUBLIC ADMINISTRATION

Total courses: ten.

Requirements:

(a) 45-100, 45-220, 45-221, 45-328, and 45-329;
(b) 41-110 and 41-111;
(c) three of 45-214, 45-222, 45-313, 70-151, 71-140, 71-243.

Inquiries about the program should be directed to a program advisor in Political Science.

4.23.5 CERTIFICATE IN WOMEN'S STUDIES

Total courses: ten.

Requirements:

(a) Women's Studies 53-100, and at least two of 53-200, 53-201, or 53-310;
(b) seven Women's Studies or Women-Emphasis courses, with at least one at the 100 level.

5 FACULTY OF SCIENCE

Dean

Richard J. Caron; B.M., M.M., Ph.D. (Waterloo).

Associate Dean

Philip J. Dutton; B.Sc., Ph.D. (Victoria).

Associate Dean, Research and Graduate Studies

Bulent Mutus, B.Sc., M.Sc. (Waterloo), Ph.D. (Manitoba).

Students are directed to become familiar and to comply with the general regulations of the University as described in 2.2 which apply to all students. Additionally, the Faculty, and individual programs within the Faculty of Science may have particular regulations. Students enrolled in programs in the Faculty of Science also must comply with these particular requirements which may be found in the program sections of the Faculty.

Students also are directed to read the "Statement of Responsibility" on the inside front cover, the "Calendar of the Academic Year", 1, the Policy on Plagiarism (2.4.22), and the Policy on Unacceptable Use of Computer Resources (2.4.23).

5.1 The General Science Degree Programs

5.1.1 BACHELOR OF SCIENCE (GENERAL SCIENCE)

Total courses: thirty.

Major requirements: six Science "core" courses, consisting of three, two-course sequences chosen from both 55-140 and 55-141, both 59-140 and 59-141, both 60-104 and 60-106 or 60-205, both 60-140 and 60-141, both 61-140 and 61-141, both 62-130 and 65-205 (or both 62-140 and 62-141, or both 62-140 and 65-205), both 64-140 and 64-141, both 67-100 and 67-102; plus eight additional Science courses, consisting of any four courses at the 200 level or above from two areas of study. (Some areas of study offer courses which may not be taken for credit by students majoring in the area of study. Such courses may not be taken to satisfy this requirement.) (Note: Students are reminded that some of the courses may have 200 level prerequisites or corequisites.)

Other requirements:

(a) four additional Science courses;
(b) four courses from Arts/Languages and Social Sciences (see 2.4.14), with at least one from each;
(c) eight courses from any area of study.

At least four of the Science courses must be at the 300 level or above.

(For "Standing Required for Continuation" and "Standing Required for Graduation", see below, 5.1.3.)

5.1.2 BACHELOR OF SCIENCE (GENERAL SCIENCE) DEGREE COMPLETION PROGRAM.

This program is for graduates of a College diploma program in Medical Laboratory Technology (Science). Please contact the Office of the Registrar for further details of this program, which can be completed by Flexible Learning, or on-campus.

5.1.3 BACHELOR OF SCIENCE (SCIENCE, TECHNOLOGY, AND SOCIETY)

The STS program consists of three streams, STS-Life Sciences (Biology or Biochemistry), STS-Physical Sciences (Chemistry or Physics), and STS-Mathematics.

Total courses: thirty.

Required of all students:

(a) the interdisciplinary STS course, 66-201;
(b) one Computer Science pair consisting of both 60-104 and 60-106 or 60-205; or 60-140 and 60-141;
(c) one Life Science or Earth Sciences pair (for Mathematics or Physics students), consisting of 55-140 and 55-141, or 61-140 and 61-141, or 67-100 and 67-102; or a Mathematics pair (for Life Sciences and Chemistry students), consisting of 62-140 and 62-141, or 62-140 (or 62-130) and 65-205;
(d) two of English 26-100, 26-120, 26-124; General, Arts and Social Sciences 01-212; Philosophy 34-160, 34-227, 34-228, and 34-253; Political Science 45-422;
(e) eleven additional approved non-Science courses. Students may substitute up to six Science courses for approved non-Science STS courses with approval of the Associate Dean of the Faculty.

Additional requirements - STS Life Sciences: twelve courses, consisting of 55-140, 55-141, 55-210, 55-211, 55-213, 59-140, 59-141, 59-230 and 59-235, or 59-261; plus three other Science courses at the 200 level or above.

Additional requirements - STS Physical Sciences: twelve courses consisting of:

(a) four courses selected from the following pairs: both 55-140 and 55-141, both 59-140 and 59-141, both 61-140 and 61-141, both 64-140 and 64-141, both 67-100 and 67-102;
(b) any five of the following courses: Chemistry and Biochemistry 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, and 59-320; Computer Science 60-140, 60-141, and 60-212; Geology 61-210 and 61-213 (credit allowed towards the B.Sc.(STS) with permission of the Associate Dean); Mathematics and Statistics 62-215, 62-

216, 62-392, and 62-318; Physics 64-220, 64-222, and 64-250;
(c) three additional Science courses at the 200 level or above.

Additional requirements - STS Mathematics: twelve courses consisting of:
(a) 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-318, 65-205;
(b) two additional Mathematics or Statistics courses from 62-220, 62-221, 62-322, 62-324, 62-342, 62-361, 62-374, 62-380, 65-251, 65-340, 65-350;
(c) two additional Science courses at the 200 level or above.

APPROVED NON-SCIENCE COURSES

(Other selections must be approved ahead of time by the Associate Dean of Science)

English: 26-100, 26-120, 26-124, 26-205

French: 29-121

General, Arts and Social Sciences: 01-212, 07-232

Music: 32-102

Philosophy: 34-227, 34-228, 34-253

Communication Studies: 40-101

Economics: 41-110, 41-111

Human Geography: 42-200

History: 43-297 (Credit allowed only if the topic has relevance to STS.)

Physical Geography: 67-334

Political Science: 45-212, 45-422

Psychology: 46-115, 46-116, 46-220, 46-223, 46-224, 46-256

Women's Studies: 53-220

Management and Labour Studies: 71-140, 71-340

STANDING REQUIRED FOR CONTINUATION FOR B.Sc. (GENERAL SCIENCE) AND B.Sc. (STS) DEGREES

1) the minimum requirement for continuation "in good standing" in the General Science program or the Science, Technology, and Society program is a cumulative average of 5.0 and an average of 5.0 in the required Science courses of these programs.

2) If a student has not met the minimum cumulative and science course average requirements by the end of the Summer or Fall term, the student automatically will be placed on probation.

3) If, at the end of the Winter term, a student has not met the minimum cumulative and science course average requirements, the student's record will be referred to the Academic Standing Committee for a decision.
(a) If one average is at least 5.0, but the other is between 4.0 and 4.9 (or if both averages are between 4.0 and 4.9), the student normally will be allowed to continue on probation until the next evaluation period.
By the subsequent evaluation period, both averages must be raised to at least 5.0 or the student will be required to withdraw.
(b) If both averages are below 4.0, the student normally will be required to withdraw.
(c) If only one average is below 4.0, the student may be required to withdraw.

4) A student who has been required to withdraw may not register in the Faculty of Science for twelve months and may not apply for re-admission before the subsequent Summer term. The student must apply for re-admission to the Faculty through the Office of the Registrar by the appropriate deadline date for the term desired and must with the application include a statement of rationale and any documentation of academic success attained elsewhere.

Readmission to the Faculty is not automatic and will be dependent upon the Academic Standing Committee's assessment of the applicant's prospects for successful completion of the program.

If readmitted, the student will be placed on probation and must raise the cumulative and science course averages to 5.0 by the next evaluation period and must satisfy any additional conditions of readmission which may have been imposed. If the student fails to meet such requirements, he or she normally will be required to withdraw.

A student who has been required to withdraw a second time will not be eligible for readmission under any conditions.

STANDING REQUIRED FOR GRADUATION FROM THE B.Sc. (GENERAL SCIENCE) AND THE B.Sc. (SCIENCE, TECHNOLOGY, AND SOCIETY) PROGRAMS

In order to graduate from the B.Sc. (General Science) program or the B.Sc. (Science, Technology, and Society) program, a student must obtain a cumulative average of 5.0 or better in all courses and an average of 5.0 or better in all required Faculty of Science courses in these programs.

Students receiving the B.Sc. (General Science) degree or the B.Sc. (Science, Technology, and Society) degree will have the designation, "General Science", or "Science, Technology, and Society" respectively indicated on their transcripts.

5.1.4 CONCURRENT BACHELOR OF SCIENCE (GENERAL SCIENCE)/BACHELOR OF EDUCATION

The Concurrent Bachelor of Science (General Science)/Bachelor of Education Program is offered jointly over four years by the Faculty of Science and the Faculty of Education. The aim is to provide the opportunity and training to individuals who wish to teach science in schools at the intermediate and senior levels (Grade 7 through the end of secondary school).

Graduates of this program will receive two degrees and will acquire the necessary skills and knowledge for two teachable subjects and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can emphasize Biology, Chemistry, Physics or Mathematics in the General Science program while concurrently studying education and doing practice teaching in schools. Practice teaching begins in year one of the program. All students should see an advisor in the Office of the Dean of Science, and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

PROGRAM REQUIREMENTS

Total courses: forty-four.

All students are required to complete the requirements of the B.Sc.(General Science) degree program (30 credit minimum), in addition to: seven, 6.00 credit hour Education courses: 80-203, 80-204, 80-205, and 80-303; plus two of 80-366, 80-373, 80-374, 80-376, or 80-380; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200.

All students must select a group of Science courses that provide two teachable subjects (10 approved courses in one area, and six in another) and are advised to seek the recommendations of the program coordinators to ensure that their selection of courses fulfills B.Sc.(General Science) degree requirements, as well as the requirements for a 'teachable' subject from the perspective of the Faculty of Education. Students must take the major "core" courses in any area that is intended as a "first" or "second" teachable subject.

Many students elect to go on to complete an honours degree in one of their teachable subjects, thus increasing the range of their career opportunities.

The General Science degree totals thirty credits, and requires: six Science "core" courses, consisting of three, two-course sequences chosen from both 55-140 and 55-141, both 59-140 and 59-141, both 61-140 and 61-141, both 64-140 and 64-141, both 67-100 and 67-102; plus eight additional Science courses, consisting of four courses at the 200 level or above and including all "core" requirements in these areas from two areas of study selected for the 100-level core. (Some areas of study offer courses which may not be taken for credit by students majoring in the area of study. Such courses may not be taken to satisfy this requirement.) (*Note:* Students are reminded that some of the courses may have 200 level prerequisites or corequisites.)

Other requirements:

a) four additional Science courses consisting of: two Computer Science courses from 60-104 or 60-106 and 60-205, or 60-140 and 60-100 or 60-141, or 60-106 and 60-100; and two Mathematics and Statistics courses from 62-140 and 62-141 or 65-205, or 62-130 and 65-205, unless the student's first or second teachable is mathematics or physics in which case another pair of first year science courses should be chosen from 55-140 and 55-141, 59-140 and 59-141, 61-140 and 61-141, and 67-100 and 67-102;

b) two of English 26-100 (or 26-120); Philosophy 34-160, 34-227, 34-228, 34-253; plus two additional courses from the Arts and Social Sciences;

(c) eight courses from any area of study.

At least four of the Science courses must be at the 300 level or above.

For "Standing Required for Continuation" and "Standing Required for Graduation" see below.)

RECOMMENDED COURSE SEQUENCES

First Year: three pairs of 100-level science, an arts and a social science course; and the education courses, 80-203, 80-205 and 80-499 (2 term, Fall and Winter, registration). *Note:* 80-499 commences following the end of the Winter exam period.

Second Year: nine courses in the B.Sc. program; and the education courses, 80-303 and 80-499 (2 term, Fall and Winter, registration). Note: 80-499 commences following the end of the Winter exam period.

Third Year: four(or five) courses in the B.Sc. program; plus 80-204, 80-499 (2 term, Fall and Winter, registration) and one of 80-373, 80-374, 80-376, or 80-380. Note: 80-499 commences following the end of the Winter exam period.

Fourth Year: nine (or eight) courses in the B.Sc. program; 80-499 (2 term, Fall and Winter, registration) and one further course of 80-366, 80-373, 80-374, 80-376, or 80-380; plus 80-200 if applicable. Note: 80-499 commences following the end of the Winter exam period.

PRACTICE TEACHING

Directed observation and practice teaching will be arranged by the Faculty of Education to include practical experience in schools and programs applicable to the concentration for which the student is a candidate. Candidates in this program will practice teach from grade seven to the end of Secondary School, inclusive.

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19). In addition candidates who obtain a final grade of less than a C in (a) practice teaching, or (b) three or more Education courses in the program will not be recommended for certification. Candidates must complete all requirements of the Concurrent Program in four years. Flexible learning available at Windsor allows students to take some of their required B.Sc. courses in Summer Term (intersession or summer courses) or by distance education.

GRADUATION

Graduates of the program will receive both the Bachelor of Science and the Bachelor of Education (General) degrees.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate.

5.1.5 CONCURRENT BACHELOR OF SCIENCE/BACHELOR OF EDUCATION/DIPLOMA IN EARLY CHILDHOOD EDUCATION

The Concurrent Bachelor of Science/Bachelor of Education/Diploma in Early Childhood Education Program is offered jointly over five years by the Faculty of Science and the Faculty of Education, in co-operation with St. Clair College. The aim is to provide the opportunity and training to individuals who wish to teach at the preschool and Primary-Junior levels.

Graduates of this program will receive two degrees and a diploma and will acquire the necessary skills and knowledge to fulfill the requirements for certification by the Ontario College of Teachers.

Students may take any B.Sc. degree as part of this triple qualification, but for primary/junior teaching we strongly recommend the B.Sc. Science, Technology and Society (a 30 credit program). This degree program is desirable because it has a good mixture of Science, Arts and Social Sciences requirements. However, students who may be interested in later training to teach in the intermediate and senior divisions may wish to take a B.Sc. in a science discipline degree, either at the general or the honours level. An honours degree combined with the B.Ed. and E.C.E. will typically take an extra year of coursework in science.

PROGRAM REQUIREMENTS

All students are required to complete the thirty-course (or forty) requirement of their chosen University of Windsor General B.Sc. degree, in addition to the Education courses 80-203 (34 hours), 80-204 (34 hours), 80-205 (34 hours), and 80-301 (144 hours), and 60 days (300 hours) of Practice Teaching (80-499). The St. Clair College Early Childhood Education component will consist of nine courses, ED 117, ED 120, ED 130, ED 209, ED 210F, ED 310, ED 402, ED 408, ED 409, and 640 hours of Field Placement. Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200. With additional study in the University's Summer Session, students may be able to accelerate the completion of their B.Sc. program. With Summer and/or additional Fall/Winter studies, they may pursue four-year Honours B.Sc. programs as well.

B.Sc./STS REQUIREMENTS

Required of all students:

(a) the interdisciplinary STS course, 66-201;
(b) one Computer Science pair consisting of 60-104 and 60-106 or 60-205; or 60-140 and 60-141 (or 60-100);
(c) one Mathematics pair consisting of 62-140 and 62-141, or 62-140 (or 62-130) and 65-205;
(d) English 26-100 and Philosophy 34-160;
(e) twelve Science courses in two or more subject areas;
(f) eleven additional approved non-Science courses.

APPROVED NON-SCIENCE STS COURSES

English: 26-100, 26-120, 26-124, 26-205

French: 29-121

General, Arts and Social Sciences: 01-212, 07-232

Music: 32-102

Philosophy: 34-227, 34-228, 34-253

Communication Studies: 40-101

Economics: 41-110, 41-111

Human Geography: 42-200

History: 43-297 (Credit allowed only if the topic has relevance to STS.)

Political Science: 45-212, 45-422

Psychology: 46-115, 46-116, 46-220, 46-223, 46-224, 46-256

Women's Studies: 53-220

Management and Labour Studies: 71-140, 71-340

Students wishing to take Arts and Social Sciences courses that are not on this list may apply to the Associate Dean of Science for permission to take them towards the degree.

COURSE SEQUENCE

FIRST YEAR

Fall Term: five B.Sc. courses.

Winter Term: three B.Sc courses; plus the B.Ed course 80-301 (Language Arts and Math); and the E.C.E. course ED 210F (Curriculum Methods).

Spring Term: two weeks of E.C.E. Preschool and two weeks of B.Ed. Primary Grades practice teaching.

SECOND YEAR

Fall Term: five B.Sc. courses.

Winter Term: three B.Sc. courses; the B.Ed course 80-203 (Educational Psychology); and the E.C.E. course ED 120 (Child Behaviour Management).

Spring Term: four weeks of B.Ed. JK/SK practice teaching.

THIRD YEAR

Fall Term: five B.Sc. courses.

Winter Term: three B.Sc. courses; the B.Ed course 80-301 (Art/Music/Phys. Ed.); and the E.C.E. course ED 130 (Child Development).

Spring Term: four weeks of B.Ed. Primary Grades practice teaching.

FOURTH YEAR

Fall Term: the E.C.E. courses ED 310 (Infant/Toddler) and ED 402F (Atypical Child); and the B.Ed course 80-204 (Exceptional Child).

Winter Term: three B.Sc. courses; the B.Ed course 80-301 (Social Studies/Science/Computers); and the E.C.E. course ED 117 (Introduction to E.C.E.).

Spring Term: four weeks of E.C.E. Infant/Toddler practice teaching (150 hours total).

FIFTH YEAR

Fall Term: three B.Sc. courses; the B.ED. COURSE 80-205 (Educational Administration); and the E.C.E. course ED 409 (Parent Ed.).

Winter Term: the E.C.E. courses ED 209 (Curriculum Development) and ED 408 (Assessment); the B.Ed. Primary Grades Practice Teaching course 80-499 (60 days/300 hours).

Spring Term: four weeks of E.C.E. Infant/Toddler practice teaching (150 hours total).

5.1.6 CONCURRENT BACHELOR OF SCIENCE (GENERAL SCIENCE) DEGREE/MEDICAL LABORATORY SCIENCE DIPLOMA

The Concurrent Bachelor of Science (General Science) Degree/Medical Laboratory Science Diploma Program is offered jointly over four years by the Faculty of Science of the University and the Department of Health Sciences of St. Clair College. The aim is to provide the opportunity and training to individuals who wish to pursue a career in health care primarily in the area responsible for the quality of health care laboratory testing.

Graduates of this program will receive both a degree from the University and a diploma from St. Clair College. The program includes a clinical internship in a hospital or private health care testing laboratory and graduates will acquire the necessary skills and knowledge to apply for national registration with the Canadian Society for Medical Laboratory Science (CSMLS). Students attend courses offered at either the University or St. Clair College and in some terms attend both institutions.

In the list that follows, substitutes can be considered for courses marked with an asterisk, provided the alternatives still meet the requirements of the B.Sc. General Science degree. However the list presented includes the courses likely to be useful to graduates in clinical practice or in the national registration examinations (CSMLS).

PROGRAM REQUIREMENTS

An asterisk (*) in the list below indicates a course that is required for credit transfer to the MLS Diploma.

FIRST YEAR

Fall Term

University of Windsor Courses
55-141.* Biological Diversity
55-202.* Human Anatomy
55-204.* Physiology I
59-140.* General Chemistry I
62-140.* Calculus A or 62-130.* Elements of Calculus

Winter Term

University of Windsor Courses
55-140.* Cell Biology
55-205.* Physiology II
59-141.* General Chemistry II
65-205.* Statistics for the Sciences
26-100.* Composition

St. Clair College Courses
MDL-110.Med. Lab. Orientation and Skills

Summer Term

St. Clair College Courses
MDL-303.Instrumental Techniques
MDL-306.Anatomy and Physiology Laboratory
MDL-307.Introduction to Clinical Laboratory
MDL-316.Clinical Immunology
MDL-317.Introductory Mircrobiolgy Laboratory only

SECOND YEAR

Fall Term

University of Windsor Courses
55-211.* Genetics
55-238.* Introductory Microbiology with Laboratory
59-230.* Introductory Organic Chemistry

St. Clair College Courses
MDL-427A. Clinical Chemistry A
MDL-435A. Histotechnology/Histology A

Winter Term

University of Windsor Courses
55-213.* General Physiology
59-261.* Organic Chemistry of Biomolecules
60-104. Computer Concepts

St. Clair College Courses
MDL-427B. Clinical Chemistry B
MDL-435B. Histotechnology/Histology B

Summer Term

University of Windsor Courses
02-XX-XX1. Social Science Option
60-205. Introduction to the Internet

THIRD YEAR

Fall Term

University of Windsor Courses
55-350. Molecular Cell Biology or 55-352. Medical Microbiology
59-362. Intermediary Metabolism I
71-140. Principles of Management

St. Clair College Courses
MDL-426A. Clinical Microbiology A
MDL-428A. Hematology A
MDL-429A. Transfusion Science A

Winter Term

St. Clair College Courses
MDL-426B. Clinical Microbiology B
MDL-428B. Heatology B
MDL-429B. Transfusion Science B
MDL-420. Mycology and Parasitology

Summer Term

Hospital Internship- 32 continuous weeks begins
MDL-505.Clinical Chemistry Internship
MDL-519.Clinical Microbiology Internship
MDL-522.Hematology Internship
MDL-523.Histotechnology Internship
MDL-524.Clinical Work Experience
MDL-525.Transfusion Science Internship
MDL-706G.Change and the Workplace

FOURTH YEAR

Fall Term

Hospital Internship continues
MDL-505.Clinical Chemistry Internship
MDL-519.Clinical Microbiology Internship
MDL-522.Hematology Internship
MDL-523.Histotechnology Internship
MDL-524.Clinical Work Experience
MDL-525.Transfusion Science Internship
MDL-706G.Change and the Workplace

Winter Term

University of Windsor Courses
03-xx-xx2. Science Option
03-55-xx3. Biology Option(recommend 55-471)
59-363. Intermediate Metabolism II
02-xx-xx1. Social Science Option(recommend 46-116)
71-243. Human Resources Management

Summer Term

Review for CSMLS Examinations
MDL-920.Hematology Review
MDL-921.Transfusion Science Review
MDL-922.Histotechnology Review
MDL-923.Clinical Microbiology Review
MDL-924.Clinical Chemistry Review

CLINICAL PLACEMENTS

Directed observation and work study will be arranged by St. Clair College at an accredited hospital or private laboratory to include practical experience in the medical laboratory technology profession in Ontario.

STANDING REQUIRED FOR CONTINUATION

1) In addition to complying with the general university regulations (see 2.4.19) students must also maintain a program G.P.A. and a term G.P.A. of 2.00 or better in all courses taken at St. Clair College.

2) If a student has not met the minimum G.P.A. requirements at the end of any term, the student automatically will be placed on probation.

3) If, at the end of the Winter term, a student has not met the minimum G.P.A. requirements at the College, the student's record will be referred

to the Academic Standing Committee for decision. An Academic Warning will be issued by St. Clair College if, at the end of the semester, 15% of the St. Clair College program credit hours have been failed.

(a) If the required degree G.P.A. at the University is between 4.0 and 4.9, or at the end of a semester, the St. Clair College program semester G.P.A. falls below 2.00, and if not more than 32% of the St. Clair College program credit hours have been failed, the student normally will be allowed to continue on probation until the next evaluation period.
By the subsequent evaluation period, the required degree G.P.A. and the diploma program and term G.P.A. must be at least 5.0 and 2.00 respectively, or the student will be required to withdraw.

(b) If the degree G.P.A. at the University is below 4.0, or if the diploma program or term G.P.A. is below 2.00 for two consecutive semesters, or if the student has failed three or more diploma courses (or the same course twice), or more than 32% of diploma program hours, the student normally will be required to withdraw.

4) A student who has been required to withdraw from the Concurrent program may not apply for re-admission to the Concurrent program, but may be permitted to transfer to an alternative degree program at the University, or a diploma program at St. Clair College with approval from the Associate Dean of the Faculty of Science and the Chair of Health Sciences at St. Clair College. However, in most cases a student who has been required to withdraw may not register in the Faculty of Science at the University for twelve months and may not apply for re-admission to another program in the Faculty of Science at the University before the subsequent Summer term.

STANDING REQUIRED FOR GRADUATION

In addition to complying with the general University regulations (see 2.4.20) students must obtain a diploma program and final term G.P.A. of 2.00 or better in St. Clair College courses.

Graduates of the program will receive both the Bachelor of Science (General Science) degree from the University and the Medical Laboratory Science diploma from St. Clair College.

St. Clair College does not issue a professional entry to practice. Registration requires successful completion of examinations from the Canadian Society of Medical Laboratory Science, and the College of Medical Laboratory Technologists of Ontario, or the U.S. Society of Medical Laboratory Science in order to practice in the United States.

5.1.7 Co-operative Education Program

The Co-operative Education Program offers students the opportunity to combine their classroom experiences with related work experiences. Students seeking admission to the co-operative Education Program must be admitted to the Faculty of Science and enrolled as a full-time student. The Faculty of Science offers the following Co-op programs:

Biological Sciences:
Bachelor of Science (Honours Biological Sciences - Co-operative Program in Environmental Biology)

Computer Science:
Bachelor of Computer Science (Honours) Co-op
Bachelor of Science (Honours Computer Information Systems) Co-op
Bachelor of Science (Honours Computer Science with Software Engineering Specialization) Co-op
Bachelor of Science (Honours Computers with Multi-Media Specialization) Co-op
Bachelor of Science (Honours Computer Science with Artificial Intelligence Specialization) Co-op
Bachelor of Science Honours Computer Science with Networks and Security Specialization) Co-op

Earth Science:
Bachelor of Science (Honours Geology) Co-op
Bachelor of Science (Honours Geology with Thesis) Co-op
Bachelor of Science (Honours Environmental Geoscience) Co-op
Bachelor of Science (Honours Environmental Geoscience with Thesis) Co-op

Physics:
Bachelor of Science (Physics and High Technology) Co-op

ADMISSION AND APPLICATION

Students can apply for admission to the co-op program in high school and in September during the second year of study. Students applying for Co-op during their second year of study will be required to submit an application form and a resume. Second year admission will be based on academic achievement, previous volunteer and paid work experience, and in some cases, an interview.

NOTE: Each Co-op program within the Faculty of Science has particular regulations and guidelines. Students are directed to the program sections of the Faculty.

5.1.8 BACHELOR OF SCIENCE (WITH MAJOR)

Programs leading to an Honours B.Sc. (with Major) require the completion of forty courses. These programs require a greater concentration than the General Science and STS degree programs.

Specific requirements differ depending upon the Honours Major(s). Course selection may provide for further specialization in a single subject or in a combination of related subjects. Students who achieve a major G.P.A. of 8.0 or higher will receive the Honours degree.

The following programs are offered:

Biological Sciences-Honours Biological Sciences, Honours Biological Sciences-Co-operative Education Program in Environmental Biology, Honours Biology and Psychology, Honours Biology and Computer Science, Honours Biology and Biotechnology.

Chemistry and Biochemistry-Honours Biochemistry, Honours Chemistry, Honours Chemistry and Physics, Honours Biochemistry and Biotechnology.

Computer Science-Honours Computer Information Systems, Co-operative Education program in Honours Computer Information Systems, Honours Computer Science with option in Software Engineering, Co-operative Education program in Honours Computer Science with option in Software Engineering, Computers and Multi-Media, Co-operative Education program in Computers and Multi-Media, Computer Science with Networks and Security Specialization, Co-operative Education program in Computer Science with Networks and Security Specialization.

Earth Sciences-Honours Geology, Honours Environmental Geoscience, plus Co-operative Education Programs in Honours Geology and Honours Environmental Geoscience, Honours Geoinformatics, Honours Environmental Resource Management, Honours Physical Geography. Students wishing to combine Chemistry or Physics with Geology must enroll in an Honours Geology program.

Environmental Science-the major in environmental Science includes Geology, Geography and Biology components.

Physics-Honours Physics and High Technology; plus combined Honours programs in Physics and Computer Science and in Chemistry and Physics.

5.1.9 B.Sc. HONOURS WITH THESIS PROGRAMS

Programs leading to an Honours B.Sc. with Thesis require the completion of forty courses, of which two course credits would result in a thesis in the final year of study.

Honours standing (major G.P.A. of 8.0 of higher) is required for graduation in all B.Sc. with Thesis programs.

In any program some degree of specialization is possible; course selection may provide for further specialization in a single subject or in a combination of related subjects.

5.1.10 COMPUTER SCIENCE

Both general and honours programs are offered, leading to the degree of Bachelor of Computer Science (B.C.S.). Each permits the student to augment a specialized study of computers with an extensive study of one of a number of related fields, or with a broad spectrum of other courses. A Co-operative Education program is offered in Honours Computer Science.

Also offered are B.Sc. programs leading to degrees in Computer Science with Artificial Intelligence Specialization, with Computer Information Systems Specialization, with Software Engineering Specialization, with Multi-Media Specialization, or with Networks and Security Specialization.

5.1.11 MATHEMATICS AND STATISTICS

Both general and honours programs lead to the Bachelor of Mathematics (B.Math.) degree. Mathematics also may be combined with Computer Science or another major leading to the Honours B.Math. degree. An honours Co-operative Education program leads to the Bachelor of Operations Research (B.O.R.) degree.

5.1.12 ECONOMICS

Both general and honours programs are offered leading to the Bachelor of Arts degree in Economics. Combined degrees are also available.

5.1.13 MINOR IN GENERAL SCIENCE

The minor in General Science consists of a total of six Science courses as described below.

Selected courses leading to a minor in General Science may not include antirequisite or prerequisite courses in a student's program, nor can they fulfill "Major" requirements of a student's degree program as it appears in this Calendar. All students are reminded that for courses leading to the minor in General Science, the two introductory computer courses, 60-104 and 73-213, are antirequisites, as are the five introductory statistics courses, 65-205, 02-250, and 85-222.

Science students must also remember to select courses that are eligible for credit towards the B.Sc. degree.

Select two, two-course sequences from the following:

(a) 55-140 and 55-141;
(b) 59-140 and 59-141;
(c) 60-104 or 60-106 and 60-205;
(d) 60-140* and 60-141*;
(e) 61-140* and 61-141*;
(f) 62-140 and 62-141;
(g) 64-140 and 64-141;
(h) 62-140 and 65-205;
(i) 62-130 and 65-205;
(j) 67-100* and 67-102*.

plus:

Select two additional Science courses at the 200 level or above from one of the areas of study from which one pair of courses had already been selected above.

*Pairs of courses designated with an asterisk do not have any specific Grade 12"U" or equivalent requirements. Unless specified, two-course sequences cannot be modified.

5.1.14 MINOR IN SCIENCE, TECHNOLOGY AND SOCIETY

The minor in Science, Technology, and Society consists of a total of six semester courses as described below.

Selected courses leading to the credit of a minor in Science, Technology, and Society may not consist of antirequisite or prerequisite courses in a

student's degree program, nor can they fulfill "Major" requirements of a student's program as it appears in this Calendar.

All students must take the Science, Technology, and Society course 66-201 and either one two-course (a pair) sequence listed below, or two courses from a category in which pairs are not listed:

(a) 55-140 and 55-141;
(b) 59-140 and 59-141;
(c) 60-104* (or 60-140*) and one additional course in Computer Science;
(d) 61-140* and 61-141*;
(e) two courses in Mathematics or Statistics;
(f) 64-140 and 64-141;
(g) 67-100* and 67-102*;
(h) Two additional Science courses at the 200 level or above from the area of study from which the pair of courses has already been selected above.

and one non-Science STS course.

*Pairs of courses designated with an asterisk are recommended for students who have not successfully completed a Grade 12"U" or equivalent requirement in that discipline. Unless specified, two-course sequences cannot be modified.

5.1.15 OTHER DEGREE PROGRAMS

In addition to the above degree programs, inter-Faculty programs are also offered. Specific requirements for these degrees will be found as follows:

Bachelor of Arts and Science (B.A.S.) (see 3.1.1).

Bachelor of Environmental Studies (B.E.S.) (see 3.1.2).

Bachelor of Forensic Science (B.F.S.) (see 3.1.3).

Bachelor of Arts in Forencics and Criminology (see 3.1.4).

5.1.16 PRE-MEDICAL AND OTHER PRE-PROFESSIONAL PROGRAMS

In addition to the degree programs, the Faculty of Science offers combinations of course selections for students intending to apply to professional schools such as medicine, dentistry, optometry, pharmacy, physiotherapy, alternative medicine, chiropractic, radiation therapy, *etc.*

All students intending to apply for admission to a professional school are advised to study carefully the requirements of the particular school(s) to which admission is sought because there is some variation, both with respect to choice of subjects and number of years of study required for entrance. Institutions may also change their requirements from time to time. Students may obtain academic advice from the Pre-Health Profession Advisor in the Office of the Dean of Science.

Pre-Teaching Program

Certificate of Qualification: Students who contemplate registering in the Faculty of Education at the University of Windsor, or a comparable institution, should be aware that Certificates of Qualification are awarded in the Primary-Junior (grades K-6 inclusive), Junior-Intermediate (grades 4-10 inclusive), and Intermediate-Senior (grades 7 to the end of secondary school) areas of concentration by the Ontario College of Teachers.

Those intending to teach at the Junior-Intermediate level must successfully complete a minimum of six courses in a subject taught in secondary schools (see 7.2.3). The B.Sc. in General Science or Science, Technology, and Society are thirty-credit programs that can provide competence in two teachable subjects. However, an honours degree in a disciplinary major allows the graduate a wider range of career opportunities. A Concurrent B.Sc.(General Science)/B.Ed. Program is also available (see 5.1.4) as well as a concurrent B.Sc./B.Ed./E.C.E. program (see 5.1.5).

Honours Specialist Qualification: By the proper choice of subjects, students completing certain honours programs with a B average may qualify for admission to courses leading to the Honours Specialist Qualifications at the Faculty of Education at this University, or other Ontario faculties or colleges of education. In order to acquire such qualification, a minimum of two years of successful teaching experience is necessary following the granting of the Ontario Certificate of Qualification. Advising is available at the Faculty of Education.

5.1.17 LETTER OF EQUIVALENCY

A student completing a second major area of study in a three-year General Bachelor of Science program may not receive an additional B.Sc., but may request a "Letter of Equivalency" upon completion of the program requirements for the major as well as at least five courses beyond the thirty courses required for the B.Sc. degree.

5.2 Biological Sciences

(Ext. 2697)

OFFICERS OF INSTRUCTION

Professors Emeriti

Benedict, Winfred G.; C.D., M.Phil. (Leeds), B.A. (Windsor), B.S.A., Ph.D. (Toronto), F.L.S.-1957.

Pillay, Dathathry T.N.; B.Sc. (Osmania), M.S., Ph.D. (Cornell)-1963.

Warner, Alden H.; B.A. (Maine), M.A., Ph.D. (Southern Illinois)-1965.

Professors

Wahlsten, Douglas L., B.Sc. (Alma College, Michigan), Ph.D. (Irvine, California)-1969.

Fackrell, Hugh B.; B.Sc., M.Sc. (Western Ontario), Ph.D. (Manitoba)-1973.

Cotter, David A.; B.S. (Penn State), M.S., Ph.D. (Wisconsin)-1975.

Ciborowski, Jan J. H.; B.Sc., M.Sc.(Toronto), Ph.D. (Alberta)-1984.

Haffner, G. Douglas; B.Sc. (Queen's), Ph.D. (London)-1986.

Corkum, Lynda D.; B.A., M.A. (Drake), Ph.D. (Toronto)-1987.

Lovett Doust, Jonathan N.; B.Sc. (Queen's), Ph.D. (Wales)-1988.

Lovett Doust, Lesley; B.Sc. (Edinburgh), Ph.D. (Wales)-1988. (Associate Dean, Faculty of Science)

Zielinski, Barbara; B.Sc., M.Sc. (Waterloo), Ph.D. (Manitoba)-1990.

MacIsaac, Hugh J.; B.Sc. (Windsor), M.Sc. (Toronto), Ph.D. (Dartmouth)-1992.

Sale, Peter F.; B.Sc., M.A. (Toronto), Ph.D. (Hawaii)-1994.

Associate Professors

Taylor, Paul; B.Sc. (George Williams, Chicago), Ph.D. (Toledo)-1975.

Weis, Ivan Michael; B.Sc. (Syracuse), M.Sc., Ph.D. (Iowa)-1976.

Heath, Daniel D.; B.Sc., M.Sc. (McGill), Ph.D (British Columbia)-1993.

Crawford, Michael J.; B.Sc., M.Sc., Ph.D. (Toronto)-1997.

Hubberstey, Andrew V.; B.Sc. (Waterloo), M.Sc., Ph.D. (Guelph)-1997.

Assistant Professors

Higgs, Dennis; B.Sc. (Michigan), M.Sc. (Illinois), Ph.D. (Texas)-1996.

Ali, Adnan; B.Sc. (Punjab), M.S. (Islamabad), M.Sc., Ph.D. (Waterloo)-2001.

Drouillard, Ken G.; B.Sc.(Windsor), M.Sc. (Manitoba), Ph.D. (Trent)--2002.

Adjunct Professors

Dufresne, Michael J.P.; B.Sc. (York), Ph.D. (Alberta)-1976.

Henderson, Bryan; B.Sc. (British Columbia), M.Sc. (British Columbia), Ph.D. (Aberdeen, Scotland)-2002.

Adjunct Assistant Professor

Johnson, Timothy B.; B.Sc. (Guelph), M.Sc. (York), Ph.D. (Wisconsin)-1998.

Mandrak, Nicholas; B.Sc. M.Sc., Ph.D. (Toronto)-2003.

5.2.1 PROGRAMS OF STUDY

Placement

Students without Grade 12"U" Biology or equivalent and who were admitted to other University programs may be allowed to substitute Biology 55-100 and 55-101 as prerequisites for Biology 55-140 and 55-141 provided that a combined grade point average of at least 8.0 is obtained in those courses. However, they will not receive credit towards a B.Sc. degree in Biological Sciences for 55-100 and 55-101.

Areas of Study in Biological Sciences

The B.Sc. in Biological Sciences provides entry to a broad range of teaching, research, and biomedical careers. Most require formal, post-graduate training, and it is the student's responsibility to determine, as early as possible, the specific requirements of programs to which he or she wishes to proceed. (See also 5.1.14.)

Programs in Biological Sciences provide a solidly based background ensuring that the general requirements of post-graduate programs will be fulfilled. The array of courses offered is such that students may emphasize areas of particular interest or aptitude. Advice on career paths and on course selection is available to students through a student advising program. Pursuit of the Honours with thesis degree is strongly recommended for professional advancement in science.

Preparation for Graduate and Professional Schools

Courses are available to permit the student to become fully prepared for entry into medical, dental, pharmacy, and other professional schools, as well as graduate programs in the biological sciences. Pre-professional advising is available in the Office of the Associate Dean, Lambton Tower. Students should seek advice on course selection early in their program.

5.2 BIOLOGICAL SCIENCES (03-)

Honours Biological Sciences

Undergraduate students may be allowed, with the consent of the instructor, to take one graduate course for credit.

Total courses: forty.

Major requirements: twenty courses, including the "Core" courses 55-140, 55-141, 55-210, 55-211, and 55-213; and fifteen other Biology courses. At least ten courses must be at the 300 level or above. (Recommended: 55-238, 55-320 and 55-341.)

Other requirements:

(a) eight Science courses, including 59-140, 59-141,59-230,59-261,65-205, 62-130 (or 62-140 and 62-141), and at least one pair of both 61-140 and 61-141, or both 64-140 and 64-141, or both 60-104 or 60-106 and 60-205, or both 60-140 and 60-141, or both 67-100 and 67-102;
(b) six additional Science courses (five additional courses if taking 62-140 and 62-141), including additional courses in Biology. At least two of these courses must be at the 300 level or above;
(c) four options from Arts, Languages or Social Sciences, with at least one from each (see 2.4.14);
(d) two courses from any area of study.

Honours Biological Sciences with Thesis

In order to earn a B.Sc. in Biological Sciences with Thesis, students must also include 55-420 (research project, a 6.0 credit hour course which counts as two courses) within the "Major requirements" as outlined for the Biological Sciences Honours program described above. It should be noted that only students who have maintained a major G.P.A. of 8.0 and a cumulative G.P.A of 5.0 will be permitted to enroll in 55-420.

Honours Biology and Biotechnology

Total courses: thirty eight (120 credits)

Major requirements-Biological Sciences: 55-140, 55-141, 55-210, 55-211, 55-213, 55-238, 55-242, 55-350, 55-380 (2 semesters), 55-420 (2 semesters), 55-460, 55-464, 55-465.

Major requirements-Chemistry and Biochemistry: 59-140, 59-141, 59-230, 59-250, 59-261, 59-320, 59-321, 59-362, 59-363, 59-365, 59-468, 59-480.

Other requirements-twelve courses:

(a) 60-104 or 60-106, 62-130 (or 62-140 and 62-141), 64-140, 64-141 and 65-205;
(b) Four courses from Biotechnology Options (see below);
(c) Four courses from any other area of study (Recommended: 34-227 or 34-228).

Biotechnology Options:
55-241, 55-320, 55-351, 55-357, 55-430, 55-453, 55-477, 55-480, 59-465, 59-466.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 55-140, 55-141, 59-140, 59-141, 60-104 (or 60-106), 62-130, 64-140, 64-141, 65-205, and one optional course.

Second Year: ten courses, including 55-211, 55-213, 55-238, 55-242, 59-230, 59-250, 59-261, and three optional courses.

Third Year: nine course, including 55-210, 55-350, 55-380 (2 semesters), 59-320, 59-321, 59-362, 59-363, 59-365, and one optional course.

Fourth Year: nine courses, including 55-420 (2 semesters), 55-460, 55-464, 55-465, 59-468, 59-480, and three optional courses.

Honours Biological Sciences - Co-operative Program in Environmental Biology

The Co-operative Program in Environmental Biology aims to provide students with a strong background in pure and applied ecology. Students will be exposed to the principles of population, community and ecosystem ecology, as well as theories and techniques involved in assessing contamination of freshwater systems. The Co-operative Education Program offers students the opportunity to combine their classroom experiences with related work experiences.

ACADEMIC REQUIREMENTS

Honours Biological Sciences - Co-operative Program in Environmental Biology students must maintain full-time academic status and satisfy the following:

(a) Must maintain a minimum cumulative average of 5.0, and
(b) Must maintain a minimum major average of 8.0, and
(c) Must not have more than one outstanding F on their transcript.

WORK-STUDY SEQUENCE

Year of Study	*Fall Semester*	*Winter Semester*	*Summer Semester*
Year 1	Study	Study	2 week field course
Year 2	Study	Study	Work
Year 3	Work	Study	Study
Year 4	Study	Work	Work
Year 5	Study		

PROGRAM REQUIREMENTS

Undergraduate students may be allowed, with the consent of the instructor, to take one graduate course for credit. In order to continue in the program students must maintain a major G.P.A of 8.0 and a cumulative G.P.A. of 5.0.

Total courses: forty-four.

Major requirements: twenty-two courses, including the "Core" courses of 55-140, 55-141, 55-210, 55-211, and 55-213; plus 55-486 (or another

approved ecological field study course), 55-320, 55-430, 55-444, and 55-445; plus the research course, 55-420 (a 6.0 credit course which counts as two courses); and six of 55-201, 55-324, 55-325, 55-341, 55-359, 55-437, 55-440, and 55-468; 55-298, 55-299, 55-498 and 55-499; and four additional Biology courses. Course selections are to be made in consultation with the Co-op Program co-ordinator.

Other requirements:

(a) twelve additional courses from Science, including 59-140, 59-141, 59-230, 59-261, 60-104, 61-436, 62-130 or 62-140, 65-205, and one pair of both 61-140 and 61-141, or both 64-140 and 64-141, or both 67-100 and 67-102. (One of 59-320 or 59-321 is strongly recommended.);
(b) four courses from Social Sciences (see 2.4.14). (Recommended: 42-131 and 45-201);
(c) two courses from Arts or Languages (see 2.4.14). (Recommended: 26-100.)

Combined B.Sc. Honours Program in Biological Sciences and Psychology: Behaviour, Cognition and Neuroscience

Neuroscience is a strong and growing field that strives to understand brain function at the molecular, behavioural and cognitive levels. This interdisciplinary program comprises required courses primarily from the departments of Biological Sciences and Psychology. Students also participate in bi-weekly research colloquia. In their final year, students prepare a research-based thesis in behaviour, cognition or neuroscience. Students must maintain a G.P.A. of 8.0 or higher in Biology and Psychology courses.

Total courses: forty.

Major requirements - Biological Sciences: 55-140, 55-141, 55-210, 55-211, 55-213, 55-341, 55-425, 55-485; plus three additional Biology courses.

Major requirements - Psychology: 46-115, 46-116, 46-223, 46-256 (or 46-336), 46-313, 46-322 (or 46-323), 46-353, 46-335 (or 46-355), 46-358, 46-457, and one other Psychology course.

Major requirements - Biological Sciences or Psychology: one of 55-320, 46-229, or 46-230; and either 55-420 (a 6.00 credit course), or 46-496 and 46-497. (The Psychology thesis will be within the subject area of behavioural and cognitive neuroscience.)

Other requirements:

(a) 65-205 (or 02-250);
(b) one pair of both 64-140 and 64-141, or both 60-104 or 60-106 and 60-205, or both 61-140 and 61-141, or both 67-100 and 67-102;
(c) 59-140, 59-141, 59-230, 59-261;
(d) one course from Arts;
(e) one course from Social Sciences (excluding Psychology);
(f) four additional courses at the 300 level or above in Biology, Psychology, or Chemistry;
(g) two courses from any area of study, including Psychology and Biology.

Non-credit requirement: Colloquia and Seminars in Current Behaviour, Cognitive and Neuroscience Research: bi-weekly presentations of recent research by researchers within the university and from other universities and research institutions. Attendance by key faculty members and all students is mandatory.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 55-140 and 55-141, 59-140 and 59-141, 46-115 and 46-116, and 65-205 (or 02-250); and at least one pair of both 64-140 and 64-141 or both 60-104 or 60-106 and 60-205, or both 61-140 and 61-141, or both 67-100 and 67-102. (If 64-140 is selected, 62-130 or 62-140 should also be taken in the Fall semester.)

Second Year: ten courses, including 55-210, 55-211, 46-229 or 46-230*, 55-213, 46-223, 46-256, 59-230 and 59-261.

Third Year: ten courses, including 55-320*, 55-341, 46-353, 46-358, 46-313, and 46-336.

Fourth Year: ten courses, including 46-322 (or 46-323), 55-425, 55-485, 46-355, 46-457, and a research Project (55-420, or 46-496 and 46-497).

* Students will take one of 46-229 or 46-230 in second year or 55-320 in third year.

Recommended additional Biology courses: 55-204, 55-205, 55-324, 55-325, 55-350, 55-355, 55-440, 55-484.

Recommended additional Science options: 59-291, 59-363 (or 59-362), 59-365, 59-466.

Combined B.Sc. Honours in Biological Sciences and Computer Science

Major requirements - Biological Sciences: fourteen courses, including the "Core" courses of 55-140, 55-141, 55-210, 55-211, and 55-213; plus 55-420 (a 6.00 credit hour course which counts as two courses). In addition to 55-420, at least four courses must be at the 300 level or above.

Major requirements - Computer Science: fourteen courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, and 60-315; plus three additional Computer Science courses at the 300 level or above.

Other requirements: see *"Other requirements"* listed under *"Other Combined Honours Programs"*, p. 172.

Honours Forensic Science

See Inter-Faculty Programs - Programs of Study, 3.1.3

Honours Forensics and Criminology

See Inter-Faculty Programs - Programs of Study, 3.1.4

Other Combined Honours Programs

Total courses: forty.

Major requirements-Biological Sciences: fourteen courses, including the "Core" courses of 55-140, 55-141, 55-210, 55-211, and 55-213; plus 55-420 (a 6.00 credit hour course which counts as two courses). In addition to 55-420, at least four courses must be at the 300 level or above.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) 59-140, 59-141, 59-230, 59-261, 62-130, 65-205, and one pair of both 60-104 or 60-106 and 60-205, or both 60-140 and 60-141, or both 61-140 and 61-141, or both 64-140 and 64-141, or both 67-100 and 67-102;

(b) additional courses from any area of study to a total of forty.

Minor in Biological Sciences

A minor in Biological Sciences requires an average of 5.0 or better in at least six Biology courses, including 55-140, 55-141, 55-210, 55-211, and 55-213.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 55-210; 55-211; 55-213; 59-230; 59-261; one additional 200-level course; two 200 or 300-level courses; four 300-level or above courses. (Other requirements: 55-140, 55-141, 59-140, 59-141)

Minor Concentration: 55-210; 55-211; 55-213; one other 200-level course; two 300-level or above courses. (Other requirements: 55-140, 55-141, 59-140, 59-141)

5.2.2 COURSE DESCRIPTIONS - BIOLOGY

Students must normally have completed the prerequisites indicated, but under special circumstances may be permitted to take a particular course with the consent of the instructor.

Not all courses listed will necessarily be taught each year.

Where enrollment limits are placed on specific courses, students who require these courses as part of their program will be given preference.

55-100. Biology of Organisms
Genetics, energetics, and the diversity of life. Properties of living organisms from the level of the cell through tissues, organs and organ systems, to the functioning, integrated organism. This course is offered on-campus and as a flexible learning course. (Previously 55-102.) (Intended for non-majors and students requiring preparation for 55-140 and 55-141.) (May not be taken for credit in any Biological Sciences program.) (2 lecture hours a week.)

55-101. Organisms and the Environment
Organisms interacting with other organisms and with their physical environment. Ecological impacts of human activity. This course is offered on-campus and as a flexible learning course. (Previously 55-103.) (Intended for non-majors and students requiring preparation for 55-140 and 55-141.) (May not be taken for credit in any Biological Sciences program.) (2 lecture hours a week.)

55-140. Biological Diversity
Principles governing living systems; the origins and diversity of life; evolution, reproduction, and heredity; the structure and function of viruses through plants and animals; basic principles of ecology. (Grade 12"U" Biology or equivalent, or 55-100 and 55-101 are strongly recommended; corequisite: Chemistry 59-141 or equivalent.) (3 lecture, 3 laboratory hours a week.)

55-141. Cell Biology
Examination of the principles governing living systems, with emphasis on the molecular and cellular basis of life, molecular genetics, energetics, differentiation, and development. (Grade 12 "U" Biology or equivalent, or 55-100 and 55-101 are strongly recommended; corequisite: Chemistry 59-140 or equivalent.) (3 lecture, 3 laboratory hours a week.)

55-201. Applied Ecology
The effects of humans and technology on the environment. Topics include cause-effect linkages, energy, chemicals in the environment, preservation of biodiversity. (3 lecture hours a week.)

55-202. Human Anatomy
Systemic analysis of the structure of the human body, including gross and microscopic morphology. Laboratory sessions focus on gross and microscopic morphology. (Prerequisites: any two first year biology courses.) (3 lecture, 2 laboratory hours a week.)

55-203. Introductory Molecular Biology
Basic introduction to the molecular biology of the cell with emphasis on basic life processes in both plants and animals, including metabolism, energy transformations, transport mechanisms, signal transduction, and other general functions. The major topics covered include: Regulation of eukaryotic gene expression, fundamental aspects of recombinant DNA technology, DNA cloning, hybridization analysis, microarrays, and protein structure and function. (Antirequisite: 55-213; Prerequisite: 55-140 and 55-141; Corequisite: Chemistry 59-261.) (3 lecture, 3 laboratory hours or equivalent a week.) (A Flexible Learning course restricted to graduates of programs in Medical Technology from a College of Applied Arts and Technology with more than 100 hours of certified laboratory experience; or by consent of the instructor.)

55-204. Human Physiology I
Introduction to human physiology: a systems approach. Topics include homeostasis and feedback control, enzymes and energy, membrane transport, metabolism, and the nervous, skeletal muscle, and cardiovascular systems. This course is offered on-campus and as a flexible learning course. (Prerequisites: any two first year biology courses.) (3 lecture hours a week.)

55-205. Human Physiology II
Introduction to human physiology: a systems approach. Topics include

respiratory, endocrine, digestive and renal systems, and control of metabolism. (Prerequisite: 55-204 or consent of instructor.) (3 lecture hours a week.)

55-208. Plants and Society
Earth's biosphere is the product of plant activity and animal life is ultimately dependent on plants. This course provides a introduction to the relationship between humans and plants, particularly economically important plants and their products, as sources of food, flavours, drugs, stimulants, fuel and industrial raw materials. Conservation , international programs, and introduction of genetically modified plants will be discussed. (Prerequisite: 55-140 and 55-141 or permission of the instructor.) (3 lecture hours.)

55-210. Ecology
Introduction to the fundamental concepts of ecology including factors affecting species distribution, reproductive strategies, population growth and regulation, species interactions, and community level organization and energetics. (Prerequisites: 55-140 and 55-141.) (3 lecture, 2 laboratory/discussion hours a week.)

55-211. Genetics
The course reviews transmission genetics and principles of inheritance. The material also includes non-nuclear inheritance and gene linkage, gene expression and regulation, mechanisms and phenotypic effects of DNA mutation and repair, and the principles and applications of population and quantitative genetics. Students will be exposed to molecular genetic techniques such as PCR and DNA sequencing. (Antirequisite: 55-212; Prerequisite: 55-140 and 55-141.) (3 lecture, 3 laboratory hours a week.)

55-212. Genetics
The course reviews transmission genetics and principles of inheritance. The material also includes non-nuclear inheritance and gene linkage, gene expression and regulation, mechanisms and phenotypic effects of DNA mutation and repair, and the principles and applications of population and quantitative genetics. Students will be exposed to molecular genetic techniques such as PCR and DNA sequencing. This is a Flexible Learning course designed primarily for graduates of programs in Medical Technology from a College of Applied Arts and Technology. This course may not count as a major requirement for Biology Majors. (Antirequisite: 55-211; prerequisites: 55-140 and 55-141, or the equivalent.) (3 lecture, 3 laboratory hours or equivalent a week.)

55-213. Introductory Molecular Biology
Basic introduction to the molecular biology of the cell with emphasis on basic life processes in both plants and animals, including metabolism, energy transformations, transport mechanisms, signal transduction, and other general functions. The major topics covered include: Regulation of eukaryotic gene expression, fundamental aspects of recombinant DNA technology, DNA cloning, hybridization analysis, microarrays, and protein structure and function. Practical laboratory work will complement the lectures. (Antirequisite: 55-203; Prerequisite: 55-140 and 55-141; Corequisite: 59-261.) (3 lecture, 3 laboratory hours or equivalent a week.)

55-237. Introductory Microbiology
Growth, genetics, structure, physiology, and diversity of microbes and viruses. This course is offered on-campus and as a flexible learning course. (Previously 55-206.) (Prerequisites: any two first year biology courses; Antirequisite: 55-238.) (3 lecture hours a week.)

55-238. Introductory Microbiology and Techniques
Growth, genetics, structure, physiology, and diversity of microbes and viruses. (Antirequisites: 55-206, 55-237; prerequisites: 55-140 and 55-141.) (3 lecture, 3 laboratory hours a week.)

55-242. Immunology
The formation and structure of antibodies. Antigens and the mechanisms of antigen-antibody interactions. This course is offered on-campus and as a flexible learning course. (Prerequisites: 55-140 and 55-141; corequisite; 59-230.) (2 lecture, 3 laboratory hours or equivalent a week.)

55-298. Co-op Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

55-299. Co-op Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

55-320. Experimental Principles and Design in Biology
Introduction to the logic and principles used to develop sound and efficient studies in the biological sciences: generating, testing, and discriminating among hypotheses; dealing with unwanted sources of variation; assumptions and appropriate choice of statistical analysis. Instruction in the use of selected network and personal computer software for data analysis and presentation. (Prerequisites: 55-210, 55-211, 55-213, and 65-205, or consent of instructor.) (3 lecture, 2 laboratory/tutorial hours a week.)

55-324. Population Ecology
Topics of current interest in population theory including population growth and regulation, plant-herbivore interactions, optimal strategies of foraging, reproductive allocation, and the evolutionary responses of populations. (Prerequisites: 55-210 and 55-211.) (3 lecture hours a week.)

55-325. Community Ecology
Topics of current interest in community theory including predation and competition, species diversity and resource utilization, community energetics, and the relationship between complexity and stability of communities. (Prerequisite: 55-210.) (3 lecture hours a week.)

55-333. General Mycology
Biology of the fungi with emphasis on their interactions with animals and plants. (Prerequisite: 55-237 or 55-238 or consent of instructor.) (2 lecture, 3 laboratory hours a week.)

55-341. Evolution
Topics include the interaction of gene mutation, selection, and population characteristics in the process of evolution, mechanisms of speciation, and current problems in evolution. (Prerequisite: 55-211.) (3 lecture hours a week.)

55-350. Molecular Cell Biology
An integration of recent findings in molecular and cell biology with those in biochemistry and genetics. The main focus will be on regulation of gene transcription, intracellular signalling, transport processes, and cell cycle events. This course is offered on-campus and as a flexible learning course. (Prerequisites: 55-211 and 55-213, or 55-212 and 55-203 with appropriate laboratory experience and signature of instructor.) (3 lecture hours a week.)

55-351. Medical Microbiology
Viral and bacterial pathogenesis, including the processes and genetic control of human diseases. This course is offered on-campus and as a flexible learning course. (Previously 55-241.) (Antirequisite: 55-352; Prerequisite: 55-237 or 55-238.) (3 lecture hours a week.)

55-352. Medical Microbiology and Techniques
Viral and bacterial pathogenesis, including the processes and genetic control of human diseases. (Antirequisite: 55-351; prerequisite: 55-238.) (3 lecture, 3 laboratory hours a week.)

55-355. Embryology
Cellular, molecular, and biochemical mechanisms of gametogenesis, fertilization, cleavage, and organogenesis in a variety of animal systems. A major paper is required. (Prerequisites: 55-210, 55-211, and 55-213.) (3 lecture hours a week.)

55-357. Animal Cells and Tissues
The structure and organization of animal systems at the tissue, cellular, and subcellular levels. Contemporary techniques, including electron microscopy, immunocytochemistry, and in situ hybridization are discussed. (Prerequisites: 55-211 and 55-213.) (3 lecture, 3 laboratory hours a week.)

55-359. Invertebrate Biology
Survey of major classes of the invertebrates from an evolutionary, phylogenic, and ecological perspective. Emphasis on the morphological, physiological, and behavioural adaptations that permit animals to exploit the full range of earth's habitats, including the living bodies of other organisms (parasitism). (Prerequisites: 55-210, 55-211, and 55-213.) (3 lecture, 3 laboratory hours a week.)

55-366. Microbial Ecology and Physiology
Diversity of bacteria in natural habitats. Population interactions, community structure, and species diversity. Interactions between microorganisms and higher eukaryotes; biogeochemistry and biodegradation. (Prerequisites: 55-237 or 55-238; plus, 55-210, 55-211, and 55-213.) (2 lecture, 3 laboratory hours a week.)

55-380. Biotechnology Laboratory
This intensive laboratory course will primarily simulate the discovery and rapid protein characterization of genes and gene products. Laboratory experiments will include cutting edge biotechnology techniques and traditional biochemical and molecular biology methodology. For example, DNA/plasmid isolation, cloning, DNA sequencing and analysis, introduction to bioinformatics and microarray technology, characterization of cloned products, protein isolation and characterization, and determination of enzymatic catalysis and regulation will be used to study this enzyme on a genetic and protein level. Other topics include forensic genetics and plant biotechnology. (Prerequisite: 55-211 or 59-261.) (6 laboratory hours per week over two terms; 6 credit course.) (Registration priority will be given to students for which this course is a program requirement.)

55-420. Undergraduate Research in Biology
Completion of an undergraduate research project, including an oral presentation at an annual colloquium and submission of written final report. (Registration and selection of supervisor will be completed with consent of the Department Head.) (10 laboratory hours a week; offered over two terms.) (A 6.00 credit hour research project which counts as two courses.)

55-423. Undergraduate Research in Biology
Completion of an undergraduate research project, including an oral presentation at an annual colloquium and submission of written final report. (Registration and selection of supervisor will be completed with consent of the Department Head.) (Restricted to students who have completed 55-420.) (10 laboratory hours a week; offered over two terms.) (A 6.00 credit hour research project which counts as two courses.)

55-425. Animal Behaviour
This course will emphasize the link between organisms and their environment. The thrust of the course will be to understand why different species behave in different ways and why within species there may be individual differences in behaviour. The aim of the course is to derive a basic understanding of how animals have evolved behaviours that aid in survival and reproduction. Students will gain experience by participating in activities throughout the term. (Prerequisites: 55-210, 55-211, 55-213, or permission of instructor.)

55-430. Ecotoxicology
The transport, fate and effects of toxic chemicals in aquatic ecosystems; food web modelling in the context of contaminant movement; risk

assessment. Laboratory work will include toxicokinetics, toxicity testing, and measurements of contaminant stress. (Prerequisites: 55-210 and 55-213.) (3 lecture, 3 laboratory hours a week.)

55-437. Conservation Biology
Principles of conservation biology emphasizing population and biogeographic attributes, including genetics, habitat fragmentation, and island processes, which characterize endangered species and habitats. Case studies of management of threatened species and habitats will be addressed. (Prerequisites: 55-210 and 55-211, or consent of instructor.) (3 lecture hours a week.)

55-440. Biology of Fishes
The fishes are the most diverse, the oldest, and the most abundant group of vertebrates on earth. This course surveys their evolution, their phylogenetic relationships, and their morphological, physiological, behavioural, and ecological adaptations to life in virtually every aquatic environment on earth. The laboratory includes units on gross anatomy of a typical actinopterygian fish, identification of local fauna, study of age and growth, and other selected topics. (Prerequisites: 55-210, 55-211, 55-213.) (2 lecture, 3 laboratory hours a week, 1 field trip.)

55-444. Aquatic Ecology: Physical Processes and Biotic Responses
Physical properties and biotic responses in rivers and lakes, including morphometry, energy processing, behavioural adaptations of organisms, and interactions among organisms. (Prerequisite: 55-210.) (3 lecture, 3 laboratory hours a week, 1 week-end field trip.)

55-445. Aquatic Ecology: Community and Ecosystem Processes
Selected aspects of the ecology of large water masses-large lakes, estuaries, and oceans. Emphasis on physical properties and chemical dynamics of aquatic systems, and on life history requirements in such systems. (Prerequisite: 55-210 or 55-234.) (3 lecture hours a week.)

55-453. Biology of Cell Transformation
Molecular and cellular mechanisms of cell transformation and tumor development with emphasis on the role of oncogenes and environmental factors in cell transformation, and on the cellular and molecular biology of malignantly transformed (cancerous) cells, experimental analysis and applications. A major paper and/or seminar is required. (Prerequisites: 55-350, 59-230, 59-261, and consent of instructor.) (3 lecture hours, 1 tutorial/laboratory hour a week.)

55-454. Molecular Biology of Growth and Development
Analysis at the molecular level of the growth and development of prokaryotes, phages, lower eukaryotes, and their plasmids. (Prerequisites: 55-211, 55-213, 59-362 and 59-363, or consent of course instructor.) (3 lecture hours a week.)

55-455. Developmental Signaling and Developmental Genetics
Analysis at the molecular level of the activation and control of genes and proteins during oogenesis and early development in lower and higher eukaryotes. (Prerequisite: 55-355 or consent of course co-ordinator.) (3 lecture hours a week.)

55-460. Molecular Biotechnology
Introduction to the techniques and applications of recombinant DNA technology and genetic engineering. Topics include the generation of transgenic organisms (microbes, plants, and animals) and their impact on agriculture and medicine. The social ramifications of these technologies will be discussed. (Prerequisites: 55-211 and 55-213.) (3 lecture hours a week.)

55-464. Plant Molecular Biology and Physiology
Plant development and its coordination by means of hormones and other molecular signals. Molecular approaches applied to the analysis and modification of plant development will be discussed. (Prerequisite: 55-213.) (2 lecture hours, 1 seminar hour a week.)

55-465. Readings in Biotechnology
Selected recent publications in the field of biotechnology will be discussed. Topics may include recent advances in animal, plant and microbial biotechnology along with innovations in genetic technologies. (Prerequisites: 55-211, 55-213 and 55-350.) (3 hours of lecture/seminar/class discussion a week.)

55-468. Plant Ecology
Evolutionary and community aspects of plant interactions with other organisms and the physical environment. The course deals with plant demography at different levels: individual, population, community, and ecosystem. (Prerequisite: 55-210.) (2 lecture, 3 laboratory hours or equivalent a week.)

55-471. Virology
Bacterial, animal, and plant viruses, with emphasis on structure, nucleic acids, and replication. Interactions between viruses and host cells. Theoretical and practical aspects. (Prerequisites: 55-238 and 59-362.) (2 lecture, 3 laboratory hours or equivalent a week.)

55-480 to 55-483. Special Topics in Biology
Selected topics of current interest which may vary from year to year.

The University of Windsor is a member of the *Ontario Summer Field Courses Program*. Students may select and receive credit for one or more of over thirty field courses under the "Special Topics" designation. Courses are normally advertised in January. Because enrollment is limited, students should apply as early as possible. For further information, contact the Department.

55-484. Mammalian Physiology
Basic principles and mechanisms of general physiological controls, blood, body fluids, cardiovascular system, kidney function, and gas transport and exchange. (Prerequisites: 55-210, 55-211, 55-213.) (3 lecture, 3 laboratory hours or equivalent a week.)

55-485. Nerves, Muscles, and Glands
A systemic view of neural, muscular, and neuroendocrine regulation. Physiological control mechanisms at the levels of molecules through cells, neural circuits and behaviour are discussed. (Prerequisite: 55-213.) (3 lecture, 3 laboratory hours a week.)

55-486. Great Lakes Field Biology
The physical, chemical, and biological properties of the Great Lakes system; measures of transport and fate of contaminants in aquatic systems and food webs; changes in species abundance, composition, and distributions. Field work stresses sampling techniques and measurements of temporal and spatial variation. Students are required to complete a project and present a seminar. (Antirequisite: 55-234; Prerequisites: 55-210 and 65-205, or consent of instructor.) (2 weeks, Intersession; 26 hours lecture, 52 hours field/laboratory work, 8 hours seminar.)

55-498. Co-op Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

55-499. Co-op Work Term IV
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

5.3 Chemistry and Biochemistry

(Ext. 3521)

OFFICERS OF INSTRUCTION

Professors Emeriti

Thibert, Roger J.; B.A. (Western Ontario), M.S. (Detroit), Ph.D. (Wayne State), F.C.I.C.-1953.

McIntosh, John M.; B.Sc. (Queen's), Ph.D. (M.I.T.), F.C.I.C.-1968.

Drake, John E.; B.Sc., Ph.D., D.Sc. (Southampton), F.C.I.C.-1969.

McGarvey, Bruce R.; B.A. (Carleton College), M.A., Ph.D. (Illinois), F.C.I.C.-1972.

University Professors

Stephan, Douglas W.; B.Sc. (McMaster), Ph.D. (Western Ontario) F.C.I.C.-1982.

Aroca, Ricardo; B.Sc. (Chile), Ph.D. (Moscow State), D.Sc. (Leningrad)-1985.

Loeb, Stephen J.; B.Sc., Ph.D. (Western Ontario), F.C.I.C.-1990.

Professors

Taylor, Keith E.; B.Sc., Ph.D. (Toronto)-1976.

Mutus, Bulent; B.Sc., M.Sc. (Waterloo), Ph.D. (Manitoba)-1982.

Associate Professors

Lee, Lana; A.B. (Mount Holyoke), Ph.D. (Alberta)-1986.

Green, James R.; B.Sc. (Windsor), Ph.D. (Waterloo)-1989.

Dutton, Philip J.; B.Sc., Ph.D. (Victoria)-1991.

Antonelli, David M.; B.Sc., Ph.D. (Alberta)-1997.

Assistant Professors

Ananvoranich, Sirinart; B.Sc., M.Sc. (Chulalongkorn), Ph.D. (Concordia)-2000.

Letcher, Robert J.; B.Sc. (Toronto), M.Sc., Ph.D. (Carleton)-2000.

Pandey, Siyaram; B.Sc., M.Sc. (Banaras), Ph.D. (J.N.U. New Delhi)-2000.

Schurko, Robert W.; B.Sc., M.Sc. (Manitoba), Ph.D. (Dalhousie)-2000.

Eichhorn, S. Holger; Dipl. Chem., Ph.D. (Bremen)-2001.

Gauld, James W.; B.Sc. (Queensland), B.Sc.(Hon) (Northern Territory), Ph.D. (Australian National)-2001.

Macdonald, Charles L.B.; B.Sc., Ph.D. (Dalhousie)-2001.

Johnson Samuel A.; B.Sc. (McMaster), Ph.D. (British Columbia)-2002.

Wang Jichang; B.Sc. (Tsinghua), Ph.D. (Copenhagen)-2002.

Vacratisis, Panayiotis E.; B.S. (Eastern Michigan), Ph.D. (Michigan State)-2003.

Thadani, Avinash N.; B.Sc. (Toronto-Mississauga), Ph.D. (Toronto)-2004.

Adjunct Professors

Adeli, Khosrow; B.Sc. (Tehran), M.Sc., Ph.D. (Ottawa), Dipl. Clin. Chem. (Toronto)-1988.

Cheung, Raphael M.C.; M.D. (Toronto), F.R.C.P.(C); Medical Director, Lipid Clinic, Windsor Western Hospital-1988.

Nazri, Gholam-Abbas; B.S., M.S. (Tehran), Ph.D. (Case Western Reserve), Scientist, General Motors Research, Warren-1991.

Artiss, Joseph D.; B.Sc., M.Sc., Ph.D. (Windsor)-1993.

Hutnik, Cindy; B.Sc. (Windsor), Ph.D., M.D. (Ottawa), F.R.C.S.C.-1999.

Macri, Joseph; B.A., B.Sc., Ph.D., Dipl. Clin. Chem.(Windsor)-2001.

5.3.1 PROGRAMS OF STUDY

Preparation for Graduate and Professional Schools

Courses are available to permit the student to become fully prepared for entry into medical, dental, and pharmacy schools, as well as graduate programs in the physical and life sciences. Students should determine as early as possible the specific requirements for graduate or professional schools and programs that they may wish to apply for after completing all or part of a Chemistry or Biochemistry program. (See also 5.1.15 and 5.3.1.) Academic advisors are available.

Since many graduate schools have language requirements, students who may subsequently choose to enter graduate school are strongly advised to consider a selection of courses which includes the prominent scientific languages, French and German.

PROGRAM REQUIREMENTS

1) The prerequisite for 59-410 is a major G.P.A. of 8.0.

2) Unless otherwise stated, students in Chemistry and Biochemistry are expected to take the course with laboratory where two offerings differing only in the presence or absence of a laboratory component are listed.

Standing Required: For continuation in any Chemistry or Biochemistry program at the second level, a student must obtain a minimum grade of C- in Chemistry 59-140 and 59-141, or the equivalent. Students in Biochemistry also must obtain a minimum grade of C- in Biology 55-140 and 55-141.

The Department offers three Honours programs which are accredited by the Canadian Society for Chemistry: Honours Chemistry, Honours Chemistry and Physics, and Honours Biochemistry, as well as a program in Honours Biochemistry and Biotechnology. (Planned accreditation 2006.)

Honours Chemistry

Total courses: forty courses

Major requirements: twenty courses, including 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, 59-320, 59-321, 59-330, 59-340, 59-350 and six additional courses at the 300 or 400 level.

Other requirements:

(a) 62-140, 62-141, 64-140 and 64-141;.
(b) 62-120 and a minimum of two additional courses from the following list: 60-106, 62-215, 62-216, 64-220 or 64-222;
(c) four courses from Arts, Languages or Social Sciences (*see 2.4.14*);
(d) nine courses from any area of study.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 59-140, 59-141, 62-120, 62-140, 62-141, 64-140 and 64-141.

Second Year: ten courses, including 59-230, 59-235, 59-240, 59-241, 59-250 and 59-251. (Recommended: fulfill at least two requirements from (b) above).

Third and Fourth Years: twenty courses, including 59-261, 59-320, 59-321, 59-330, 59-340 and 59-350 and six additional Chemistry and Biochemistry courses at the 300 or 400 level.

Honours Chemistry and Physics

Total courses: forty.

Major requirements - Chemistry and Biochemistry: sixteen courses, including 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-320, 59-321, 59-330 (or 59-331), and 59-342; plus four other courses.

Major requirements - Physics: twelve courses, including 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-310, 64-315, 64-323 and 64-320, and 64-331; plus one other course at the 300 or 400 level.

Other requirements:

(a) 62-120, 62-140, 62-141, 62-215, 62-216, 62-318, 85-214, 88-226;
(b) two courses from Arts, Languages, or Social Sciences (see 2.4.14);
(c) two courses from any area of study.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 59-140, 59-141, 62-120, 62-140, 62-141, 64-140, 64-141, and 64-151.

Second Year: ten courses: 59-230, 59-235, 59-240, 59-241, 62-215, 62-216, 62-318, 64-220, 64-222, and 85-214.

Third Year: ten courses, including 59-250, 59-251, 59-342, 64-250, 64-310, 64-315, 64-323 (or 64-320), 64-331, and 88-226.

Fourth Year: ten courses, including 59-320, 59-321, and 59-330 (or 59-331); plus four additional Chemistry courses; and two additional Physics courses at the 300 or 400 level.

Honours Biochemistry

Total courses: forty courses

Major requirements: twenty courses, including 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, 59-320, 59-321, 59-362, 59-363, 59-365, 59-380 (6-credit, 2 semester course) and four additional courses at the 300 or 400 level.

Other requirements:

(a) 55-140, 55-141, 55-213, 55-238, 62-140, 62-141, 64-140, 64-141 and 65-205;
(b) Four courses from Arts, Languages or Social Sciences (*see 2.2.14*);
(c) Seven courses from any area of study.

RECOMMENDED COURSE SEQUENCE

Note: 65-205 can be taken anytime in second, third or fourth year.

First Year: ten courses, including 55-140, 55-141, 59-140, 59-141, 62-140, 62-141, 64-140, 64-141 and two other courses.

Second Year: ten courses, including 55-213, 55-238, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251 59-261 and one other course.

Third and Fourth Years: twenty courses, including 59-320, 59-321, 59-362, 59-363, 59-365, 59-380 (6-credit, 2 semester course) and four additional courses at the 300 or 400 level.

Honours Biochemistry and Biotechnology

Total Courses: forty courses

Major requirements: twenty-one courses, including 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, 59-320, 59-321, 59-362, 59-363, 59-365, 59-380 (6-credit, 2 semester course), 59-410 (6-credit, 2 semester course), 59-464, 59-468 and 59-480.

Other Requirements:

(a) 55-140, 55-141, 62-140, 62-141, 64-140, 64-141, 55-213, 55-238 and 65-205;
(b) Four courses from Arts, Languages or Social Sciences (*see 2.4.14*);
(c) Six courses from any area of study (an ethics course is strongly recommended.);
(d) In order to earn B.Sc. in a Biochemistry and Biotechnology, students who have a major average below 8.0 will be required to enroll in two other courses from Chemistry and Biochemistry at the 300 or 400 level.

RECOMMENDED COURSE SEQUENCE

Note: 65-205 can be taken anytime in second, third or fourth year.

First Year: 55-140, 55-141, 59-140, 59-141, 62-140, 62-141, 64-140, 64-141 and two other courses.

Second Year: 55-213, 55-238, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261 and one other course.

Third Year: 59-320, 59-321, 59-362, 59-363, 59-365, 59-380 (6-credit, 2 semester course), and three other courses.

Fourth Year: 59-410 (6-credit, 2 semester course), 59-464, 59-468, 59-480 and five other courses.

Honours Chemistry with Thesis

Total courses: forty courses including 59-410

In order to earn a B.Sc. in Honours Chemistry with Thesis, students must also include the 59-410 research project course in addition to the "Major requirements" as outlined for the Honours Chemistry program described above. It should be noted that only students who have maintained a major average of 8.0 and a cumulative average of 5.0 will be permitted to enroll in 59-410. 59-410 does not count within the major requirements, but replaces optional courses.

Honours Chemistry and Physics with Thesis

In order to earn a B.Sc. in Chemistry and Physics with thesis, students must include 59-410 or both 64-412 and 64-413 (research) within the "Major requirements" as outlined for the Honours Chemistry and Physics program described above. It should be noted that only students who have maintained a major average of 8.0 and a cumulative average of 5.0 will be permitted to enroll in 59-410 and 64-412.

Honours Biochemistry with Thesis

Total courses: forty courses including 59-410.

In order to earn a B.Sc. in Honours Biochemistry with Thesis, students must also include the 59-410 research project course in addition to the "Major requirements" as outlined for the Honours Biohemistry program described above. It should be noted that only students who have maintained a major average of 8.0 and a cumulative average of 5.0 will be permitted to enroll in 59-410. 59-410 does not count within the major requirements, but replaces optional courses.

Combined Honours Programs

Programs combining Chemistry with another major will consist of the following:

Total courses: forty.

Major requirements - Chemistry and Biochemistry: fifteen courses, consisting of 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, 59-320, 59-321, 59-330 (or 59-331), and 59-340; plus two additional courses at the 300 or 400 level.

Major requirements - Other Subject: as prescribed by that area of study.

Other requirements:

(a) 62-120, 62-140, 62-141, 64-140, 64-141 and 64-220;
(b) additional courses, if necessary, from any area of study to a total of forty courses.

Programs combining Biochemistry with another major will consist of the following:

Total courses: forty.

Major requirements-Chemistry and Biochemistry: fifteen courses, consisting of 59-140, 59-141, 59-230, 59-235, 59-240, 59-241, 59-250, 59-251, 59-261, 59-320, 59-321, 59-362, 59-363, 59-365, and one additional course at the 300 or 400 level.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) 55-140, 55-141, 55-213, 62-140, 62-141, 64-140, and 64-141;
(b) additional courses, if necessary, from any area of study to a total of forty courses.

Chemistry or Biochemistry Minor

The minors in Chemistry and in Biochemistry consist of six courses, including 59-140 and 59-141, plus three courses at the 200 level or above, and at least one course at the 300 level or above. If the minor is in Biochemistry, at least three of 59-261, 59-360 or 59-362, 59-361 or 59-363, 59-365, 59-464 and 59-468 must be chosen. Selected courses leading to a minor in either area may not consist of anti-requisites to courses in the student's degree program. Students must also remember to select only courses which may be otherwise counted for credit towards their degree programs. An overall average of C+ or higher must be obtained, with no individual course having a mark lower than C-.

Major and Minor Concentrations - Bachelor of Arts and Science

BIOCHEMISTRY

Major Concentration: 59-230, 59-240, 59-250, 59-261, 59-320; five of 59-362, 59-363, 59-365, 59-464, 59-466, 59-468, 59-4xx; plus 55-213 and 55-238. (Other requirements: 59-140, 59-141, 55-140, 55-141.)

Minor Concentration: 59-230, 59-261; four of 59-362, 59-363, 59-365, 59-320, 59-235. (Other requirements: 55-140, 55-141, 59-140, 59-141.)

CHEMISTRY

Major Concentration: 59-230; 59-235; 59-240; 59-241; 59-250; 59-251; 59-261; 59-230; four of 59-321, 59-330, 59-331, 59-340, 59-350, 59-351, 59-4xx. (Other requirements: 59-140, 59-141, 62-140, 62-141.)

Minor Concentration: two of 59-230, 59-240, 59-250; four of 59-320, 59-321, 59-235, 59-241, 59-251; one pair of courses at the 300-level (*i.e.*, 59-3x0, 59-3x1) (or permission of instructor). (Other requirements: 59-140, 59-141, 62-140, 62-141.)

5.3.2 COURSE DESCRIPTIONS

All courses listed will not necessarily be offered each year.

The prerequisite of all 200-level courses, unless otherwise indicated, will be both 59-140 and 59-141.

The prerequisite for all 400-level courses will be the consent of the instructor, except as noted.

59-110. Topics In General Chemistry
An introduction to selected topics in modern chemistry for engineering: atomic and molecular structure, properties of matter and the periodic table, macroscopic chemical systems, stoichiometry, properties of the equilibrium state and applications to thermochemistry and electrochemistry. (Prerequisite: Grade 12"U" Chemistry or equivalent.) (3 lecture, 3 laboratory hours a week.)

59-140. General Chemistry I
Introductory concepts in chemistry, including reactions of atoms, ions, and molecules, solution stoichiometry, thermochemistry, electronic structure of atoms, basic chemical bonding and molecular geometry, periodic properties of the elements, and the theory of gases. (Prerequisite: Grade 12"U" Chemistry or equivalent, or consent of the instructor.) (3 lecture, 3 laboratory/tutorial hours a week.)

59-141. General Chemistry II
A continuation of 59-140 covering topics such as chemical kinetics, general equilibrium theory, acid-base theory, chemical thermodynamics, and introduction to organic chemistry. (Prerequisite: 59-140.) (3 lecture, 3 laboratory/tutorial hours a week.)

59-191. Organic and Biological Chemistry for Health Sciences
A course of particular interest to students of nursing and other health science areas. The subject matter includes a survey of organic functional groups, the organic chemistry of biomolecules, and a survey of the major metabolic pathways. (Prerequisite: Grade 12"U" Chemistry or equivalent.) (Antirequisites: 59-141, 59-230, and 59-232.) (2 lecture hours, 1 tutorial hour a week.)

59-201. Chemistry in the Marketplace
The basic notions of chemistry will be introduced and discussed in a qualitative manner with a view to understanding chemistry and materials encountered in everyday life. The course will provide an appreciation for the ubiquitous nature and importance of chemicals and chemical processes. Discussion will include a variety of topics such as chemistry in the home, plastics, drugs, cosmetics, biotechnology, chemistry and computer technology, nuclear power and pollution. The course is intended for students with no formal background in chemistry. (Not open to first-year students; may be taken by B.Sc. students for credit, but it does not count as Chemistry and Biochemistry course or other science option towards the fulfillment of the requirements for the B.Sc. degree. Students in Chemistry, Chemistry & Physics, Biochemistry and Biochemistry & Biotechnology may not take this course for credit.) (2 lecture hours a week.)

59-230. Introductory Organic Chemistry
Introduction to organic chemistry, with emphasis on structure, stereochemistry, and reactions of aliphatic and alicyclic compounds and their functionalized derivatives. (Prerequisites: 59-140 and 59-141, or 59-110.) (Antirequisite: 59-232.) (3 lecture, 3 laboratory hours a week.)

59-232. Introductory Organic Chemistry
The same as 59-230 but without the laboratory. (Prerequisites: 59-140 and 59-141.) (Antirequisite: 59-230.) (3 lecture hours a week.) (Not available for credit to students majoring in Chemistry, Biochemistry, or Biological Sciences.)

59-235. Introductory Organic Chemistry II
A continuation of 59-230. Topics include the chemistry of nitrogen-containing compounds, aromatic chemistry and an introduction to spectroscopic methods. (Prerequisite: 59-230.) (2 lecture hours a week.)

59-240. Introductory Physical Chemistry I
Properties of ideal and real gases, first and second laws of thermodynamics, physical transformations of substances, mixtures of substances and phase diagrams are applied to changes of state, chemical reactions and spontaneous processes. (Prerequisites: 59-141, 62-140, and 62-141.) (3 lecture, 1.5 tutorial hours per week.)

59-241. Introductory Physical Chemistry II
Physical and chemical equilibrium, equilibrium electrochemistry, molecular motion and collisions, chemical reaction rates, kinetics and introduction to statistical mechanics. (Prerequisite: 59-240, 62-140 and 62-141.) (3 lecture, 3 laboratory hours per week.)

59-250. Introductory Inorganic Chemistry I
Introduction to inorganic chemistry. Topics include: the origin of trends in the periodic table, molecular symmetry, and chemical bonding (including ionic bonding and the molecular orbital and valence bond models for covalent bonding). These approaches will be used to explain the chemistry and properties of selected classes of main group compounds. Photoelectron, NMR, and vibrational spectroscopy are introduced as complementary tools in the examination of these molecular species. (Prerequisite: 59-141.) (3 lecture hours a week, 1.5 tutorial hours a week.)

59-251. Introductory Inorganic Chemistry II
The coordination chemistry of transition metals will be discussed, with particular reference to the means of physical and spectroscopic characterization. Relevance of such compounds to bio-inorganic systems will also be discussed. (Prerequisite: 59-250.) (3 lecture, 3 laboratory hours a week.)

59-253. Introductory Inorganic Chemistry II
The same as 59-251 but without the laboratory. (Prerequisite: 59-250 and consent of instructor.) (3 lecture hours a week.)

59-261. Organic Chemistry of Biomolecules
An extension of the principles covered in 59-230 to the structure and properties of organic molecules of biological significance (*i.e.*, proteins, nucleic acids and lipids). (Prerequisite: 59-230.) (3 lecture, 3 laboratory hours a week.)

59-263. Organic Chemistry of Biomolecules
The same as 59-261 but without the laboratory. (Prerequisites: 59-230 or 59-232 or consent of instructor.) (3 lecture hours a week.) (Not available for credit to students majoring in Chemistry, Biochemistry, or Biological Sciences.)

59-291. Pharmacology for Health Sciences
A course of particular interest to students of nursing and other health science areas. The principles of pharmacokinetics and pharmacodynamics will be covered utilizing a systems approach to pharmacologic therapies in health care. (Prerequisites: 55-204, 55-205, and one of 59-191, 59-261 and 59-263.) (3 lecture hours a week, 4 tutorial hours in a semester.) (May be taken by B.Sc. students for credit, but does not count as a Biochemistry course towards the fulfillment of the requirements for the B.Sc. degree.)

59-320. Analytical Chemistry
Fundamental chemical principles and theory that are important to classical, or "wet" analytical chemistry are presented, and illustrated using practical applications. The topics covered in this course include aqueous-solution chemistry, equilibria in complex systems, electrolytes, and titrimetric methods of analysis (gravimetric, precipitation, acid-base, complexiometric and reduction-oxidation). Theory and applications of

electrochemical techniques include potentiometric and amperometric titrations. (Prerequisite: 59-141 or consent of instructor.) (3 lecture hours, 3 laboratory hours a week.)

59-321. Principles of Instrumental Analysis
The fundamental principles of operation and practical application of modern analytical instrumentation are presented. Acquisition of qualitative and quantitative chemical, biochemical and bioanalytical data from these instruments and methods describes the atomic and molecular composition and structure of matter. Topics covered in this course include atomic and molecular absorption and emission (photoluminescence) spectroscopy, atomic and molecular mass spectroscopy, and separation methods such as gas and liquid chromatography and capillary electrophoresis. (Prerequisite: 59-320 or consent of instructor.) (3 lecture, 3 laboratory hours a week.)

59-330. Spectroscopic Structure Identification
Structure elucidation and the use of spectroscopic techniques in synthetic chemistry. The experimental and theoretical principles of mass spectrometry, UV/visible, infrared and nuclear magnetic resonance spectroscopy, with focus on applications of spectroscopic techniques to structure analysis. (Prerequisite: 59-235 or consent of instructor.) (3 lecture, 3 laboratory hours a week.)

59-331. Intermediate Organic Chemistry
The methods of organic synthesis and the reaction mechanisms involved. (Prerequisite: 59-235 or consent of instructor.) (3 lecture, 3 laboratory hours a week.)

59-332. Spectroscopic Structure Identification
The same as 59-330 but without the laboratory. (Prerequisite: 59-235 or consent of instructor.) (3 lecture hours a week.)

59-333. Intermediate Organic Chemistry
The same as 59-331 but without the laboratory. (Prerequisite: 59-235 or consent of instructor.) (3 lecture hours a week.)

59-340. Quantum Chemistry
Principles of quantum theory, origins of quantum mechanics, wave-particle duality, Schroedinger equation, Born interpretation of the wavefunction, the uncertainty principle, applications of quantum mechanics, atomic structure and spectra, molecular structure, molecular orbital theory, introduction to computational chemistry. (Prerequisite: 59-241.) (3 lecture, 3 laboratory hours per week.)

59-341. Molecular Spectroscopy
Symmetry elements, group theory, character tables, rotational and vibrational spectroscopy, electronic transitions, lasers, photoelectron spectroscopy, introduction to nuclear magnetic resonance, electron spin resonance. (Prerequisite: 59-340 or consent of instructor.) (3 lecture, 3 laboratory hours per week.)

59-342. Quantum Chemistry
The same as 59-340 but without laboratory. (Prerequisite: 59-241 and consent of instructor.) (3 lecture hours a week.)

59-343. Molecular Spectroscopy
The same as 59-341 but without the laboratory. (Prerequisite: 59-340 or 59-342 and consent of instructor.) (3 lecture hours a week.)

59-350. Organometallic Chemistry
This course provides an introduction to the organometallic chemistry of the transition metals. (Prerequisite: 59-251 or consent of instructor.) (3 lecture, 3 laboratory hours a week.)

59-351. Materials Chemistry
Modern topics in materials science and solid state chemistry are discussed with an emphasis on properties, applications, and methods of characterization. The areas covered will include biometric materials, nanoscale engineering, liquid crystals, semiconductors, superconductors, organic metals, ferromagnetism and the ferroelectric effect, non-linear optical materials, thermochromic solids, scanning tunneling microscopy, and atomic force microscopy. Emphasis on applications to biomaterials engineering. (Prerequisite: 59-251.) (3 lecture hours a week.)

59-352. Intermediate Inorganic Chemistry
The same as 59-350 but without the laboratory. (Prerequisite: 59-251 and consent of instructor.) (3 lecture hours a week.)

59-362. Metabolism I
Catabolism and the generation of phosphate bond energy. Introduction to chemistry of life, principles of bioenergetics, glycolysis, glycogen breakdown, citric acid cycle, electron transport/oxidative phosphorylation, pentose phosphate pathway, fatty acid oxidation - ketone bodies, amino acid degradation energy metabolism. (Prerequisite: 59-261.) (3 lecture hours a week.)

59-363. Metabolism II
The utilization of phosphate bond energy will be illustrated by carbohydrate, fatty acid, nucleotide and lipid biosynthesis, hormonal (G-proteins) and metabolite regulation, biological membranes (structure and transport mechanisms) and contractile processes (muscle biochemistry). (Prerequisite: 59-362.) (2 lecture hours a week.)

59-365. Protein and Nucleic Acid Chemistry
The covalent and three dimensional structures of these macromolecules will be described in conjunction with study of the chemical and physical methods used in their purification and characterization. (Prerequisite: 59-261.) (2 lecture hours a week.)

59-380. Biotechnology Laboratory
This intensive laboratory course will primarily simulate the discovery and rapid characterization of genes and gene products. Laboratory experiments will include cutting edge biotechnology techniques and traditional biochemical and molecular biology methodology. For example, DNA/plasmid isolation, cloning, DNA sequencing and analysis, introduction to bioinformatics and microarray technology, characterization of cloned products, protein isolation and characterization, and determination of enzymatic catalysis and regulation will be used to study gene products on a genetic and protein level. Other topics include forensic

genetics and plant biotechnology. (Prerequisites: 59-261 or 55-211, Recommended co-requisites: 59-362, 59-363, and 59-365.) (6 laboratory hours per week over two terms, 6 credit course.)

59-410. Research
Original laboratory research under the direction of a faculty member. Student must present three seminars discussing their research project. (1 lecture, 12 laboratory hours per week over two terms; 6 credit hours.) (Only open to students in Chemistry Honours, Chemistry and Physics Honours, Biochemistry Honours or Biochemistry & Biotechnology Honours programs; please consult the "Program Requirements" section above.)

59-421. Advanced Analytical Chemistry
Special topics in analytical chemistry. (2 lecture hours a week.)

59-431. Special Topics in Organic Chemistry
Topics may include polymer chemistry, natural product chemistry, advanced synthetic methodology, or design and execution of organic syntheses. (Prerequisite: 59-331 or consent of instructor.) (2 lecture hours a week.) (This course may be repeatable for credit.)

59-435. Advanced Organic Chemistry
Physical organic chemistry. Includes molecular orbital theory, stereochemistry, thermodynamics, and reaction mechanisms. (Prerequisite: 59-331 or consent of instructor.) (2 lecture hours a week.)

59-440. Kinetics and Photochemistry
Fundamentals of kinetics and photochemistry. Absorption and emission techniques. Surface photochemistry. (2 lecture hours a week.)

59-441. Statistical Thermodynamics
This course covers the following topics: laws of thermodynamics, heat capacities, distribution laws, partition functions, and chemical equilibria and kinetics. The subject will be further illuminated by discussions of low temperature phenomena and spectroscopy. (Prerequisite: 59-241.) (3 lecture hours a week.)

59-445. Advanced Physical Chemistry
Special topics in physical chemistry. (2 lecture hours a week.)

59-450. Special Topics in Main Group Chemistry
This course provides an introduction to the chemistry of main group elements with a particular focus on the elements of the p-block. The material will highlight the similarities and differences observed between organic molecules and those from the rest of the periodic table with respect to their structural features, bonding and reactivity. (Prerequisite: 59-250.) (3 lecture hours a week.)

59-451. Special Topics in Inorganic Chemistry
Advanced topics in inorganic chemistry and organometallic chemistry may include analytical and spectroscopic methods of use to the inorganic chemist, advanced topics in main group chemistry, coordination chemistry, organometallic chemistry, or the chemistry of the lanthanides and actinides. (Prerequisite: 59-351 or consent of instructor.) (2 lecture hours a week.) (This course may be repeatable for credit.)

59-464. Enzymology and Biotechnology
This course will focus on the structural and mechanistic properties of biological enzymes. Topics to be covered include, chemical catalysis, kinetics, activity inhibition, catalytic mechanisms, and an overview of modern approaches to studying enzymes. Molecular mechanisms regulating the activities of enzymes in the cell will be discussed. (Prerequisite: 59-261.) (2 lecture hours per week.)

59-466. Drug Design
Lectures cover various aspects of drug discoveries and designs. Beginning with basic knowledge in pharmacokinetics and pharmacodynamics, students should learn how lead is discovered and how the lead is modified to yield potent therapeutic agents. Several techniques in the area of molecular biology, biochemistry, organic chemistry and computational biology will be discussed and presented. (Prerequisite: 59-261.) (2 lecture hours per week.)

59-468. DNA Science and Diagnostics
An advanced lecture dealing with DNA science and the application of DNA technology in the understanding and diagnosis of human disease. The lectures cover the biochemistry and expression of DNA and RNA at the molecular level, the theory and practice of recombinant DNA technology, and the application of DNA probes in diagnosis of human disease and in human gene therapies. (Prerequisite: 59-365.) (2 lecture hours per week.)

59-470. Introduction to Computational Chemistry
Students are introduced to modern methods in computational chemistry, including semi-empirical techniques, ab initio calculations, molecular mechanics, and biomolecular modelling. Course emphasis is upon the physical basis of these techniques and their application in chemical research. Practical instruction in modelling and graphical software will be given, and assignments and projects will be computer based. (Prerequisite: 59-241.) (3 lecture, 2 laboratory hours per week.)

59-476. Special Topics in Chemistry
(2 lecture hours a week.) (This course is repeatable for credit.)

59-480. Bioinformatics/Genomics/Proteomics
Introduction to informatics, flow of genetic information from nucleic acid sequence to amino acid sequence, gene expression profiling at the mRNA level, gene micro arrays, application of genomic database (Swissprot, gene bank). Introduction to functional genomics, proteomics, protein profiling, 2D gel electrophoresis, mass spectrometry of proteins eluted from 2D gels, peptide mass fingerprinting, comparative proteome analysis, application of 2D protein database and MS peptide database, high throughput analysis of protein-protein interactions, antibodies and phage-display technologies for protein micro array analysis, application of the biomolecular interaction network database (BIND) to find and predict protein-protein interactions. (Prerequisite: 59-365 or 55-350.) (2 lecture hours per week and 1 computer lab hour per week.)

5.4 Computer Science

(Ext. 2990)

For further information, see our World Wide Web page: http://www.cs.uwindsor.ca/units/cs/welcome.html

OFFICERS OF INSTRUCTION

Professors

Kent, Robert D., B.Sc. (Hons.) (U.B.C.), M.Sc., Ph.D. (Windsor)-1982.

Bandyopadhyay, Subir; B.Sc., B.Tech., M.Tech. (Calcutta), M.Math. (Waterloo), Ph.D. (Calcutta)-1984.

Frost, Richard A.; B.Sc. (Hons.) (London), M.Sc. (Aberdeen), Ph.D. (Strathclyde)-1987. (Director of the School)

Mukhopadhyay, Asish; B.Sc., M.Sc. (Calcutta), Ph.D. (Bangalore)-1999.

Associate Professors

Tsin, Yung H.; B.Sc. (Nanyang), M.Sc. (Calgary), Ph.D. (Alberta)-1985.

Morrissey, Joan; B.Sc.(Hons.), Ph.D. (Dublin)-1989.

Li, Liwu; M.Sc. (Peking), Ph.D. (Alberta)-1991.

Jaekel, Arunita; B.Engg. (Calcutta), M.A.Sc., Ph.D. (Windsor)-1995.

Ezeife, Christie I.; B.Sc. (Hons.) (Ife), M.Sc. (SFU), Ph.D. (Manitoba)-1996.

Chen, Xiao Jun; B.A. (Beijing), Ph.D. (Pisa)-1997.

Ahmad, Imran; B.Sc., M.Sc. (Karachi), M.Sc. (Central Michigan), Ph.D. (Wayne State)-1998.

Boufama, Boubakeur; Engg. (Constantine), M.Sc. (France), Ph.D. (Grenoble)-1999.

Aggarwal, Akshai; B.Sc. (Punjab), M.E., Ph.D. (Baroda)-2000.

Sodan, Angela C.; B.Sc., M.Sc., Ph.D. (Berlin)-2000.

Yuan, Xiaobu; B.Sc. (China), M.Sc. (Sinica), Ph.D. (Alberta)-2000.

Goodwin, Scott; B.Math (Hons) (Waterloo), M.Math (Waterloo), Ph.D. (Alberta)-2001.

Lu, Jianguo; B.Sc., M.Sc., Ph.D. (Nanjing)-2002.

Assistant Professors

Tjandra, Indra Adiono; Dipl. Inform. (Munich), Dr. rer. nat. (Karlsruhe)-1997.

El-Marakby, Randa; B.Sc. (American University, Cairo), M.Sc. (North Texas), Ph.D. (Lancaster)-2000.

Ngom, Alioune; B.Sc. (Quebec), M.Sc., Ph.D. (Ottawa)-2000.

Tawfik, Ahmed; B.Sc. (Cairo), M.Sc. (Nebraska), Ph.D. (Saskatchewan)-2000.

Rueda, Luis; Lic. (San Juan), M.C.S., Ph.D. (Carleton)-2002.

Adjunct Professor

Wong, S.K. Michael; B.Sc. (Hong Kong), M.A., Ph.D. (Toronto)-1968.

Kabanza Frodulald; Lic.B.Bc. (Liege), Ph.D. (Belgium)-1992.

Wang, Shengrui; B.Math (Hebei), M.Appl.Math (J. Fourier), Ph.D. (INPG)-2002.

Cross Appointments

Aneja, Yash Paul; B.Sc., M.Sc. (Indian Statistical Inst.), Ph.D. (John Hopkins)-1974.

Ali, Adnan; B.Sc. (Punjab), M.Sc. (Quaid-I-Azam), M.Sc., Ph.D. (Waterloo)-2001.

5.4.1 PROGRAM REGULATIONS

ENGLISH PROFICIENCY

Students are highly recommended to take English 26-100 (Composition) as students in Computer Science should develop good oral and written communications skills, besides technical proficiency in the basic science.

SELECTION OF COURSES

In selecting courses to meet the requirements of the programs outlined below, the following general regulations also must be observed:

1) A student registering in a course without having successfully completed the prerequisite course(s) will be required to drop that course unless the consent of Computer Science is obtained.

2) If two or more courses cover essentially the same material, only one may be taken for credit.

3) The prior approval of Computer Science must be obtained in order to substitute any other courses for required ones.

4) Statistics courses other than those specifically listed as being required for the degree, or ones for which the required statistics courses are themselves prerequisites, may not be taken for credit.

5) In general, computer courses offered in other areas may not be taken

for credit. 60-104, 60-106, 60-205, 60-207, 60-270, 60-305, and 60-336 may not be used to satisfy the major requirements of any degree program in Computer Science, or in joint programs with Computer Science, unless permission is obtained from Computer Science.

GRADE REQUIREMENT

For the purpose of determining course prerequisites and for meeting major requirements for graduation, a minimum grade of C- is required for all Computer Science courses specifically enumerated in the major requirements for that program.

CALCULATION OF MAJOR AVERAGE

The major average shall be calculated on the basis of the grades received in those Computer Science courses specifically enumerated in the major requirements for that program, and including any grades of less than C-.

5.4.2 PROGRAMS OF STUDY

Programs are offered which lead to the following degrees: Bachelor of Computer Science (Honours), Bachelor of Computer Science (General), Bachelor of Computer Science (General) for University Graduates, B.Sc. (Computer Information Systems), B.Sc. (Honours Computer Science with Software Engineering Specialization), B.Sc (Honours Computer Science with Artificial Intelligence Specialization), B.Sc. (Honours Computer Science with Multi-Media Specialization), B.Sc. (Honours Computer Science with Networks and Security Specialization). As well, the Faculty of Science offers a B.Sc. (Mathematics and Computer Science Honours) (see 5.8.1) and a B.Sc. (Physics and Computer Science Honours) (see 5.9.1). With approval, Computer Science may be combined with other four-year Honours programs.

Bachelor of Computer Science (General)

Total courses: thirty.

Major requirements: thirteen courses, including 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-322, 60-315, 60-330, 60-334 (or 60-367), plus two additional Computer Science courses.

Other requirements:

(a) 62-120, 62-130 (or 62-140), and 65-205;
(b) one course from Arts/Languages, and one from Social Sciences (see 2.4.14);
(c) twelve other courses from any area of study, including Computer Science and Business Administration.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 60-100, 60-140, 60-141, 62-120, and 62-140 (or 62-130).

Second Year: ten courses, including 60-212, 60-254, 60-256, 60-265, and 65-205.

Third Year: ten courses, including 60-315, 60-322, 60-330, and 60-334 (or 60-367).

Graduation: In order to graduate with the Bachelor of Computer Science (General) degree, a student must obtain a grade of C- or better in each Computer Science course taken to fulfill major requirements and a cumulative average of 5.0 or better.

Bachelor of Computer Science (Honours)

Total courses: forty.

Major requirements: twenty-four courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334, 60-354, 60-311, 60-367, 60-436, 60-440, 60-454, 60-460, 60-499 (a 6.0 credit hour course), plus one additional Computer Science course at the 400 level.

Other requirements:

(a) 62-120, 62-140, 62-141, 62-190, 62-380 and 65-205;
(b) three courses from Arts, Languages or Social Sciences (see 2.4.14), with at least one from Arts/Languages and one from Social Sciences;
(c) seven other courses from any area of study, including Computer Science.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-130 (or 62-140), and 62-190.

Second Year: ten courses, including 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, and 65-205.

Third Year: ten courses, including 60-311, 60-315, 60-322, 60-330, 60-334, 60-354, and 60-367.

Fourth Year: ten courses, including 60-436, 60-440, 60-454, 60-460, 60-499 (a 6.0 credit hour course) and one Computer Science course at the 400 level.

Graduation: In order to graduate with the Bachelor of Computer Science (Honours) degree, a student must obtain a grade of C- or better in each required Computer Science course taken to fulfill major requirements; a major average of 8.0 or better; and a cumulative average of 5.0 or better.

Bachelor of Science (Honours Computer Information Systems)

Total courses: forty.

Major requirements - Computer Science: seventeen courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334, 60-393, 60-499 (a 6.0 credit hour course), plus two additional Computer Science courses at the 300 or the 400 level.

Major requirements - Business: nine courses, including 70-151, 70-152, 71-140, 72-270, and 74-231, but excluding 73-101, 73-102, 73-213, 73-220 and 73-320.

Other requirements:

(a) 62-120, 62-130 (or 62-140), and 65-205;
(b) three courses from Arts, Languages or Social Sciences (see 2.4.14), with at least one from Arts/Languages and one from Social Sciences;
(c) eight additional courses from any area of study.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-130 (or 62-140), 70-151, 71-140, and 72-171.

Second Year: ten courses, including 60-212, 60-254, 60-256, 60-265, 60-266, 65-205, and 74-231;

Third Year: ten courses, including 60-315, 60-322, 60-330, 60-334, and 60-393.

Fourth Year: ten courses, including 60-499 (a 6.0 credit hour course) and two Computer Science courses at the 300 or the 400 level.

Graduation: In order to graduate with the Bachelor of Science (Honours Computer Information Systems) degree, a student must obtain a grade of C- or better in each Computer Science and Business Administration course taken to fulfill major requirements; a major average of 8.0 or better; and a cumulative average of 5.0 or better.

Bachelor of Science (Honours Computer Science with Artificial Intelligence Specialization)

Total courses: forty courses

Major requirements: Computer Science: twenty-four courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-315, 60-322, 60-330, 60-334, 60-354, 60-367, 60-373, 60-374, 60-440, 60-454, 60-473, 60-474, 60-499 (a 6.0 credit hour course); plus one additional course at the 300 level or above.

Other requirements:

(a) 62-120, 62-140, 62-141, 62-190, 65-205, 62-380;
(b) 34-262 and one additional course from Arts, Languages (see 2.4.14);
(c) one additional course from Social Science (see 2.4.14);
(d) seven additional courses from any area of study, including Computer Science.

Program Sequencing/Progression (if applicable)

First year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-140, 62-141, and 62-190.

Second year: ten courses, including 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 34-262 and 65-205.

Third year: ten courses, including 60-315, 60-322, 60-330, 60-334, 60-354, 60-367, 60-373, 60-374.

Fourth year: ten courses, including 60-440, 60-454, 60-473, 60-474 and 60-499.

Graduation: In order to graduate with the Bachelor of Science (Honours Computer Science with Artificial Intelligence Specialization) degree, a student must obtain: a grade of C- or better in each Computer Science course taken to fulfill major requirements; a major average of 8.0 or better; and a cumulative average of 5.0 or better.

Bachelor of Science (Honours Computer Science with Networks and Security Specialization)

Total courses: Forty

Major requirements: twenty-four courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334, 60-350, 60-354, 60-367, 60-368, 60-467, 60-454, 60-499 (a 6.0 credit hour course), and any two of (60-436, 60-450 and 60-468).

Other requirements:

(a) 62-120, 62-140, 62-141, 62-190, 65-205, 62-380;
(b) three courses from Arts and Social Science with at least 1 from each;
(c) seven additional courses from any area of study, including Computer Science.

PROGRAM SEQUENCING

First year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-140, 62-141, and 62-190.

Second year: ten courses, including 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266 and 65-205.

Third year: ten courses, including 60-315, 60-322, 60-330, 60-334, 60-350, 60-354, 60-367, 60-368 and 62-380.

Fourth year: ten courses, including 60-467, 60-454 and 60-499 and two of the following courses: 60-450, 60-468 or 60-436.

Bachelor of Science (Honours Computer Science with Software Engineering Specialization)

Total courses: forty.

Major requirements - Computer Science: twenty-four courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 60-280, 60-311, 60-315, 60-322, 60-330, 60-334, 60-354, 60-367, 60-411, 60-440, 60-454, 60-480, 60-499 (a 6.0 credit hour course).

Other requirements:

(a) 62-120, 62-140 62-141, 62-190, 62-380 and 65-205;

(b) any four of 24-210, 26-140, 34-228, 34-229, 46-115, 71-140, or 71-340;
(c) two courses from Arts, Languages or Social Sciences (see 2.4.14), including one from Arts/Languages and one from Social Sciences;
(d) four additional courses from any area of study, including Computer Science.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-130 (or 62-140), and 62-190.

Second Year: ten courses, including 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 60-280, and 65-205.

Third Year: ten courses, including 60-311, 60-322, 60-330, 60-334, 60-354, and 60-367.

Fourth Year: ten courses, including 60-315, 60-411, 60-440, 60-454, 60-480, and 60-499 (a 6.0 credit hour course).

Graduation: In order to graduate with the Bachelor of Science (Honours Software Engineering) degree, a student must obtain a grade of C- or better in each Computer Science course taken to fulfill major requirements; a major average of 8.0 or better; and a cumulative average of 5.0 or better.

To remove any suggestion that the word, "engineering," in the context of courses or programs in Computer Science implies the meaning of "engineering" as used in the context of courses or programs in Professional Engineering, it is hereby acknowledged that Software Engineering is a collection of principles, models, methods, and techniques for the development, maintenance, evolution, and reuse of software that meets fundamental performance and quality requirements in an economic and competitive manner.

Bachelor of Science (Honours Computer Science with Multi-Media Specialization)

Total courses: forty.

Major requirements - Computer Science: twenty-one courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334, 60-350, 60-354, 60-367, 60-450, 60-499 (a 6.0 credit hour course), plus one additional Computer Science course at the 400 level.

Other requirements:
(a) 62-120, 62-140 62-141, 62-190 and 65-205;
(b) two additional courses from any area of study, including Computer Science;
(c) twelve courses taken entirely from one of two emphases:

COMMUNICATION STUDIES EMPHASIS - 40-101, 40-110, 40-200, 40-202, 40-216, 40-217; plus two courses at the 300 level or above with the consent of the Communication Studies Department; plus Visual Arts 27-105, 27-106, 27-107; and one Visual Arts course at the 200 level or above.

VISUAL ARTS EMPHASIS - 27-105, 27-106, 27-107, 27-243, 27-343; and three of 27-203, 27-365, 28-331, 28-342, 28-343, 28-345; plus Communication Studies 40-101, 40-200, 40-202; plus one course with the consent of the Communication Studies Department.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 60-100, 60-140, 60-141, 62-120, 62-130 (or 62-140) and Communication Studies and Visual Arts courses as advised.

Second Year: ten courses, including 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, 65-205, and Communication Studies and Visual Arts courses as advised.

Third Year: ten courses, including 60-315, 60-322, 60-330, 60-334, 60-354, 60-367, and Communication Studies and Visual Arts courses as advised.

Fourth Year: ten courses, including 60-450, 60-499 (a 6.0 credit hour course), and one Computer Science course at the 400 level.

Graduation: In order to graduate with the Bachelor of Science (Honours Computers and Multimedia) degree, a student must obtain a grade of C- or better in each Computer Science course taken to fulfill major requirements; a major average of 8.0 or better; and a cumulative average of 5.0 or better.

Bachelor of Science (Honours Mathematics and Computer Science)

See Mathematics and Statistics, 5.8.1.

Bachelor of Science (Honours Physics and Computer Science)

See Physics, 5.9.1.

Bachelor of Science (Geoinformatics)

See Earth Sciences 5.6.1

Combined B.Sc. Honours in Computer Science and Biological Sciences

Major requirements - Computer Science: fourteen courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, and 60-315; plus three additional Computer Science courses at the 300 level or above.

Major requirements-Biological Sciences: fourteen courses, including the "Core" courses of 55-140, 55-141, 55-210, 55-211, and 55-213; plus 55-420 (a 6.00 credit hour course which counts as two courses). In addition to 55-420, at least four courses must be at the 300 level or above.

Other requirements: see *"Other requirements"* listed under *"Other Combined Honours Programs"*, below (p.187).

Other Combined Honours Programs

Total courses: forty.

Major requirements - Computer Science: fourteen courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-266, and 60-315; plus three additional Computer Science courses at the 300 level or above.

Major requirements - Other Subject: as prescribed by that area of study.

Other requirements:

(a) 62-120, 62-140, 62-141, 62-380 and 65-205;
(b) any additional, non-major requirements as determined by the second area of study;
(c) additional courses, if necessary, from any area of study to a total of forty courses.

Bachelor of Computer Science (General) for University Graduates

University graduates with a three-year General, four-year Major or four-year Honours degree (from a discipline other than Computer Science) may apply to the B.C.S (General) degree for University Graduates. This second degree program is offered in two formats:

12-month Full time Degree Program

Major requirements: thirteen courses including, 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334 or 60-367, plus one additional Computer Science course.

Other requirements: 62-120, 62-130 (or 62-140), and 65-205.

PROGRAM SEQUENCING

Summer
Intersession (6 week offering starting May): 60-140
Summer (6 week offering starting July): 60-141
12-week term (starting May): 60-100, 60-265 and 65-205

Fall
6 week offering starting September: 60-212
6 week offering starting around October 20: 60-254
13 week term: 60-256, 60-266, one of 62-120, 62-130, 62-140

Winter
13 week: 60-315, 60-322, 60-330, 60-334 or 60-367, Computer Science elective, remaining Math course.

32-Month Evening Degree Program

Major requirements: thirteen courses including, 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-266, 60-315, 60-322, 60-330, 60-334 or 60-367, plus one additional Computer Science course.

PROGRAM SEQUENCING

Year 1
Fall: 60-140, 60-100
Winter: 60-141, 60-265
Intersession: 60-212

Year 2
Fall: 60-254, 60-256
Winter: 60-266
Intersession: 60-315

Year 3
Fall: 60-322, 60-330
Winter: 60-334 or 60-367, Computer Science elective

Note: Courses designed for the evening program will have 1 lecture a week from 7 to 10pm. Laboratories will be held from 5:30 to 7pm the same day. The evening program is open only to graduates who have successfully completed all the Mathematics course requirements for the B.C.S General degree program, or their equivalents. (62-120, 62-130 (or 62-140), and 65-205.)

Advanced standing may be granted for Computer Science and Mathematics and Statistics courses provided they (or their equivalents) were passed at an accredited University with a minimum grade of C-. At least 10 additional courses at the 200-400 level must be completed at the University of Windsor to obtain the B.C.S. degree for University Graduates.

Minor in Computer Science

The minor in Computer Science consists of the following courses: 60-100, 60-104 (or its equivalent), 60-140, 60-141 (or 60-106), 60-212, and one of 60-205, 60-254, 60-256, or 60-265. Permission of a program advisor is required in some of these courses, and students wishing to complete a minor in Computer Science should obtain such permission before undertaking this program of study.

Minor in Applied Information Technology

The minor in Applied Information Technology consists of 6 courses in which the student must maintain a grade average of C- or better: 60-104, 60-106, 60-205, 60-207, 60-270, and 60-305.

5.4.3 CO-OPERATIVE EDUCATION PROGRAM IN COMPUTER SCIENCE

The Co-operative Education Program is available for the following degrees:
Bachelor of Computer Science (Honours) Co-op
Bachelor of Science (Honours Computer Information Systems) Co-op
Bachelor of Science (Honours Computer Science with Software Engineering Specialization) Co-op
Bachelor of Science (Honours Computers with Multi-Media Specialization) Co-op

Bachelor of Science (Honours Computer Science with Artificial Intelligence Specialization) Co-op
Bachelor of Science (Honours Computer Science with Networks and Security Specialization) Co-op

INTRODUCTION

The Co-operative Education Program offers students the opportunity to combine their classroom experiences with related work experiences. Students who apply and are accepted into the Co-operative Education Program must successfully complete at least three paid work experiences interspersed throughout the four-year Honours program. The experience gained while participating in these structured and supervised work placements is viewed as an integral component of the student's educational program.

ACADEMIC REQUIREMENTS

Computer Science Co-op students must maintain full-time academic status and satisfy the following:

(a) Must maintain a minimum cumulative average of 5.0, and
(b) Must maintain a minimum major average of 8.0, and
(c) Must not have more than one outstanding F on their transcript.

SEQUENCE OF WORK AND STUDY TERMS

Year of Study	*Fall Semester*	*Winter Semester*	*Summer Semester*
Year 1	Study	Study	Off
Year 2	Study	Study	Work
Year 3	Study	Work	Study
Year 4	Work	Study	Work
Year 5	Study		

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 60-100, 60-212, 60-254, 60-256, 60-265, 60-322, 60-315, 60-330, 60-334, 60-393, 60-367; one course at the 300-level or above. (Other requirements: 60-140, 60-141, 62-140, 62-141.)

Minor Concentration: 60-100, 60-212, 60-254, 60-256; one Computer Science course at the 200-level or above; and one Computer Science course at the 300-level or above. (Other requirements: 60-140, 60-141, 62-140, 62-141.)

5.4.4. COURSE DESCRIPTIONS

Not all courses listed below will necessarily be offered every academic year.

Due to the fact that Computer Science is a relatively new and continuously evolving discipline, some of the courses listed may undergo slight revision and therefore may not always conform exactly to the detailed descriptions given below.

All courses listed below are three lecture hours per week, unless otherwise stated. In addition, laboratory/tutorial time may be scheduled as required.

Note: Most Computer Science courses require substantial time out of class in writing, correcting, and testing computer programs. Students should be prepared to devote a minimum of three to five hours a week per course to assignment work alone.

60-100. Key Concepts in Computer Science
The objectives of this course are to excite students' interest in computer science and to give students a precise understanding of a number of difficult concepts that are fundamental to modern computer science. Topics may include: data types; induction and recursion; algebraic characterization; syntax; semantics; formal logic; soundness, completeness, and decidability; specification, algorithm, implementation, and determinism; complexity. (Restricted to students registered in programs offered wholly or jointly by Computer Science or by Mathematics and Statistics, or with approval of Computer Science.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-104. Computer Concepts for End-Users
Introduction to the concepts of operation of a computer system, including hardware and software. Development of conceptual understanding of word processors, databases, spreadsheets, *etc.*, and practical experience with their use. Networking concepts and data communication concepts will be introduced. The Internet will be introduced with students having access to internet resources. Management information systems including the systems development lifecycle will be discussed. Fundamental concepts of algorithm development and programming will be introduced. Hands-on experience with microcomputers as well as a distributed-computing environment will be involved. In addition to lecture time, laboratory/tutorial time may be scheduled as required. (May not be used to fulfill the major requirements of any major or joint major in Computer Science.)

60-106. Programming in C for Beginners
The course is an introduction to programming in C. Two major goals of this course are: teaching a rational approach to program development, and teaching an introduction to ANSI C. The emphasis of this course is on the first goal. This course adapts a library-based approach that emphasizes the principle of abstraction: library and modular development. The five-phase software development method is used to solve problems. Topics of this course include: a brief introduction to Computer Science, introduction to computer hardware, statement forms, iteration, functions, top-down design, basics of modular programming, recursion, arrays, pointers, dynamic data structures, and file processing. (Antirequisite: 60-140.) (Normally may not be taken for credit by students registered in programs offered wholly or jointly by Computer Science.)

60-140. Introduction to Algorithms and Programming I
This course is the first of a two-course sequence designed to introduce students to algorithm design and programming in a high-level language such as C. The main objectives of the course are to develop the ability

to identify, understand and design solutions to a wide variety of problems. Topics include: computer system overview, hardware and software, problem solving steps, concepts of variables, constants, data types, algorithmic structure, sequential logic, decisions, loops, modular programming, one-dimensional arrays, text files. If possible, problems like searching/sorting will be addressed. (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-141. Introduction to Algorithms and Programming II
This course is the continuation of 60-140 that introduces students to more advanced algorithm design and programming in a high level language such as C. The main objectives of the course are to develop the ability to identify, understand, and design solutions to a wide variety of problems. Topics covered include: multi-dimensional arrays, pointers, strings, advanced modular programming, records, binary files, recursion, stacks, linked lists and introduction to algorithm analysis. (Prerequisite: Minimum grade of C- in 60-100 (or 62-140) and 60-140.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-205. Introduction to the Internet
Students will be introduced to the Internet as a global information infrastructure, including the development of early and current communication protocols and services, packaging of data, and data transmission. Fundamental concepts of and tools to support Internet browsing through concepts of Universal Resource locators and Hypertext Markup Languages will be included. Students will be required to publish a website on the Internet using HTML. Web page enhancement through the use of JavaScript and other tools will be introduced. The functionality of electronic mail and bulletin board services will be introduced with hands-on experience in sending and receiving information, automated title searching, and an introduction to organizing information to be accessible over the network. Technical methods of binary data transfer on analog carriers will be introduced and comparison of Ethernet and ATM fibre-optic digital delivery will be discussed. In addition to lecture time, laboratory/ tutorial time may be scheduled as required. (Prerequisite: minimum grade of C- in 60-104.) (May not be used to fulfill the major requirements of any major or joint major in Computer Science.)

60-207. Problem Solving and Information on the Internet
Students will be introduced to logic and critical appraisals including reasoning skills and critical thinking in the computer age. Problem solving and heuristics will be discussed including how to solve problems by coming up with the right strategies. Searching using Boolean logic to pinpoint useful and reliable information will be introduced. Methods for being self-critical and critical of web information in order to perform evaluations will be studied. (Prerequisites 60-104 and 60-205.) (This course may not be taken to fulfill the major requirements of any major or joint major in Computer Science.)

60-212. Object-Oriented Programming Using Java
Concepts of classes and objects, Java applications, frames, event handling, control structures, methods, arrays, string manipulations, object-based programming, object-oriented programming - inheritance, polymorphism, interface and abstract classes, anonymous classes, data structures in Java, exception handling, introduction to graphical user interface. (Prerequisite: Minimum grade of C- in 60-141.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-214. Computer Languages, Grammars, and Translators
This course covers both pragmatic and theoretical aspects of grammars, recognizers, and translators for computer languages. Regular languages: regular expressions, regular grammars, finite-state machines (automata), regular language recognizers, automatic regular-language-recognizer generator: lex. Context-free languages: context-free grammars and pushdown automata (stack machine), LL grammars and top-down recognition and parsing: LL(1) and recursive-descent parsers, LR grammars and bottom-up recognition and parsing: LR(0), SLR(1), LR(1), and LALR(1) parsers. Automatic context-free-language parser generator: YACC. Attribute grammars, syntax-directed translation, computer-language processors: interpreters and compilers. (Restricted to students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-100, 60-140, 60-141 and 60-212.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-231. Theoretical Foundations of Computer Science
An introduction to Mathematical Logic, Set Theory, and Graph Theory. Topics include propositional logic, first order logic, proof techniques, mathematical induction, sets, operations on sets, relations, operations on relations, functions, countable and uncountable sets, graph connectivity, graph isomorphism, trees, Euler graphs, Hamilton graphs, planar graphs and graph colouring. (Restricted to students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 62-190.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-254. Data Structures and Algorithms
An introduction to the programming and time-complexity analysis of internal (main store) and external data structures. Topics include linear lists, stacks, queues, linked structures, trees, binary trees; sorting techniques, including heap sort, quick sort, merge sort, shell sort; searching techniques including binary search, binary search trees, red-black trees, hashing. Algorithm design paradigms like divide-and-conquer, dynamic programming, greedy, external sorting, B-trees. (Prerequisite: Minimum grade of C- in 60-100, 60-140, 60-141 and 60-212.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-256. Systems Programming
This course introduces students to advanced software development techniques in system programming using the C language in the UNIX environment. Topics include introduction to modern operating systems, system calls, managing processes, the use of fork and exec, signals, file processing, filters, pipes, scripting languages, introduction to concurrency (*e.g.* synchronization), network programming (*e.g.* using sockets), client-server problems. (Prerequisite: Minimum grade of C- or better in 60-100, 60-140, 60-141 and 60-212.) (3 lecture, 1.5 laboratory hours/ week; plus unsupervised study and work on individual assignments.)

60-265. Computer Architecture I: Digital Design
Number systems, switching algebra, logic gates, circuit minimization. Combinational circuits. Read-only memory, random-access memory, programmable logic. Synchronous and asynchronous sequential circuits. Latches, flip-flops, registers, counters, register transfer language. Digital integrated circuits. Hardware description languages. (Prerequisite: Minimum grade of C- in 60-100, 60-140, 60-141.) (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-266. Computer Architecture II: Microprocessor Programming
Data representation, central processing unit, arithmetic logic unit, control unit. Assembly language concepts. Memory segmentation. Programming a typical microprocessor (*e.g.* Intel 8086 family or Motorola 6800 family). Instruction set architecture- addressing modes and formats, register set. Basic Input/Output devices, Programming I/O operations. Interrupts, disk controllers. (Prerequisite: Minimum grade of C- in 60-265). (3 lecture, 1.5 laboratory hours a week; plus unsupervised study and work on individual assignments.)

60-270. Advanced Web Design, Construction, and Deployment
This course is intended to teach the student about advanced website creation and to give an understanding of some of the technology behind websites, as well as an understanding of emerging web-related technologies. Topics covered will include JavaScript, Style Sheets, Dynamic HTML, XML, XHTML, Web Browser compatibility issues, and how web servers work. (Prerequisite: 60-205.) (This course may not be taken to fulfill the major requirements of any major or joint major in Computer Science.)

60-275. Selected Topics I
Topics may differ from year to year. (Prerequisite: Minimum grade of C- in 60-100, 60-140, and 60-141.)

60-280. Practicum
This is a practical software development course. (Current language used: Java.) (Restricted to students in Honours with Software Engineering Specialization only.) (Prerequisite: Minimum grade of C- in 60-100, 60-140, 60-141, and 60-212.)

60-298. Co-op Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

60-305. Cyber-Ethics
A number of key concerns about social welfare in our cyber age will be explored. Law, morality, public policy, and how these both influence and are influenced by the Internet will be examined. This course will critically appraise issues surrounding, but not limited to, free speech, property rights (especially intellectual property), privacy, security, and artificial intelligence. Issues raised by ethical theorists, policy makers, legal experts, and computer scientists will be analyzed in this course. (Prerequisites: 60-104 and 60-205.) (This course may not be taken to fulfill the major requirements of any major or joint major in Computer Science.)

60-311. Introduction to Software Engineering
This course introduces the fundamental concepts, common principles, and general techniques of software engineering. It discusses the main issues involved in the development life-cycle of nontrivial software systems, including process models, feasibility studies, requirements elicitation and definition, rapid prototyping, design methodologies, verification and validation, and software evolution. Students taking this course are required to work on projects, which are designed to go through the major phases of large-scale software system development. (Restricted to students in Computer Science Honours and combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-212, 60-231, 60-254 and 60-256.)

60-315. Database Management Systems
This course is an introduction to database management systems. Topics include: basic concepts; 3-level architecture; entity-relationship model; the relational model; relational algebra and calculus; SQL; database design with Normalization Theory. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, and 60-265.)

60-322. Object-Oriented Software Analysis and Design
This course builds on the knowledge of object-oriented programming, data structures, and file structures gained in courses 60-212, 60-254, and 60-256. Students are introduced to object-oriented software analysis and design techniques that are currently used in industry. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, and 60-265.)

60-330. Operating Systems Fundamentals
Operating system services, introduction to primary components of multiprogramming operating systems, CPU scheduling, concurrent processes, process synchronization and interprocess communication, deadlocks, memory management, file systems, virtual memory, disk scheduling. (Prerequisite: Minimum grade of C- in 60-212, 60-254, and 60-256.)

60-334. World Wide Web Information Systems Development
This course is designed for people who want to make their data available to others over the Internet. Topics will include WWW authoring, WWW site planning, executable programs that create dynamic documents, the client-server model, multi-tier WWW software architecture, and security aspects. (Prerequisite: Minimum grade of C- in 60-212, 60-254, and 60-256.)

60-336. World-Wide Website Design and Development
(Intended for Engineering students.) This is a course on designing and developing a professional web site to be available on the Internet. Topics will include Internet protocols, web site planning and design, and

writing programs to create simple to complex and dynamic documents, and data gathering and validation, both on the client and server side. The languages used will be HTML, Dynamic HTML, JavaScript and Perl. (Prerequisites: minimum grade of C- in 85-132 and 85-211; Antirequisites: 60-270 and 60-334.) (This course may not be taken to fulfill the requirements of any major or joint major in Computer Science.)

60-342. End-user Interface Programming
This course provides a general introduction to the theory and practice of the design, implementation, and evaluation of end-user interfaces. Topics include: principles of design; methods for evaluating interfaces; user interface architecture and design; techniques for implementing user interfaces. (Restricted to students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-212, 60-254, and 60-256.)

60-350. Introduction to Multimedia Systems
This course provides the student with basic concepts and techniques used in multimedia systems. Topics include: components of multimedia systems (text, audio, and video), media formats and standards, data compression techniques, hypermedia techniques, and authoring tools. (Restricted to students in Honours Computer Science with Multimedia Specialization only.) (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256 and 60-265.)

60-352. Introduction to Computer Graphics
An introduction to computer graphics hardware and software, interfaces, standards, programming libraries, fundamental algorithms, rendering techniques, and algorithms for 2D and 3D applications. Substantial programming work is vital to this course. (Restricted to students in Honours Computer Science with Multimedia Specialization only.) (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, and 62-120.)

60-354. Theory of Computation
Finite Automata, regular expressions and languages; properties of regular languages; context-free grammars and languages; pushdown automata; properties of context-free languages. Introduction to Turing machines; recursive functions; undecidability. (Prerequisites: Minimum grade of C- in 60-214, 60-231 and 60-254.)

60-367. Computer Networks
This course is an introduction to computer networks and their protocols. Topics include: network architectures, transport, routing, and data link protocols, addressing, local area networks, flow and congestion control, and network security. Examples will be drawn primarily from the Internet (*e.g.* TCP, UDP, IP) protocol suite. (Prerequisites: Minimum grade of C- or better in 60-141, 60-212, 60-254, 60-256, 60-265. Recommended Corequisite: 60-330.)

60-368. Network Practicum
This course will acquaint the students with additional practical details of network hardware and software, physical layer, data link layer and network simulation. A laboratory will be associated with this course. (Prerequisite: C- or better in 60-254, 60-256, 60-330 and 60-367.)

60-373. Symbolic Programming
The emphasis of this course will be on logic programming and Prolog language. The theoretical background that will be developed includes automated theorem proving, using resolution and unification, logic, functional programming paradigm and lambda calculus. Students will develop practical programming skills using Prolog and Lisp. (Prerequisite: C- or better in 60-212, 60-214, 60-254. 60-231 is also recommended.)

60-374. Introduction to Artificial Intelligence
This course covers fundamental concepts in Artificial Intelligence including problem solving and search, knowledge representation and reasoning, planning, learning, and natural language understanding. The course will cover both theoretical and practical aspects of list processing. Programming assignments will require the use of symbolic programming language. (Prerequisite: C- or better in 60-373.)

60-375. Selected Topics
Topics may differ from year to year. (Prerequisite: Minimum grade of C- in 60-212, 60-254, and 60-256. Additional courses may be required depending upon the subject.)

60-376. Selected Topics
Topics may differ from year to year. (Prerequisite: Minimum grade of C- in 60-212, 60-254, and 60-256. Additional courses may be required depending upon the subject.)

60-393. Developing Systems for Information Processing
An historical perspective on the use and growth of the computer in business. A discussion of the business environment in which this use and growth has been and is taking place. Basic concepts of the systems development cycle of today's business and management information systems. The planning and managing of the system development life cycle. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, and 60-265.)

60-398. Co-op Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

60-411. Software Verification and Testing
This course introduces students to the verification and testing phases of software development. It will discuss concepts, processes, models, patterns, and tools for verification and analysis. An important component is a group project involving the verification and/or testing of a large software system. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-265, 60-311, 60-315, and 60-330.) (Restricted to Semester 7 and Semester 8 students in Honours Computer Science with Software Engineering Specialization only.)

60-436. Distributed Computing
This course provides an overview of computer networks and distributed systems, covering aspects ranging from encoding bits on a transmission medium to the design of distributed application software. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-265, 60-315, 60-330, and 60-367.) (Restricted to Semester 7 and Semester 8 students in Honours Computer Science and Combined Honours programs only.)

60-440. Principles of Programming Languages
Basic concepts of programming languages. Comparative study of the major programming paradigms, including imperative, object-oriented, functional, logic, and concurrent programming. Principles of programming language design and evaluation. Syntax, semantics and implementation techniques of programming languages. (Prerequisite: Minimum grade of C- in 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-311, 60-393, and 60-322.) (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.)

60-450. Multimedia System Development
The aim of this course is to discuss a wide range of technologies used in the development of multimedia objects, networked multimedia systems, user interfaces, and multimedia on the Internet. (Restricted to students in Honours Computer Science with Multimedia Specialization only.) (Prerequisite: Minimum grade of C- in 60-350 and 60-367.)

60-454. Design and Analysis of Computer Algorithms
The intent of this course is to introduce the fundamental techniques in the design and analysis of computer algorithms. Topics include: asymptotic bounds, advanced data structures, searching, sorting, order statistics, oracle arguments, divide-and-conquer, greedy algorithms, dynamic programming, graph algorithms, NP completeness, and approximation algorithms. (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-212, 60-231 and 60-254.)

60-460. Digital Design and Computer Architecture
Modular design concepts in digital circuits. Interfacing facilities. Memory Organization. Architecture classification schemes. Parallel computing architectures. Pipelining and vector processing. Alternate architectures and performance enhancement. (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-265, 60-330, and 60-367.)

60-467. Network Security
The course will introduce students to advanced topics in network security. (Prerequisites: Minimum grade of C- in 60-367 and 60-368.)

60-468. Advanced Networking
The course will introduce students to advanced topics in networking. (Prerequisites: Minimum grade of C- in 60-367 and 60-368.)

60-470. Project Using Selected Tools
Students will complete a project using an advanced computing tool, such as a database package, simulation software, speech-recognition hardware module, *etc.* Students are required to submit a report describing the project and demonstrating mastery of the tool. Tools and the project are chosen by the student with the approval of the instructor. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-265, 60-311 or 60-393, 60-322, and 60-330.) (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.)

60-473. Advanced Topics in Artificial Intelligence
The course will introduce students to advanced topics in AI. (Restricted to Honours Computer Science students) (Prerequisite: C- or better in 60-374.)

60-474. Advanced Topics in Artificial Intelligence I
The course will introduce students to advanced topics in AI. (Restricted to Honours Computer Science students.) (Prerequisite: C- or better in 60-374.)

60-475. Selected Topics
In many cases the topics will coincide with a graduate course offering in a given year, and students will be required to complete the lecture component of that graduate course. Topics may include: advanced database management, graphics, artificial intelligence, information retrieval, theory of computation, functional programming, knowledge base systems, and foundations of programming languages. (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-311 or 60-393, 60-322, and 60-330. Additional courses may be required depending upon the topic.)

60-476. Selected Topics
In many cases the topics will coincide with a graduate course offering in a given year, and students will be required to complete the lecture component of that graduate course. Topics may include: advanced database management, graphics, artificial intelligence, information retrieval, theory of computation, functional programming, knowledge base systems, and foundations of programming languages. (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.) (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-311 or 60-393, 60-322, and 60-330. Additional courses may be required depending upon the topic.)

60-480. Practicum: Selected Topics in Software Engineering
Students will be provided with a list of advanced topics in software engineering, such as software process modeling, formal specification of concurrent systems, real-time systems, object-oriented methodology, formal verification in concurrent systems, testing techniques in communication protocols, reverse engineering. Each student will survey a topic and must submit a survey paper. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-311, 60-322 and 60-330.) (Restricted to Semester 7 and Semester 8 Honours Computer Science with Software Engineering Specialization only.)

60-497. Co-op Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable

skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

60-498. Co-op Work Term IV
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

60-499. Project Management: Techniques and Tools
The course consists of two components: a) exposure to project-presentation and project management skills, and b) working on a large project in a group. The course co-ordinator will arrange lectures on a variety of relevant topics. The lectures may have quizzes and/or short assignments. Students will be expected to develop skills in technical writing, organizing seminars, techniques for use of multimedia tools, as well as developing a major project using a modern software tool. (Prerequisite: Minimum grade of C- in 60-212, 60-254, 60-256, 60-311 or 60-393, 60-322, and 60-330, or consent of the program advisor.) (6.0 credit hour course.) (Restricted to Semester 7 and Semester 8 students in Computer Science Honours and Combined Honours programs only.)

5.5 Earth Sciences

(Ext. 2486)

OFFICERS OF INSTRUCTION

Professors Emeriti

Sanderson, Marie E.; B.A. (Toronto), M.A. (Maryland), Ph.D. (Michigan)-1965.

Smith, Terence E.; B.Sc., Ph.D. (Wales)-1969.

Hudec, Peter P.; B.Sc. (Western Ontario), M.S., Ph.D. (Rensselaer Polytech. Inst.)-1970.

Symons, David T.A.; B.A.Sc. (Toronto), A.M. (Harvard), Ph.D. (Toronto), P. Eng.-1970.

Professors

Trenhaile, Alan S.; B.Sc., Ph.D. (Wales)-1969.

Simpson, Frank; B.Sc. (Edinburgh), Dr.Nat.Sc. (Jagiellonian U., Krakow), P.Eng., P.Geo.-1974. (Coordinator, IDRET, Windsor International)

Lakhan, V. Chris; B.A. (Guyana), M.A. (Windsor), Ph.D. (Toronto), F.R.G.S. (U.K.), C.E.S.(U.S.)-1984.

Samson, Iain M.; B.Sc., Ph.D. (Strathclyde)-1986.

Al-Aasm, Ihsan S.; B.Sc., M.Sc. (Baghdad), Ph.D. (Ottawa)-1989. (Head of the Department)

Fryer, Brian J.; B.Sc. (McMaster), Ph.D., F.R.S.C. (Massachusetts Inst. Technology)-1993.

Associate Professors

Rodrigues, Cyril G. I.; B.Sc. (British Columbia), M.Sc., Ph.D. (Carleton)-1979.

Assistant Professors

Graniero, Phil A.; B.E.S., M.E.S. (Waterloo), Ph.D. (Toronto)-2000.

Fowle, David A.; B.Sc. (Western Ontario), M.Sc., Ph.D. (Notre Dame)-2001.

Cioppa, Maria T.; B.Sc. (Carleton), M.Sc. (Victoria), Ph.D. (Lehigh)-2001.

Polat, Ali; B.Sc. (Technical University of Istanbul), M.Sc. (Houston). Ph.D. (Saskatchewan)-2002.

Yang, Jianwen; B.Eng. (Guilin Institute of Geology); M.Eng. (Central-South University of Technology, China); M.Sc. (Toronto); Ph.D. (Toronto)-2002.

Adjunct Professors

Greenough, John D.; B.Sc. (Acadia), M.Sc. (Carleton), Ph.D. (Memorial)-1999.

Cross-Appointment

Reitsma, Stanley; B.A.Sc., M.Sc. (Waterloo), Ph.D. (Queen's)-1997.

5.5.1 PROGRAMS OF STUDY

Programs leading to the Bachelor of Science degree in Geology; Environmental Geoscience; Environmental Science; Geoinformatics; and Physical Geography are offered. All programs are subject to the general University and Faculty of Science regulations as outlined in the relevant sections of this calendar.

Course Numbering: The first digit of the three-digit course number indicates the year of undergraduate studies in which the course is normally taken. However, note that many 300 and 400 level courses are offered in alternate years such that some 400 level courses should be taken in year 3 and some 300 level courses in year 4. Field courses, 61-280, 61-380, 66-280, and 67-280, follow the Winter term.

Note: Geology and Environmental Geoscience students are strongly urged to consult with an Earth Sciences advisor at the start of each term.

Note: Students wishing to take additional Biological Sciences courses later in their program must take both 55-140 and 55-141.

Professional Licensure of Geoscientists

Professional geoscientists now have to be licensed to practice in the province of Ontario and elsewhere in Canada. To become licensed, a four year geoscience degree is required with certain minimum knowledge requirements. The Geology and Environmental Geoscience programs listed below are designed to meet these requirements. The choice of optional geoscience and basic science courses should be made in consultation with an Earth Sciences counselor to make sure that the courses can be used for licensure requirements.

Honours Environmental Geoscience

Students should consult with an Earth Sciences advisor before making elective course choices to make sure that the choices conform to the requirements for professional licensure as a geoscientist.

Total courses: forty.

Major requirements: twenty-three courses, including 61-140, 61-141, 61-220, 61-224, 61-231, 61-232, 61-280, 61-326, 61-327, 61-436, 67-100, 67-210, 67-246, plus ten additional courses from 61-323, 61-324, 61-328, 61-424, 61-430, 61-441, 61-499, 67-102, 67-221, 67-320, 67-334, 67-402, and 87-315.

Students who intend continuing on to graduate studies should take 61-499 (Thesis).

Other requirements:

(a) ten courses from Mathematics and Science, including 55-140, 55-141, 59-140, 59-141, 62-130 (or 62-140 and 62-141) and 65-205. Additional courses must be selected from those courses that count towards a major in the other discipline;
(b) two courses, one from each of Arts and Social Sciences. (Recommended: 34-227, 45-211, and 50-393.);
(c) five additional courses from any area of study.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including, 55-140 and 55-141, 59-140, 59-141, 60-104 or 60-106, 61-140, 61-141, 65-205, and 67-100.

Second Year: ten courses, including 61-220, 61-224, 61-231, 61-232, 61-280, 62-130, 67-246, and 67-210.

Third Year: ten courses, including 61-326 and 61-327.

Fourth Year: ten courses, including 61-436.

Honours Environmental Geoscience With Thesis

In order to earn an Honours B.Sc. in Environmental Geoscience With Thesis, students must include the course 61-499 (Thesis). It should be noted that only students who have maintained a major G.P.A. of 8.0 and a cumulative G.P.A of 5.0 will be permitted to enroll in 61-499.

Environmental Science

The environmental problems confronting our society increasingly demand interdisciplinary solutions, and the individual who has been prepared by an interdisciplinary education is in a strong position to contribute to societal needs. This program provides preparation for a career in environmental science. With the B.Sc., the graduate will be able to work as part of an interdisciplinary or multidisciplinary research team, or to work with government agencies or utilities in the monitoring of environmental quality. Students who complete an honours research thesis will be eligible for graduate school.

The field of environmental science requires education in a mix of biology (ecology) and study of the physical environment, as well as a background in the aspects of chemistry involved in chemical assessment and monitoring of the environment. Students will also have the opportunity at some point to elect to emphasize biology, physical geography or geology, or to take a similar number of courses in all three areas. This program places strong emphasis on the technical side of environmental assessment, in contrast to the field of environmental studies in which human and planning-related aspects of the environment are emphasized.

In addition to the three core areas of geology, physical geography and

biology, the chemistry of the environment is addressed through courses in instrumentation and analysis, and the application of chemical principles to environmental problems is developed in course offerings in geochemistry. The additional development that makes this program unique and particularly relevant to modern environmental scientists is the incorporation of required courses in Geographic Information Systems, or GIS. The GIS approach to organization of spatial data is central to integrated assessment of environmental variables and biological responses.

Inquiries about the Environmental Science Program should be directed to the Department of Earth Sciences, Room 204 Memorial Hall, extension 2486.

Honours Environmental Science

Total courses: forty.

Major requirements: twenty-two courses, including Biology 55-140, 55-141, 55-210, 55-211, 55-213, 55-237, 55-341; Geology 61-140, 61-141, 61-220, 61-224, 61-232, 61-328, 61-441; Environmental Science 66-280; and Physical Geography 67-100, 67-102, 67-246, 67-210, 67-310, 67-334, 67-402.

Other requirements:

(a) Chemistry 59-140, 59-141, 59-230; Mathematics and Statistics 62-130, 65-205; Computer Science 60-104 or 60-106; Human Geography 42-200;

(b) eleven courses chosen from the list of approved courses in Science and Arts And Social Sciences; up to four can be from the Faculty of Arts and Social Sciences; at least one must be from Arts (01-) and one from Social Sciences (02-). Any substitutions for the approved courses must be approved by the Department Head.

Honours Environmental Science with Thesis

Total courses: forty.

Major requirements: twenty-four courses, including Biology 55-140, 55-141, 55-210, 55-211, 55-213, 55-237, 55-341; Geology 61-140, 61-141, 61-220, 61-224, 61-232, 61-328, 61-441; Environmental Science 66-280, 66-499 (a 6 credit course); and Physical Geography 67-100, 67-102, 67-246, 67-210, 67-310, 67-334, 67-402.

Other requirements:

(a) Chemistry 59-140, 59-141, 59-230; Mathematics and Statistics 62-130, 65-205; Computer Science 60-104 or 60-106; Human Geography 42-200;

(b) nine courses chosen from the list of approved courses in the Faculties of Science and Arts and Social Sciences; up to four can be from the Faculty of Arts and Social Sciences; at least one must be from Arts (01-) and one from Social Sciences (02-).

RECOMMENDED COURSE SEQUENCE

The courses that are part of this program are well-defined, and since Science courses typically build on Prerequisites, the sequence of courses must be carefully followed. The sequencing outlined below is not very flexible for the first and second year, when students take a common core of introductory Biology, Geology, Physical Geography, Chemistry, and Mathematics and Statistics. However, the program has some flexibility in the third and fourth years.

FIRST YEAR
Fall term: 55-140, 59-140, 61-140, 62-130, 67-100.
Winter term: 55-141, 59-141, 61-141, 65-205, 67-102.

SECOND YEAR
Fall term: 55-210, 59-230, 61-220, 61-224, 61-232.
Winter Term: 55-211, 55-213, 42-200, 60-104 or 60-106, elective**.

THIRD YEAR
Fall term: 55-237, 67-246, three electives**.
Winter term: 66-280*, 55-341, 67-210, 67-334, one elective**.

FOURTH YEAR
Fall term: 66-499+, 61-441, 67-402, 67-310, one elective**.
Winter term: 66-499+, 61-328, three electives**.

+ Thesis, available only to Honours students with a major G.P.A. of 8.0 or above.

* Field course in environmental science.

****Approved Elective Courses**

Students in this program will take nine or eleven approved electives, depending on whether or not they undertake honours thesis research. To be eligible to take thesis research a student must be in honours standing (major G.P.A. of 8.0 or above). The elective courses, listed in the following table, are all relevant to environmental science.

APPROVED SCIENCE ELECTIVES

Biology: 55-324, 55-325, 55-366, 55-430, 55-437, 55-444, 55-445, 55-468

Chemistry: 59-250, 59-320, 59-321

Computer Science: 60-106

Geology: 61-231, 61-323, 61-324, 61-326, 61-424, 61-430, 61-436

Physical Geography: 67-220, 67-221, 67-320, 67-332, 67-370, 67-410

General Science: 03-240

Any Arts or Social Science course that constitutes a program requirement for the Bachelor of Environmental Studies degree.

Honours Environmental Studies

See Inter-Faculty Programs - Programs of Study, 3.1.2

Honours Geoinformatics

There is a growing demand for people who have an understanding of information technology and application development, as well as the physical and environmental systems that they represent. Advances in geospatial technology have led to a need for graduates who can organize and analyze spatial data using Global Positioning Systems, Geographic Information Systems, and Remote Sensing methods. The Geoinformatics degree is designed to address these needs, and will provide students with the knowledge and skills that comes from integrating the disciplines of Earth Sciences and Computer Science.

Total courses: forty.

Major requirements-Earth Sciences: fourteen courses, consisting of 61-140, 61-141, 61-232, 67-100, 67-102, 67-210, 67-246, 67-280, 67-310, 67-402, and 67-410; plus three of 61-220, 61-224, 61-230, 61-231, 61-323, 61-326, 61-328, 61-430, 61-436, 67-220, 67-221, 67-320, and 67-370.

Major requirements-Computer Science: eleven courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-315, 60-322, 60-330, and 60-334.

Major requirements-Earth Sciences or Computer Science: 60-499 (a 6.0 credit course) or 61-499 (a 6.0 credit course), or two additional courses numbered 60-, 61-, or 67- (as chosen in consultation with an advisor).

Other requirements:

(a) one pair of both 55-140 and 55-141, or both 59-140 and 59-141, or both 64-140 and 64-141;
(b) 62-120, 62-130, and 65-205;
(c) eight options from any area of study, including Earth Sciences or Computer Science, with at least one from each of Arts and Social Sciences.

Honours Geology

Note: Students should consult with an Earth Sciences advisor before making elective course choices to make sure that the choices conform to the requirements for professional licensure as a geoscientist.

Total courses: forty.

Major requirements: twenty-three courses, including 61-140, 61-141, 61-220, 61-224, 61-230, 61-231, 61-232, 61-280, 61-327, 61-380, 61-436, plus twelve additional Geology courses from 61-320, 61-321, 61-323, 61-324, 61-326, 61-328, 61-420, 61-424, 61-429, 61-430, 61-499, 67-100, 67-210, 67-246, 67-402.

Students who intend continuing on to graduate studies should take 61-499 (Thesis).

Other requirements:

(a) ten courses from Mathematics and Science, including 59-140, 59-141, 62-130 (62-140 and 62-141) and 65-205. Additional courses must be selected from those courses that count towards a major in the other discipline;
(b) two courses from the Faculty of Arts and Social Sciences.
(c) five additional courses from any area of study.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 59-140, 59-141, 60-104 or 60-106, 61-140, 61-141, 62-130, 65-205.

Second Year: ten courses, including 61-220, 61-224, 61-230, 61-231, 61-232, and 61-280.

Third Year: ten courses.

Fourth Year: ten courses.

Honours Geology with Thesis

In order to earn an Honours B.Sc. in Geology with Thesis, students must include the course 61-499 (thesis). It should be noted that only students who have maintained a major G.P.A. of 8.0 and a cumulative G.P.A of 5.0 will be permitted to enroll in 61-499.

Honours Physical Geography

Total courses: forty.

Major requirements: nineteen courses, including 42-231, 61-140, 61-141, 61-326 and 61-499 (a 6 credit course); plus 67-100, 67-102, 67-210, 61-220, 67-221, 67-246, 67-320, and 67-370; and four of 61-224, 61-232, 67-280, 67-310, 67-334, 67-402, 67-410; plus any one 42- course.

Other requirements:

(a) two pairs of both 55-140 and 55-141, both 59-140 and 59-141, and both 64-140 and 64-141;
(b) 60-104, 60-106, 62-130 and 65-205;
(c) seven additional courses which could otherwise be credited towards the major requirements for a BSc degree in Biology, Chemistry, Computer Science, Geology, or Physics, or from the Faculty of Engineering, including any not already applied to (a) above;
(d) one course from Arts/Languages;
(e) five courses from any subject area, including Physical Geography (67-).

Combined Honours Programs

Total courses: forty.

Major requirements-Earth Sciences: fourteen courses consisting of 61-140, 61-141, 67-100, 67-102; plus ten other Earth Science courses at the 200 level or above, chosen in consultation with an Earth Science advisor.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) 60-104 and 62-130 and two other Science or Mathematics courses as prescribed by Earth Sciences;
(b) four courses from Arts and Social Sciences, if other Honours area is Science, or, four courses from Science, if other Honours area is not Science;
(c) additional courses, if necessary, from any area of study to a total of forty courses.

Minor in Environmental Science

The minor in Environmental Science consists of a total of six courses as described below.

Selected courses leading to the credit of a minor in Environmental Science may not include antirequisite or prerequisite courses in a student's degree program, nor can they fulfill "Major" requirements of a student's program as it appears in this Calendar.

Select a total of six courses from the following:

(a) two pairs of courses selected from: 55-140 and 55-141, 61-140 and 61-141, 67-100 and 67-102;
(b) two courses at the 200 level selected from the list of required courses for the Honours Environmental Science program.

Minor in Geography

A minor in Geography consists of:

(a) one of 42-130, 42-131, or 42-150;
(b) one of 67-100 or 67-102;
(c) four other 42- and/or 67- Geography courses, three of which must be at the 200 level or above.

Minor in Geology

A minor in Geology consists of 61-140, 61-141, 61-220, 61-231, 61-232, and one other Geology course at the 200 level or above. Students are reminded to select courses that may be taken for credit towards the B.Sc. degree.

Minor in Geochemistry

A minor in Geochemistry consists of 61-140, 61-220, 61-224, 61-231, and two of 61-328,61-424, or 61-441.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 61-220, 61-224, 61-230, 61-231, 61-232, 61-280; plus six of 67-210, 67-246, 61-320, 61-321, 61-323, 61-324, 61-328, 61-326, 61-327, 61-380, 61-420, 61-424, 61-429, 61-430, 61-436, 61-441. (Other requirements: 61-140, 61-141, 59-140, 59-141.)

Minor Concentration: 61-220, 61-224, 61-232, 61-230, 61-231, 61-280. (Other requirements: 61-140, 61-141.)

5.5.2 CO-OPERATIVE EDUCATION PROGRAM

The Co-operative Education Program is available for the following degrees:
Bachelor of Science (Honours Geology) Co-op
Bachelor of Science (Honours Geology with Thesis) Co-op
Bachelor of Science (Honours Environmental Geoscience) Co-op
Bachelor of Science (Honours Environmental Geoscience with Thesis) Co-op

The Co-op program aims to provide students with exposure to practical aspects of the Earth Science during their undergraduate years. The program alternates study terms and three paid work terms, beginning at the end of the second year of study. The experience gained while participating in these structured and supervised work placements is viewed as an integral component of the student's education.

ACADEMIC REQUIREMENTS:

Earth Science Co-op students must maintain full-time academic status and satisfy the following:

(a) Must maintain a minimum cumulative average of 5.0, and
(b) Must maintain a minimum major average of 8.0, and
(c) Must not have more than one outstanding F on their transcript.

WORK/STUDY SEQUENCE

Year of Study	*Fall Semester*	*Winter Semester*	*Summer Semester*
Year 1	Study	Study	Off
Year 2	Study	Study	Work
Year 3	Study	Study	Work
Year 4	Study	Study	Work

5.6.4 COURSE DESCRIPTIONS-GEOLOGY

All courses listed will not necessarily be offered each year.

61-110. Natural Hazards and Disasters.
The Earth's component systems and their interrelationships. Earth hazards and the Earth's interior processes: volcanism and earthquakes. Hazards and surface processes: landslides and floods. Atmospheric Hazards: storms, hurricanes and tornadoes. This course is designed for non-science majors. (May not be taken as credit for a B.Sc. degree.) (Antirequisite: 61-140 and 61-141.) (2 lecture hours per week.)

61-111. Our Changing Earth
Origin of the Universe and Solar System; focus on the Earth and Moon; earliest life forms. Measurement of geological time. Global climatic change in geological history; drifting continents; deserts, floods and ice sheets. Fossils and evolution; extinctions and probable causes. Human evolution and migrations; early technologies. This course is designed for non-Science majors. (May not be taken as credit for a B.Sc. degree.) (Antirequisite: 61-141.) (2 lecture hours a week.)

61-140. Earth Systems I: The Solid Earth
Origin and nature of the solar system. Earthquakes, seismology and the Earth's interior. Plate tectonics and the Earth's crust. Minerals. Magmatism and igneous rocks. Geologic time. Introduction to sedimentary rocks. Metamorphism and metamorphic rocks. Deformation. Earth resources. This course is designed for Science majors. (2 lecture, 2.5 laboratory hours a week.)

61-141. Earth Systems II: The Earth's Surface
The Earth's surficial systems: surface processes, the hydrosphere and biosphere. Oceans. Streams. Groundwater. Glaciers. Deserts. Weathering and related phenomena. Sediments, fossils, time and paleoenvironmental analysis. Evolution of the biosphere. This course is designed for Science and Engineering majors. (2 lecture, 2.5 laboratory hours a week.)

61-210. Introduction to Oceanography
Geological, biological, physical, and chemical aspects of the oceans; exploration techniques, instruments and vessels; origin of the oceans; ocean circulation; ocean and climate; waves and tides; marine resources. This course is designed for non-Science majors. (May not be taken for credit towards a B.Sc. Degree in Earth Sciences.) (2 lecture hours a week.)

61-213. Geology and the Environment
Effect of geological factors on the environment; pollution of groundwater, ground subsidence, nuclear waste disposal, subsurface disposal of liquid wastes, earthquake prediction and control. This course is designed specifically for the non-scientist. (May not be taken for credit towards a B.Sc. Degree in Earth Sciences.) (2 lecture hours a week or equivalent.)

61-214. Geology and International Development
Aid, international development, and Earth processes; integration of water-resource management, soil conservation and agroforestry; geological hazards in a tropical setting; small-scale mining and conservation of mineral resources; engineering an improved quality of life in developing nations. (May not be taken for credit towards a B.Sc. Degree in Earth Sciences.) (2 lecture hours a week or equivalent.)

61-220. Introduction to Mineralogy
Introduction to fundamental concepts in mineral science: crystal chemistry, symmetry, crystallography, mineral formation and stability. The physical properties of minerals will be studied. Introduction to analytical methods in mineral science including optical microscopy and x-ray diffraction. (Prerequisites: 59-140, 59-141; 61-140 and/or 61-141 recommended.) (2 lecture, 3 laboratory hours a week.)

61-224. Introduction to Geochemistry
An overview of the chemical composition of Earth and the factors governing the cycling of chemicals throughout the earth from the core through to surface environments. Principles of crystal chemistry, chemical reactions and equilibria, oxidation and reduction, adsorption and ion exchange and isotope chemistry and their relevance to Earth processes. (Prerequisites: 59-140, 59-141.) (3 lecture and/or tutorial hours per week.)

61-230. Plate Tectonics and the Earth's Interior
Plate tectonic processes and the major features of crustal evolution; analysis of the Earth's interior using seismologic and other geophysical evidence; introductory tectonic and geophysical problems. (Prerequisite: 61-140.) (2 lecture, 2 laboratory hours a week.)

61-231. Introduction to Petrology
Petrography, textures, composition and classification of igneous and metamorphic rocks. Evolution of magmatic systems. Nature and causes of metamorphism. Relationship between global tectonics and magmatic and metamorphic processes. (Prerequisite: 61-220, or consent of instructor.) (2 lecture, 3 laboratory hours a week.)

61-232. Modern and Ancient Sedimentary Environments
An integrated approach to paleontology and sedimentology; introduction to sedimentary deposits, sedimentary environments and associated invertebrate organisms; depositional systems and peleonenvironmental analysis. (Prerequisite: 61-141.) (2 lecture, 3 laboratory hours a week.)

61-246. Environmental Decision Analysis
Earth systems, including climatic extremes, the industrialized ecosystem; decisions under uncertainty in mineral-resource exploration and development; rational approach to decision making, alternatives to decision analysis; environmental impact assessment and risk management, expert systems approach to environmental problem solving, applications in less developed countries. (3 lecture hours a week.)

61-247. Environmental Auditing in Mineral Resource Development
Cyclical flow of energy and matter in nature, human interaction with environmental processes, elements of policy analysis; environmental management systems and environmental impact assessment; environmental audit processes, steps in design and delivery; mineral resource development and the audit protocols; from audit to action plan, auditing the audit. (3 lecture hours a week.)

61-280. Field Camp I
Introduction to sediment and water sampling, field relationships, mapping methods, and field measurements. Interpretation of topographic and geologic maps, use of compasses and GPS units. Required field trips. (2 weeks; immediately following the winter term examination period.) (Prerequisites: 61-231 and 61-232.)

61-298. Co-op Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

61-320. Igneous Petrology
The origin and evolution of igneous rocks. Melting and crystallization,

magmatic differentiation, contamination, mixing of magmas. Mineralogy, petrography, geochemistry and tectonic environments of representative rock suites. (Prerequisite: 61-231.) (2 lecture, 3 laboratory hours a week.)

61-321. Metamorphic Petrology
The distribution and origin of metamorphic rocks in the light of physical, chemical and tectonic constraints. Mineralogy, petrography, and textural evolution of representative rock suites. (Prerequisites: 61-231.) (2 lecture, 3 laboratory hours a week.)

61-323. Stratigraphy
The principles of lithostratigraphy and biostratigraphy; surface and subsurface stratigraphic methods; concepts of facies; identification and interpretation of sedimentary sequences; stratigraphic maps, including numerical techniques; applications in resource exploration. (Prerequisite: 61-232.) (3 lecture, 3 laboratory hours a week.)

61-324. Sedimentary Petrology
A review of the principal depositional environments of clastic and carbonate rocks; discussion of sediment transport processes and the generation of sedimentary structures; textural and mineralogical properties of sediment and sedimentary rocks, including comparison of ancient and modern depositional environments. Economic aspects of sedimentary rocks. Microscopic and laboratory examination of selected sedimentary rock types will be complemented by field work in the local area. (Prerequisite: 61-232.) (2 lecture, 3 laboratory hours a week; field trips.)

61-326. Quaternary and Glacial Geology
The occurrence of ice ages, with particular emphasis on the late Cenozoic, the Laurentide and Cordilleran glaciations of Canada during the Quaternary Period. Glacial budgets, processes of ice movement, mechanics of ice erosion, debris entrainment and deposition. Erosive and depositional landforms and landscapes. Periglacial environments and landforms. The origin and nature of tills, stratified drift and other terrestrial, lacustrine and marine deposits. Changes in relative sea level. (Antirequisite: 67-444.) (2 lecture and 2 lab hours per week.)

61-327. Structural Geology
Rock deformation; primary and secondary structures; analysis and classification of folds and faults; interpretation of geologic maps; solution of structural problems. (Prerequisite: 61-231.) (3 lecture, 3 laboratory hours a week.)

61-328. Aqueous and Environmental Geochemistry
Processes such as water-rock interactions, element cycling, and contaminant mobility in near-surface geologic settings will be studied using the principles of geochemistry, thermodynamics and chemical kinetics. Topics covered in this course will include: the laws of thermodynamics, aqueous complexation, solutions and activities, redox reactions, solubility, phase equilibria and chemical kinetics in natural systems. (Prerequisite: 59-240 or 61-224 or consent of instructor.) (3 lecture and/or tutorial hours per week.)

61-380. Field Camp II
Geological mapping methods. An additional fee is charged to defray the costs of accommodation. (Prerequisites: 61-280 and 61-327.) (2 weeks; immediately following the Winter term examination period.)

61-398. Co-op Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

61-420. Mineral Deposit Geology
Geology and genesis of metallic and industrial mineral deposits. Introduction to ore-forming processes and mineral exploration. (Prerequisite: 61-231.) (2 lecture, 3 laboratory hours a week.)

61-424. Advanced Geochemistry
The application of trace elements and stable and radiogenic isotopes to understanding and modelling earth processes. Factors governing the fractionation of isotopes and elements in response to the major fluxes of material within the mantle and crust of the earth. Discussion of mantle reservoirs and mantle-crustal evolution models. (Prerequisite 61-320 or consent of instructor.) (3 lecture and/or seminar hours per week.)

61-429. Basin Analysis
Classification of sedimentary basins, pressure-temperature variation, compaction and porosity-permeability distribution, groundwater regime and hydrogeologic environment, fluid-rock interaction, diagenetic reactions, organic matter, mineralization, and basin history. (Prerequisite: 61-232 or consent of instructor.) (3 lecture/seminar hours a week.)

61-430. Environmental and Engineering Geophysics
An introduction to the use of seismic, electrical, electromagnetic and other geophysical methods used in near-surface environmental and engineering assessment studies. (2 lecture, 3 laboratory hours a week.)

61-436. Hydrogeology
Fundamental physics and properties of groundwater flow in porous geologic material, develops an intuitive, problem-solving approach to hydrogeologic problems. Topics include: groundwater flow equations, flow nets, aquifer pumping, contaminant transport processes, two-phase flow, and dense non-aqueous phase liquids. Computer application will be emphasized. (Prerequisite: 61-141, 62-130 or equivalent or consent of instructor.) (3 lecture, 2 laboratory hours a week.)

61-441. Biogeochemistry
An investigation of global change focusing on the chemical, physical, geological, and biological processes that cycle elements through the Earth's system. Topics covered in this course will include: The origin of Life, global element cycles, mineral weathering and the global CO2 budget, microbe-water-rock interactions (including: sorption, oxidation-reduction, and methylation of metals; biological degradation of organic

molecules; application of molecular biology and stable isotope techniques to environmental problems). (Prerequisites: 61-224 or consent of instructor) (3 lecture and/or tutorial hours per week.)

61-470. Special Topics in Earth Science
Selected topics of current interest. (Prerequisite: consent of instructor and a program advisor.) (3 lecture or project hours a week.)

61-498. Co-op Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

61-499. Thesis
Each student will be required to carry out a selected research project and write a report under the supervision of a staff member. The student must register in two terms; the grade will be assigned at the end of the second term. (A 6.00 credit hour course.) (Restricted to only Semester 7 or 8 students with a Major G.P.A. of 8.00 or greater.)

5.5.5 COURSE DESCRIPTIONS -ENVIRONMENTAL SCIENCE

66-201. Science, Technology, and Society
This course is designed to explore the complex inter-relationships between science, technology, and society. The nature of science and scientific method and selected current issues in science and technology will be discussed. Topics may include chemicals in society, biotechnology and related issues, nuclear energy, and the impact of these technologies on society. Technology, as it relates to human values and public awareness, will also be considered. (Not open to Semester 1 and 2 students.) (Antirequisite: 03-200.) (3 lecture hours a week.)

66-280. Field Methods in Environmental Science
Field sampling and measurement techniques in the environmental sciences. Special consideration will be given to the measurement, evaluation and reporting of spatial and temporal data and to the collection and interpretation of geochemical data. Required field trips. (Prerequisites: 61-141, 61-224, and 67-100.) (2 weeks, immediately following the winter term examination period.)

66-499. Thesis Research in Environmental Science
Each student will be required to carry out an original research project in environmental science and write a report under the supervision of one or more faculty members. The results of the research will also be presented in a public seminar. Students must consult with an Environmental Science counselor prior to enrolling in this course. (A 6.00 credit, two-semester course.) (Restricted to semester 7 and 8 students with a major G.P.A. of 8.0 or higher.)

5.5.6 COURSE DESCRIPTIONS-PHYSICAL GEOGRAPHY

Not all courses listed will necessarily be offered each year.

67-100. Introduction to Geomorphology
The landscapes of the earth, with particular reference to the glaciers, coastlines, rivers, and northern permafrost regions of Canada. (3 lecture hours a week.)

67-102. Atmosphere and Climate
An introduction to the atmosphere and the basic principles of meteorology and climatology. Topics include weather systems, atmospheric pollution and inadvertent climate modification, climate change and relationships between climate and living organisms. (3 lecture hours a week.)

67-205. Introductory Geographical Information Systems
This introductory course provides an overview of GIS applications, the fundamentals of GIS map projections, measurement levels for geographical data, data sources, data processing, data models, geographic data structures, and GIS editing functions and analysis; GIS project design and digital mapping fundamentals will also be introduced. Laboratory exercises will focus on spatial data characteristics, raster and vector data structures, and digital map creation. This course is designed for students who intend to take only one GIS course. (Those students who wish to take upper year GIS courses should take 67-210 instead of 67-205.) (Antirequisite: 67-210.) (2 lecture, 3 laboratory hours a week.)

67-210. Principles and Applications of Geographical Information Systems
This course emphasizes the principles, techniques, and applications of GIS. Lectures and laboratory exercises will focus on how to acquire, store, manipulate, and analyze spatial and non-spatial data. Data conversion, data reformatting, and data base development techniques will be explained. Students will create geographic coverages and learn techniques in the operation of a GIS by completing "hands-on" projects with modern GIS software. (It is recommended that students take 67-246 before taking this course.) (2 lecture, 3 laboratory hours a week.) (Antirequisite: 67-205.)

67-220. Climatology
A study of the major climatic elements, with special emphasis on the radiation budget, energy systems, and the hydrological cycle of the earth and the human environment. Climate classification, climatic change, climatological techniques, and aspects of applied climatology also will be examined. (Prerequisites: 67-102.) (2 lecture, 2 laboratory hours a week.)

67-221. Advanced Geomorphology
The study of landforms; their origins, structures, external expressions, and spatial arrangement. (Prerequisites: 67-100, or consent of instructor.) (2 lecture, 2 laboratory hours a week.)

67-246. Introduction to Aerial Photography and Cartography
Basic concepts involved in cartographic theory and design, including map projections, longitude, latitude and UTM grid systems, and themat-

ic and topographic maps, and the fundamentals of aerial photographs and other remotely sensed data (visible spectrum, infra-red and radar), satellite imagery, photogrammetry and photointerpretation. (2 lecture, 2 laboratory hours a week.)

67-280. Field Measurement and Mapping Techniques
Introduction to sediment and water sampling, mapping methods, and field measurements. Interpretation of topographic maps, use of compasses and GPS units. Integration of field data into a GIS. Required field trips. (2 weeks; immediately following the winter term examination period.) (Prerequisites: 61-141, 67-100 and 67-205 or 67-210.)

67-310. GIS Problem Solving and Spatial Modeling
This course will concentrate on the utilization of numerical, spatial, and digital elevation models, and integration of all GIS data, including those from air photographs, GPS receivers, and remote sensing satellites. The application of spatial statistics and integration of models in a GIS will be explained. Techniques for using spatial algorithms and modeling toward decision making will be applied. Exercises will provide "hands-on" experience in the use of GIS and models for problem solving in various disciplines. (Prerequisites: 67-210.) (2 lecture, 3 laboratory hours a week.)

67-320. Watershed Hydrology
Fundamental processes in physical hydrology that control movement and storage of water within a watershed or catchment basin. Components of the water balance (precipitation, interception, infiltration, evapotranspiration, runoff, storage) and their variations in space and time. Theoretical and practical approaches to measurement and forecasting of components and their linkages. Special consideration of snowmelt, streamflow, wetlands, and human impacts. (Prerequisite: 61-141, or consent of instructor.) (2 lecture, 2 laboratory hours a week.)

67-332. Principles of Resource Management
Ecological theories and systems are examined. The biogeochemical cycles, structure, function, energy components, productivity, successional development, and equilibrium conditions of ecosystems are analyzed. The impact of human activities on resources, conservation strategies, and techniques for rational resource exploitation are evaluated. (Prerequisite: 42-200 or consent of instructor.) (3 lecture hours a week.)

67-334. Environmental Impact Assessment
This course provides an overview of the biogeophysical environment, and introduces peristametrics. The history, theories, and principles of Environmental Impact Assessment (EIA) will be examined and various methodologies for the preparation of an EIA report will be evaluated. Aspects of ethics, environmental laws, and administrative requirements for EIA studies in Canada are considered. EIA case studies are assessed and prepared. (Prerequisite: 67-332 or consent of instructor.) (3 lecture hours a week.)

67-370. Climate Change
A study of the causes of climate and climate change. Topics include the record of past climates, projection of future climate based on models incorporating anthropogenic factors, modification of local and regional climates, and the impact of these changes on the natural and human environment. (Prerequisite: 67-220 or consent of instructor.) (3 lecture hours a week.)

67-402. Remote Sensing
An integrated course dealing with contemporary principles and applications of aerospace remote sensing. Emphasis will be placed on scanning systems; multispectral sensors; the identification and interpretation of spectral signatures; how the imagery obtained by sensors is analyzed optically or digitally to yield earth resource information; and the manipulation and display of remotely-sensed data. (Prerequisite: 67-246 or consent of instructor.) (2 lecture, 1.5 laboratory hours a week.)

67-410. Advanced Methods in GIS Analysis
This course will examine selected advanced GIS analysis methods that are currently used in GIS practice. Each student will conduct an independent literature review and GIS-based project to explore the concepts and practical applications of a current analysis methodology that is related to the student's field of interest. (Prerequisite: Minimum B+ in 67-310 or consent of instructor.) (2 lecture, 3 laboratory hours per week.)

For course descriptions in Human Geography, see 4.9.2.

5.6 Economics

(Ext. 2367)

OFFICERS OF INSTRUCTION

Professors Emeriti

Phillips, William Gregory; B.A., M.A., Ph.D. (Toronto)-1950.

Strick, John Charles; B.A. (Manitoba), M.A. (Assumption), Ph.D. (Alberta)-1965.

Professors

Fortune, J. Neill; B.Sc.A. (Toronto), M.A. (Western Ontario), Ph.D. (Indiana)-1969.

Meng, Ronald; B.Sc. (Trent), M.A., Ph.D. (Carleton)-1987.

Anglin, Paul; B.Sc. (Toronto), M.A., Ph.D. (Western Ontario) 1988.

Suh, Sang-Chul; B.A. (Korea), M.A. (Taiwan), Ph.D. (Rochester)-1994.

Associate Professors

Kolinski, Ralph; B.S. (Marquette), M.A., Ph.D. (Wayne State)-1966. (Head of Department)

Charette, Michael F.; B.A., M.A. (Windsor), Ph.D. (Western Ontario)-1976.

Bajic, Vladimir; B.A., M.A. (Belgrade), M.A. (Williams College), Ph.D. (Toronto)-1984.

Assistant Professor

Wang, Yuntong; B.A. (Hebei). M.A. (Huazhong), Ph.D. Mathematics (Nankai U.), Ph.D. Economics (Montreal)-2000.

Yin, Xiaopeng; B.A. (Nanjing Agricultural U.), M.Sc., Ph.D. (McGill)-2001.

Apinunmahakul, Amornrat; B.A., M.A. (Thammasat U.), Ph.D. (Ottawa)-2002.

Li, Dingding; B.Sc. (Heibei Teachers U.), M.A., Ph.D. (Guelph)-2002.

Rhee, Hyuk-jae; B.S., M.S. (Korea), Ph.D. (Michigan State)-2003.

5.6.1 PROGRAMS OF STUDY

Only the basic program requirements are set out in this Calendar. All students majoring in economics should consult with an Economics advisor and obtain a copy of Guide to Course Selection for Economics Majors which provides important additional information. Copies may be obtained from the Economics office.

The critical requirement for the four-year Economics Honours is the inclusion of Economics 41-110 and 41-111 in the first year of the program. Similarly Economics 41-221, 41-222, 41-231, and 41-232 should be included in the second year of the program.

Students intending to specialize in Economics in a four-year Honours program should satisfy the Mathematics requirements as early as possible in the program.

Bachelor of Arts (Economics)

Total courses: thirty.

Major requirements: eleven courses, including 41-110, 41-111, 41-212, 41-221, and 41-231; and six 200-, 300- or 400-level courses, excluding 41-280 and 41-283. (With the approval of a program advisor, equivalent statistics courses may be substituted for 41-212.)

Other requirements:

(a) 02-250, or 65-205;
(b) eight courses from outside Social Sciences (see 2.4.14), with at least two from Arts/Languages and two from Sciences;
(c) four courses from any area of study including Economics;
(d) six courses from any area of study excluding Economics.

Bachelor of Arts (Honours Economics)

Total courses: forty.

Major requirements: twenty courses in Economics including 41-110, 41-111, 41-212 (or 65-251), 41-221, 41-222, 41-231, 41-232, 41-313, 41-314, 41-323, 41-333, 41-424, 41-434 and seven additional courses, at least five of which have to be at the 300- or 400- level.

Other Requirements:

(a) 62-140, 62-141, and either 65-205 or 65-250;
(b) seventeen courses from any area of study, excluding Economics.

Note: Given the important role mathematics and statistics play in economics, selection of particular Mathematics and Statistics courses should depend upon both the student's educational and career objectives and his or her strength in mathematics. In order to avoid later problems students should consult the Guide to Course Selection referred to above. Early discussion with an advisor designated to assist students with course selections in this area is strongly advised.

Bachelor of Arts (Combined Honours Programs)

Total courses: forty.

Major requirements-Economics: thirteen courses in Economics including 41-110, 41-111, 41-212 or (65-251), 41-221, 41-222, 41-231, 41-232 and six additional in Economics, at least four of which have to be at the 300- or 400- level.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements: 65-205 (or 65-250) plus additional options to a total of forty.

Economics Minor

A minor shall consist of 41-110, 41-111, 41-221, 41-231, and two additional Economics courses. An average of C- or better is required in the six courses.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 41-212, 41-221, 41-222, 41-231, 41-232, 41-313, 41-314, 41-323, 41-333; three additional courses at the 300-level or above. (If Gen Sci. Major 41-424 and 41-434 are required.) (Other requirements: 41-110, 41-111, 65-205.)

*(*Note*: If a student is considering graduate studies in Economics they should take 62-140 (BAS core), 62-141 (BAS core), 65-250 (replaces core 65-205) and 65-251 (replaces 41-212) and 41-424 and 41-434 (replaces two of the three additional 300 level or above), and one additional Economic course at the 300 level or above (replaces 62-130.)

Minor Concentration: 41-212, 41-221, 41-222, 41-231, 41-232; one 300-level or above course. (Other requirements: 41-110, 41-111, 65-205.)

5.6.2 COURSE DESCRIPTIONS

All courses listed will not necessarily be offered each year. All courses are one-term courses and are offered three hours a week unless otherwise indicated.

41-110. Introduction to Economics I
An introduction to microeconomics intended to provide students with the tools necessary to begin to understand and evaluate how resources are allocated in a market economy. Specific topics include how markets function, theories of the business firm, of consumer behaviour and of income distribution. The economic roles of labour unions and government are also covered. The theories are applied to contemporary Canadian economic problems.

41-111. Introduction to Economics II
Building upon microeconomics (41-110), this course is an introduction to macroeconomics. The emphasis is upon measuring and explaining what determines economic aggregates such as the total national product (GDP) and the level of prices and employment. The role of money and financial institutions, the impact of international trade and the policy options available to governments for coping with inflation and unemployment are discussed in detail. (Prerequisite: 41-110.)

41-117. Introductory Economics: Theory, Practice and Policy
Selected topics in micro- and macroeconomics, with emphasis on practical applications, problems, and public policy. This course is designed primarily for Engineering students. (Prerequisites: Mathematics 62-140 and 62-141, or equivalent.) (3 lecture hours, 1 tutorial hour a week.) (Students who have taken 41-117 may not obtain credit in 41-110, but may take 41-111 with permission of an advisor in Economics.)

41-212. Intermediate Statistical Methods
An application of statistical methods to economic theory. (Prerequisite: one of 02-250, 65-250, 65-205, or 73-105.) (Credit will not be given for more than one of 41-212, 65-251, or any equivalent intermediate statistics course from another area.)

41-221. Intermediate Microeconomics I
The theory of markets, the theory of consumer behaviour and demand; the firm, production, cost, and supply. (Prerequisite: 41-110.)

41-222. Intermediate Microeconomics II
Extensions of the theory of consumer and firm behaviour; pricing under different market structures; distribution; general equilibrium and economic welfare. (Prerequisite: 41-221.)

41-230. Economics Analysis of Law
The application of microeconomic principles to the study of property, contract, and tort law. The economic principles underlying property rights, torts, and contracts are surveyed. Selected problems in property, tort, and contract law are considered. Additional topics from other areas of law may be included. (Prerequisite: 41-110.)

41-231. Intermediate Macroeconomics I
A theoretical and policy oriented treatment of the determination of employment, output, interest rates, and the price level; stabilization policies and their effectiveness. (Prerequisites: 41-110 and 41-111.)

41-232. Intermediate Macroeconomics II
Effectiveness of stabilization policies in open economies; causes and cures of inflation; simple growth models. (Prerequisite: 41-231.)

41-240. The Economics of Legal Procedures, Crime, and Punishment
The application of microeconomic principles in the analysis of legal procedures, crime, and punishment. Economic models of filing suit, bargaining, and going to trial will be discussed. Traditional and economic models of criminal activity will be compared and contrasted, along with the economics of civil and criminal punishment. Additional topics from other areas of law may be included. (Prerequisite: 41-110.)

41-263. Economic History of Canada
(Prerequisites: 41-110 and 41-111.)

41-266. Selected Topics in Economic History
(Prerequisites: 41-110 and 41-111.)

41-280. Economics of Communications
The economic structure and operation of the communications industry with emphasis on telecommunications, television and film. (Prerequisite: 41-110.)

41-283. Canadian Public Finance
Government finance in Canada at the federal, provincial and municipal

levels of government; includes government expenditure, taxation, budgeting, public sector development. (Prerequisite: 41-110.) (Credit may not be obtained for both 41-283 and 41-385.)

41-303. Mathematical Economics: Linear Models
Input-output analysis and other linear economic models. (Prerequisites: 41-221, 41-231, and 62-120, or consent of the instructor.)

41-313. Introduction to Econometric Methods I
Development of the classical regression model and problems associated with this model such as multicollinearity, heteroscedasticity, and autocorrelation. (Some familiarity with linear algebra and calculus will be beneficial.) (Prerequisites: 02-250 or 65-205, and 41-212.)

41-314. Introduction to Econometric Methods II
A continuation of 41-313. (Prerequisite: 41-313.)

41-321. Corporation Finance and Investments I
(a) The promotion and financing of business enterprises, financial controls and dividend policies; (b) the principles of investments, individual and institutional; social importance. (Prerequisite: 41-221 or consent of instructor.) (Not open to students in the Odette School of Business Administration, nor to those who have taken equivalent Business courses.)

41-322. Corporation Finance and Investments II
A continuation of 41-321. (Prerequisite: 41-321.)

41-323. Advanced Microeconomics I
The use of mathematical techniques and economic analysis with special emphasis on consumer theory, producer theory, and theory of markets. (Prerequisites: 41-221, 41-222, 62-140, and 62-141 or consent of instructor.)

41-333. Advanced Macroeconomics I
Modern interpretations of macroeconomics, including inflation, unemployment, and policy implications. (Prerequisites: 41-231, 41-232, 62-140, and 62-141, or consent of instructor.)

41-335. Money and Banking
The banking system and other financial institutions; money demand and money supply; money and the level of economic activity; money and inflation; issues in monetary policy. (Prerequisite: 41-231.)

41-341. Economic Growth and Development Theory
Modern theories of growth and development with emphasis upon less developed countries. (Prerequisites: 41-221 and 41-231, or consent of instructor.)

41-342. Economic Growth and Development Policy
Policy oriented application of economic theory to problems of developing countries. (Prerequisite: 41-341.)

41-350. Labour Theory
Wage theories, wage structure, unemployment, labour supply and related topics. (Prerequisite: 41-221.)

41-353. Labour Institutions
Canadian and American labour movements, collective bargaining, union philosophy and labour legislation in Canada and the United States. (Prerequisite: 41-221 or consent of instructor.)

41-373. International Economics: Trade Theory and Policy
A survey of traditional and contemporary theories of international trade and trade policy. (Prerequisite: 41-221.)

41-374. International Economics: Exchange Rates and Balance of Payments
Theory of exchange rate determination and balance of payments adjustment; macroeconomic policy in an open economy; current problems of the international monetary system. (Prerequisite: 41-231.)

41-385. Public Sector Economics: Expenditure
Theory of the role of government in the economy; public expenditure theories and practice; public choice and government decision-making; government grants. (Prerequisites: 41-221 and 41-222.)

41-386. Public Sector Economics: Finance
Government taxation, user charges, borrowing, and the public debt in theory and practice; use of taxation as fiscal policy; and intergovernmental tax relations. (Prerequisites: 41-221 and 41-222.)

41-387. The Economics of Government Regulation
Economic theory and practice of government regulation, with emphasis on the regulation of public utility industries. Includes examination of goals and procedures of regulation; regulation of pricing, entry, rate of return, etc. (Prerequisites: 41-221 and 41-222.)

41-390. Comparative Economic Systems
The organization, operation and performance of economic systems in theory and practice. (Prerequisites: 41-221 and 41-231, or consent of instructor.)

41-406. Mathematical Economics
Various topics, such as general equilibrium theory, dynamic analysis, oligopoly, behaviour under uncertainty, and growth theory. (Prerequisites: 41-222, 41-232, 62-140, and 62-141.)

41-416. Economic Research in Regional Problems
Theoretical development and empirical implementation of interregional income determination systems; regional input-output models; growth models. (Prerequisite: consent of instructor.)

41-420. Industrial Organization Theory
A theoretical analysis of firms' behaviour in many different markets. (Prerequisites: 41-221 and 41-222.)

41-424. Advanced Microeconomics II
Selected topics in microeconomic theory. (Prerequisite: 41-323.)

41-434. Advanced Macroeconomics II
Selected topics in macroeconomic theory. (Prerequisite: 41-333.)

41-440. Selected Topics in International and Development Economics
(Prerequisite: consent of instructor.)

41-499. Selected Topics in Economics
(May be repeated for credit with consent of an advisor in Economics.)
(Prerequisite: consent of the instructor.)

5.7 Mathematics and Statistics

For further information, see our World Wide Web page: http://www.uwindsor.ca.math

OFFICERS OF INSTRUCTION

Professors Emeriti

Smith, Alexander Cormac; B.Sc., M.Sc., Ph.D. (Dublin)-1963.

Chandna, Om Parkash; B.A. (Panjab), M.A. (Delhi), M.Sc., Ph.D. (Windsor)-1968.

Duggal, Krishan L.; B.A. (Panjab), M.A. (Agra), M.Sc., Ph.D. (Windsor)-1968.

Kaloni, Purna N.; M.Sc. (Allahabad), M.Tech., Ph.D. (Indian Inst. of Tech.)-1970.

Wigley, Neil M.; B.A., Ph.D. (California)-1970.

Wong, Chi Song; B.S. (National Taiwan U.), M.S. (Oregon), M.S., Ph.D. (Illinois-Urbana)-1971.

Professors

McDonald, James F.; B.S., Ph.D. (Wayne State)-1967.

Lemire, Francis William; B.Sc. (Windsor), M.Sc., Ph.D. (Queen's)-1970.

Britten, Daniel J.; B.A. (Merrimack College), M.S., Ph.D. (Iowa)-1971.

Barron, Ronald Michael; B.A., M.Sc. (Windsor), M.S. (Stanford), Ph.D. (Carleton)-1975. (Associate Dean, Faculty of Graduate Studies and Research)

Fung, Karen Yuen; B.A., M.S., Ph.D. (UCLA)-1976.

Paul, Sudhir R.; B.Sc., M.Sc. (Dacca), Ph.D. (Wales)-1982.

Caron, Richard J.; B.M., M.M., Ph.D. (Waterloo)-1983. (Dean of the Faculty of Science)

Ahmed, Ejaz; B.Sc., M.Sc. (Karachi), M.Sc. (Guelph), Ph.D. (Carleton)-2002. (Head of the Department)

Associate Professors

Gold, Alan John; B.A. (Windsor),Dip. D'Etudes, Doct. de Spec. (Clermont)-1969. (Coordinator, Student Exchange Programs, Windsor International)

Traynor, Tim Eden; B.A., M.A. (Saskatchewan), Ph.D. (British Columbia)-1971.

Hlynka, Myron; B.Sc. (Manitoba), M.A., Ph.D. (Pennsylvania State)-1986.

Hu, Zhiguo; B.Sc., M.Sc. (Northeast), Ph.D. (Alberta)-1993.

Assistant Professors

Alfakih, Abdo Y.; L. ès Ed. (Lebanese U), M.S. in Physics, M.S., Ph.D. in Operations Engineering (Michigan)-2003.

Hussein, Abdulkadir A.; B.Sc. (Trieste), M.Sc., Ph.D. (Alberta)-2003.

Monfared, Mehdi S.; B.Sc. (Sharif), M.Sc. (Iran U), Ph.D. (Alberta)-2003.

Adjunct Professors

Brill, Percy; B.Sc. (Carleton), M.A. (Columbia), Ph.D. (Toronto)-1984.

Fleisher, Isidore; B.Sc. (Brooklyn), M.Sc., Ph.D. (Chicago)-1985.

Lev, Benjamin; B.Sc., M.Sc. (Technion), Ph.D. (Case Western)-2000.

Adjunct Associate Professors

Atkinson, Harold A.; B.Sc. (Western Ontraio), M.Sc. (Assumption), Ph.D. (Queens)-1964.

Stanford, David; B.Sc. (Concordia), M.Eng., Ph.D. (Carleton)-2000.

Mandelbaum, Marvin; B.A.Sc. (Toronto), M.Sc. (Technion), Ph.D. (Toronto)-2002.

Cross-Appointments

Aneja, Yash Paul; B.Sc., M.S. (Indian Statistical Institute), Ph.D. (Johns Hopkins)-2002.

5.7.1 PROGRAMS OF STUDY

Students are reminded that, as indicated in the course descriptions, certain Mathematics and Statistics courses may not be available for credit in some or all of the degree programs outlined below.

All programs in Mathematics are subject to the general University and Faculty of Science regulations as outlined in the relevant sections of this calendar. Additionally, Mathematics majors must obtain a grade of C- or better in each Mathematics or Statistics course which is explicitly required in their program of registration. Students registered in the combined Mathematics and Computer Science Honours program also must obtain a grade of at least C- in all required Computer Science courses.

Bachelor of Mathematics (General)

Total courses: thirty.

Major requirements: thirteen courses, including 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-318, 65-250 and 65-251; plus four other courses at the 200 level or above.

Other requirements:

(a) 60-140 and 60-141;
(b) four courses from the Faculty of Arts and Social Sciences;
(c) three courses from any area of study, including Mathematics and Statistics;
(d) eight courses from any area of study, excluding Mathematics and Statistics.

Bachelor of Mathematics (Honours)

Total courses: forty.

Major requirements: twenty-two courses, consisting of 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-220, 62-221, 62-314, 62-315, 62-318, 62-321, 65-250, 65-251; plus eight more courses (62- or 65-)at the 300 level or above.

Other requirements: 60-140 and 60-141; four courses from Faculty of Arts and Social Sciences, and twelve courses from any area of study.

Bachelor of Mathematics (Honours Mathematics and Statistics)

Students who include in their major requirements 65-350, 65-351 and two other Statistics courses (65-) numbered 300 or higher will receive the degree Bachelor of Mathematics (Honours Mathematics and Statistics).

SUGGESTED COURSES FOR MATHEMATICS SPECIALIZATIONS

Pure Mathematics: 60-231, 62-322, 62-332, 62-361, 62-410, 62-411, 62-420, 62-421, and 62-422.

Statistics: 60-231, 65-340, 65-350, 65-351, and 62-410.

Applied Mathematics: 60-231, 62-332, 62-360, 62-361, 62-374, 62-460, 62-461, 62-470, 62-471, 62-480, 62-481, 64-140, 64-141, 64-151, 64-220, 64-250, 64-321, 64-322, 64-350, 64-420, 64-421, 64-450, 64-451, and 65-376.

Actuarial: 62-392, 62-374, 62-480, 62-481, 62-490, 62-492, 65-350, 65-351, 65-376, 65-452, 65-454, 70-151, 70-152, 71-140, 72-171, 72-271, and 72-374.

Bachelor of Operational Research (Honours Co-operative Education Program)

Co-operative Education offers students the opportunity to combine their classroom experiences with related work experiences. Students who are accepted to the Bachelor of Operational Research (Honours Co-operative Education Program) must successfully complete four paid work experiences interspersed throughout their degree program. The experience gained while participating in these structured and supervised work placements is viewed as an integral component of the student's educational program.

Total courses: forty-four.

Major requirements: thirty-six courses, consisting of:

(a) Mathematics: 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-220, 62-221, 62-314, 62-374, 62-482;
(b) Statistics: 65-250, 65-251, 65-350, 65-351, 65-376, 65-456;
(c) Computer Science: 60-140, 60-141;
(d) Economics: 41-110, 41-111, 41-221, 41-231;
(e) Industrial and Manufacturing Systems Engineering: 91-327, 91-400, 91-412, 91-413, 91-422, 91-429;
(f) Business Administration: 70-151, 70-152, 70-256, 73-305, 73-331;
(g) one of Mathematics 62-380 or Engineering 85-211.

Other requirements:

(a) four electives from any academic area. (Recommended elective: 46-358.)
(b) four work term placements: 62-188, 62-288, 62-388, 62-488.

SEQUENCE OF WORK AND STUDY TERMS

FIRST YEAR
Fall Term: Study term
Winter Term: Study term
Summer Term: Work term

SECOND YEAR
Fall Term: Study term
Winter Term: Study term
Summer Term: Work term

THIRD YEAR
Fall Term: Study Term
Winter Term: Work Term
Summer Term: Study Term

FOURTH YEAR
Fall Term: Work Term
Winter Term: Study Term
Summer Term: Study Term

Bachelor of Mathematics (Honours Mathematics and Computer Science)

Total courses: forty.

Major requirements-Mathematics and Statistics: sixteen courses, consisting of 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-220, 62-221, 62-314, 62-315, 62-318, 62-321, 65-250, 65-251; plus two courses (62- or 65-) numbered 300 or higher.

Major requirements-Computer Science: thirteen courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, and 60-315; plus three additional courses (60-) at the 300 level or above.

Additional Major requirements: four further Mathematics, Statistics, or Computer Science courses at the 200 level or above, excluding 60-106, 60-205, 60-207, 60-305, 60-336 and 65-205.

Other requirements: seven courses from any area of study.

Other Combined Honours Programs

Honours programs combining Mathematics with a second Honours area of study (other than Computer Science) will consist of:

Total courses: forty.

Major requirements-Mathematics and Statistics: sixteen courses, including 62-120, 62-140, 62-141, 62-190, 62-215, 62-216, 62-220, 62-221, 62-314, 62-315, 62-318, 62-321, 65-250, 65-251; plus two additional courses (62- or 65-) at the 300 level or above.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) 60-140 and 60-141;
(b) any additional, non-major requirements as determined by the second area of study;
(c) additional courses, if necessary, from any area of study to a total of forty courses.

Concurrent Bachelor of Mathematics/Bachelor of Education

The Concurrent Bachelor of Mathematics/Bachelor of Education Program is offered jointly over four or five years by the Department of Mathematics and Statistics and the Faculty of Education. The aim is to provide the opportunity and education to individuals who wish to teach mathematics in schools at the intermediate and senior levels (Grade 7 through the end of secondary school).

Graduates of this program will receive two degrees and will acquire the necessary skills and knowledge for two teachable subjects and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can qualify for the Bachelor of Mathematics degree while concurrently studying education and doing practice teaching in schools. Practice teaching begins in Year One of the program. All students should see an advisor in the Department of Mathematics and Statistics, and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

PROGRAM REQUIREMENTS

CONCURRENT BACHELOR OF MATHEMATICS (GENERAL)/ BACHELOR OF EDUCATION

Total courses: Forty-four semester courses

5.7 MATHEMATICS AND STATISTICS (03-)

CONCURRENT BACHELOR OF MATHEMATICS (HONOURS)/ BACHELOR OF EDUCATION

Total courses: Fifty-four semester courses

All students are required to complete the requirements of the Bachelor of Mathematics (General or Honours) degree program, in addition to: seven full-year Education courses: 80-203, 80-204, 80-205, 80-303 and 80-366; plus one additional Education course in the range of 80-352 through 80-380; and seventy days of Practice Teaching (80-499). Requirements can also be met for teaching in the Roman Catholic school system by taking 80-200 as an eighth Education course.

Mathematics will be the first teachable subject for students in this program. All students must select a group of courses that provide a second teachable subject (6 approved courses in one area) and are advised to seek the recommendations of the program co-ordinators to ensure that their selection of courses fulfills B.Math.(General or Honours) degree requirements, as well as the requirements for a `teachable' subject from the perspective of the Faculty of Education.

Many students elect to complete the Bachelor of Mathematics (Honours) degree, thus increasing the range of their career opportunities. Students should make this decision during their second year of studies.

RECOMMENDED COURSE SEQUENCES

CONCURRENT BACHELOR OF MATHEMATICS (GENERAL)/ BACHELOR OF EDUCATION

First Year: 62-120, 62-140, 62-141, 62-190, 60-140, 60-141, an arts and a social science course; and the education courses, 80-203 and 80-205.

Intersession: 80-499 (ten days).

Second Year: eight courses in the B.Math. program; and the education course, 80-303.

Intersession: continuation of 80-499 (twenty days).

Third Year: seven courses in the B.Math. program; plus 80-204 and 80-366.

Intersession: continuation of 80-499 (twenty days).

Fourth Year: seven courses in the B.Math. program; and one further course in the range 80-352 through 80-380, excluding 80-366; plus 80-200 if applicable.

Intersession: completion of 80-499 (twenty days).

CONCURRENT BACHELOR OF MATHEMATICS (HONOURS)/ BACHELOR OF EDUCATION

First Year: 62-120, 62-140, 62-141, 62-190, 60-140, 60-141, an arts and a social science course; and the education courses, 80-203 and 80-205.

Intersession: 80-499 (ten days).

Second Year: eight courses in the B.Math. program; and the education course, 80-303.

Intersession: continuation of 80-499 (twenty days).

Third Year: ten courses in the B.Math program.

Fourth Year: seven courses in the B.Math. program; plus 80-204 and 80-366.

Intersession: continuation of 80-499 (twenty days).

Fifth Year: seven courses in the B.Math. program; and one further course in the range 80-352 through 80-380, excluding 80-366; plus 80-200 if applicable.

Intersession: completion of 80-499 (twenty days).

Note: Third year in this sequence contains no Education courses. This is to permit students to complete required Mathematics and Statistics courses for prerequisite purposes, and to ensure that the practice teaching component is close to the end of the program, to meet certification requirements. Having the fourth year without Education courses, rather than the third, is also permitted.

PRACTICE TEACHING

Directed observation and practice teaching will be arranged by the Faculty of Education to include practical experience in schools and programs applicable to the concentration for which the student is a candidate. Candidates in this program will complete their practice teaching in classes from grade seven to the end of Secondary School, inclusive.

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19). In addition candidates who obtain a final grade of less than a C in (a) practice teaching, or (b) three or more Education courses in the program will not be recommended for certification. Flexible learning available at Windsor allows students to take some of their required B.Math. courses in Summer Term (Intersession or Summer courses).

GRADUATION

For Standing Required for Graduation, see 2.4.20. Graduates of the program will receive both the Bachelor of Mathematics (General or Honours) and the Bachelor of Education (General) degrees.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate.

Minor in Mathematics

A minor in Mathematics consists of at least six courses taken from Mathematics and Statistics, with a minimum average of 5.0, including 62-120, 62-140 and 62-141. The remaining three or more courses must be chosen among 62-190 and courses in Mathematics and/or Statistics numbered 200 or higher.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 62-120, 62-190, 62-215, 62-216, 62-220, 62-221, 65-250, 65-252; four of 62-314, 62-315, 62-318, 62-321, 62-322, 62-342, 65-376. (Other requirements: 62-140, 62-141.)

Minor Concentration: 62-120, 62-190, 62-215, 62-216, 62-318, 65-250. (Other requirements: 62-140, 62-141.)

5.7.2 COURSE DESCRIPTIONS - MATHEMATICS

All courses listed will not necessarily be offered each year.

62-101. Access to Calculus
A variety of pre-calculus topics including coordinate geometry, trigonometric, exponential and logarithmic functions, and algebraic procedures. Introduction to differential calculus. (This course is intended for student who either lack Calculus from secondary school or have a weak grade in it. It satisfies the prerequisite or admission requirement of secondary school Calculus for all purposes.) (Admission by consent of the Department only. May not be taken for credit concurrently with, or subsequent to, 62-130 or 62-140.) (3 lecture hours, one hour tutorial per week.)

62-120. Linear Algebra I
Linear systems, matrix algebra, determinants, vectors in Rn , dot product, orthogonalization, eigenvalues, and diagonalization. (Prerequisite: Grade 12"U" Geometry and Discrete Mathematics, or equivalent.) (Antirequisite: 62-126.) (3 lecture hours, 1 tutorial hour a week.)

62-126. Linear Algebra (Engineering)
Linear systems, matrix algebra, determinants, vectors in Rn, dot product, orthogonalization, and eigenvalues. (Prerequisite: Grade 12"U" Geometry and Discrete Mathematics, or equivalent.) (Antirequisite: 62-120.) (3 lectures hours, 1 tutorial hour a week.)

62-130. Elements of Calculus
Review of differentiation, exponential functions, and indefinite integrals. Methods of integration, differential equations, partial derivatives. A variety of applications. (Prerequisite: Grade 12"U" Advanced Functions and Introductory Calculus or equivalent, or 62-101.) (May not be taken for credit concurrently with, or subsequent to having obtained credit in 62-140. This course is not a sufficient prerequisite to 62-141, but may serve as preparation for 62-140.) (3 lecture hours, 1 tutorial hour a week.)

62-140. Differential Calculus
Trigonometric functions and identities. Inverse trigonometric functions. Limits and continuity. Derivatives and applications. Mean Value Theorem. Indeterminate forms and l'Hopital's Rule. Antiderivatives. Introduction to definite integrals. (Prerequisite: Grade 12"U" Advanced Functions and Introductory Calculus or equivalent, or 62-101.) (3 lecture hours, 1 tutorial hour a week.)

62-141. Integral Calculus
Antiderivatives. The definite integral and Fundamental Theorem. Techniques of integration. Applications of the definite integral. Approximate integration. Improper integrals. Separable differential equations. Polar and parametric coordinates. (Prerequisite: 62-140.) (3 lecture hours, 1 tutorial hour a week.)

62-188. Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

62-190. Mathematical Foundations
Logic, sets, relations, functions. Development of skills in theoretical mathematics. (Prerequisite: 60-100 or 62-120.) (2 lecture, 2 tutorial hours a week.)

62-194. Mathematics for Business
Derivatives and marginal analysis. Applications of integration to business and economics. Solutions of linear equations, matrices, linear inequalities, simplex method for linear programming. (This course is intended for students in the Faculty of Business Administration.) (Prerequisites: Grade 12"U" Advanced Functions and Introductory Calculus or equivalent, or 62-101.) (3 lecture hours, 1 tutorial hour a week.)

62-215. Vector Calculus
Quadric surfaces. Vector differential calculus. Multiple integration. Line and surface integrals. (Prerequisites: 62-141, and 62-120 or 62-126.) (3 lecture hours, 1 tutorial hour a week.)

62-216. Differential Equations
Differential equations and Laplace transforms. Series solution of differential equations. Applications to science and engineering. (Prerequisites: 62-141, and 62-120 or 62-126.) (3 lecture hours, 1 tutorial hour a week.)

62-220. Linear Algebra II
Rigourous study of the following topics: linear systems, vector spaces, linear transformations, projections, pseudo-inverses, determinants, inner product spaces and applications. (Prerequisites: 62-190 and 62-120 .) (3 lecture hours, 1 tutorial hour a week.)

62-221. Linear Algebra III
A rigourous treatment of eigenvalues and eigenvectors, diagonalization, similarity problem and canonical form for real and complex matrices;

positive definite matrices; computational methods for approximating solutions to systems of linear equations and eigenvalues. (Prerequisite: 62-220.) (3 lecture hours, 1 tutorial hour a week.)

62-288. Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

62-314. Introduction to Analysis I
Real numbers. Limits, sequences, and continuity. Differentiation. (Prerequisites: 62-120, 62-141, and 62-190.) (3 lecture hours, 1 tutorial hour a week.)

62-315. Introduction to Analysis II
Sequences and series of functions. Uniform and absolute convergence. Power Series. Integration. (Prerequisite: 62-314.) (3 lecture hours, 1 tutorial hour a week.)

62-318. Complex Variables
Complex numbers. Analytic functions. Contour integration. Series, Laurent expansions, residues. Application to real integrals. (Prerequisite: 62-215; corequisite: 62-216.) (3 lecture hours, 1 tutorial hour per week.)

62-321. Abstract Algebra
Introduction to groups, rings, and fields. (Prerequisite: 62-220 or 62-322.) (3 lecture hours a week.)

62-322. Number Theory
Divisibility, congruences, numerical functions. Theorems of Euler, Fermat, and Wilson. Theory of primes and quadratic residues. (Prerequisites: 62-120 and 62-190.) (3 lecture hours a week.)

62-324. Applied Algebra
Coding theory in cryptography and informatics; combinatorial designs and finite geometrics. (Prerequisite: 62-222; 62-321 is recommended.) (3 lecture hours a week.)

62-332. Tensor Analysis
Tensor algebra. Covariant differentiation. Tensor form of gradient, divergence, and curl. Riemann-Christoffel symbols. Curvature tensor. Applications. (Prerequisites: 62-215 and 62-216.) (3 lecture hours a week.)

62-342. Combinatorics
Finite combinatorics; counting problems involving set operations, relations and functions; principle of inclusion and exclusion; ordinary and exponential generating functions; recurrence relations. (Prerequisites: 62-141 and 62-190.) (3 lecture hours a week.)

62-360. Special Functions
Uniform convergence, Fourier Series, Orthonormal bases, Sturm-Liouville eigenvalue problems, eigenfunction expansions, Gamma function, Bessel functions, Legendre polynomials and functions, and the hypergeometric functions. (Prerequisite: 62-215 and 62-216.) (3 lecture hours a week.)

62-361. Dynamical Systems
An introduction to simple dynamical systems, both discrete and continuous. Long-term behaviour of such systems. Stability, periodicity, and chaos. A brief treatment of fractals. (Prerequisite: 62-120 and 62-216.) (3 lecture hours a week.)

62-374. Linear Programming
Topics covered are: geometric linear programming, the Simplex method, the revised Simplex method, duality theory, sensitivity analysis, project planning and integer programming. Optional topics include: the transportation problem, the upper bounding technique, the dual Simplex method, parametric linear programming, game theory, and goal planning. Completion of some assignments will require the use of computer software packages. This course is intended to help students prepare for some parts of the Society of Actuaries examination on Operations Research (Course 130). Interested students should also take 65-376. (Prerequisite: 62-220 or consent of instructor.) (Antirequisite: 91-312.) (3 lecture hours a week.)

62-380. Numerical Methods
Topics covered are: nonlinear equations in one variable, interpolation, numerical integration (quadrature), and linear systems (direct methods). Optional topics are: numerical differentiation, iterative methods for boundary value problems. Completion of some assignments will require the use of computer software packages. This course is intended to help students prepare for some parts of the Society of Actuaries examination on Numerical Methods (Course 135). (Prerequisites: 62-215, 62-216, and 62-120 or 62-126.) (May not be taken for credit after 62-481.) (3 lecture hours a week.)

62-388. Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

62-392. Theory of Interest
Measurement of interest, elementary and general annuities, amortization schedules and sinking funds, bonds, depreciation, depletion, and capitalized cost. This course helps prepare students for the Society of Actuaries examinations. (Prerequisite: 62-141 or consent of instructor.) (3 lecture hours a week.)

62-410. Real Analysis I
Lebesgue measure and Lebesgue integral. Differentiation and integration. Radon-Nikodym theorem. (Prerequisite: 62-315.) (3 lecture hours a week.)

62-411. Real Analysis II
Metric spaces. Topological spaces. Stone-Weierstrass and Ascoli theorems. Classical Banach spaces. (Prerequisite: 62-410.) (3 lecture hours a week.)

62-413. Functional Analysis
Normed spaces, bounded linear operators, and the Banach dual spaces. The Hahn-Banach Theorem, the Uniform Boundedness Principle, and the Open Mapping Theorem. Weak and weak* topologies. Hilbert spaces and operators on Hilbert space. (Prerequisite: 62-410.) (3 lecture hours per week.)

62-420. Introduction to Group Theory
Abstract groups, subgroups, isomorphism theorems, orbits, class equation, quotient groups, Sylow's theorems, metric vector spaces, quadratic forms, basic concepts of orthogonal geometry, the classical groups. (Prerequisites: 62-221 and 62-321.) (3 lecture hours a week.)

62-421. Introduction to Ring Theory
Matrix rings, polynomial rings, fields of fractions, principal ideal domains and Euclidean domains, finitely generated modules over a p.i.d. (Prerequisites: 62-221 and 62-321.) (3 lecture hours a week.)

62-422. Introduction to Field Theory
Polynomial rings, splitting fields, The Fundamental Theorem of Galois Theory, Galois' criterion for solvability by radicals, algebraically closed fields, finite fields. (Prerequisites: 62-221 and 62-321.) (3 lecture hours a week.)

62-460. Applied Mathematics Methods I
General basic concepts for linear partial differential equations. Classification of second-order equations and canonical forms. An introduction to theory of distribution. Sturm-Liouville theory for ODEs. Fourier series and integral transforms with applications to PDEs. (Prerequisites: 62-318 and 62-360.) (3 lecture hours a week.)

62-461. Applied Mathematics Methods II
Qualitative and quantitative analysis of hyperbolic, parabolic, and elliptic partial differential equations. (Prerequisite: 62-460.) (3 lecture hours a week.)

62-470. Fluid Dynamics I
Kinematics, stress hypothesis, constitutive equations, equations of motion. Ideal fluid flow in two and three dimensions. Introduction to potential theory and use of complex variable theory. Effects of viscosity and compressibility. Introduction to computational problems in two-dimensions. (Prerequisites: 62-215, 62-216, and 62-318.)

62-471. Fluid Dynamics II
Navier-Stokes equations for viscous incompressible flows, exact solutions, boundary layer theory, and asymptotic methods. Compressible inviscid flows, one-dimensional unsteady flows, two-dimensional irrotational flows, method of characteristics. Introduction to shock waves. (Prerequisite: 62-470.) (3 lecture hours a week.)

62-480. Numerical Linear Algebra
Topics include: floating point arithmetic, matrix factorizations, condition number of matrices, iterative methods, eigenproblems, singular value decomposition. Completion of some assignments will require computer programming and/or the use of major software packages. (Prerequisites: 62-221 and 60-141.) (3 lecture hours a week.)

62-481. Numerical Analysis
Topics include: floating point arithmetic, solution of nonlinear algebraic equations, polynomial and spline interpolation, functional approximation, numerical differentiation and integration, numerical solution of ordinary differential equations, unconstrained minimization. Completion of some assignments will require computer programming and/or the use of major software packages. (Prerequisites: 62-216 and 62-480.) (3 lecture hours a week.)

62-482. Mathematical Programming
Topics include: unconstrained optimization, convexity, least squares problems, optimality conditions, penalty methods. Completion of some assignments will require the use of computer software packages. (Prerequisites: 62-215, 62-314, 62-221, and one of 62-374 or 65-376.) (3 lecture hours a week.)

62-488. Work Term IV
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

62-490. Actuarial Mathematics I
Life contingencies. Survival distributions and life tables, life insurance, life annuities, net premiums, net premium reserves. This course helps prepare students for the Society of Actuaries examinations. (Prerequisites: 62-215, 62-216, 62-392, and 65-251, or consent of instructor.) (3 lecture hours a week.)

62-492. Actuarial Mathematics II
Selection of topics from: advanced life contingencies, risk theory, survival models, construction and graduation of mortality tables. This course helps prepare students for the Society of Actuaries examinations. (Prerequisite: 62-490 or consent of instructor.) (3 lecture hours a week.)

62-498. Topics in Mathematics
Advanced topics not covered in other courses. (May be repeated for credit when the topic is different.) (Prerequisite: consent of the instructor.) (3 lecture hours a week.)

5.7.3 COURSE DESCRIPTIONS - STATISTICS

Undergraduate Statistics courses taught outside Mathematics and Statistics may not be taken for credit in any mathematics program.

65-205. Statistics for the Sciences
Descriptive statistics. Probability, discrete and continuous distributions. Point and interval estimation. Hypothesis testing. Goodness-of-fit. Contingency tables. (Prerequisite: Grade 12"U" Advanced Level Mathematics or equivalent, or Grade 11 Functions and Relations, or Grade 11 Functions.) (Antirequisites: 02-250, 73-101, 73-102, 73-105, 73-205, and 85-222.) (May not be taken for credit after taking 65-250 or 65-251.) (3 lecture hours, 1 tutorial hour a week.)

65-250. Introduction to Probability
Descriptive measures, combinatorics, probability, random variables, special discrete and continuous distributions, sampling distribution, point and interval estimation. (Prerequisite: 62-141.) (3 lecture hours, 1 tutorial hour a week.)

65-251. Introduction to Statistics
Distributions, point and interval estimation, hypothesis testing, contingency tables, analysis of variance, bivariate distributions, regression and correlation, non-parametric methods. (Prerequisite: 65-250.) (3 lecture hours, 1 tutorial hour a week.)

65-340. Applied Probability
Conditional probabilities and expectations. Markov chains. Poisson processes, renewal theory, reliability, queueing theory. (Prerequisites: 65-251, 62-215 and 62-216.) (3 lecture hours a week.)

65-350. Probability
Axioms of theory of probability. Discrete and continuous distributions including binomial, Poisson, exponential, normal chi-square, gamma, t, and F distributions. Multivariate distributions, conditional distributions, independence, expectation, moment generating functions, characteristic functions, transformation of random variables, order statistics, law of large numbers, central limit theorem. (Prerequisite: 65-251.) (3 lecture hours a week.)

65-351. Statistics
Point and interval estimations, properties of estimators, methods of estimation, least squares estimation and linear models, Bayesian estimation, Rao-Blackwell theorem, tests of hypotheses, Neyman-Pearson Lemma, analysis of variance. (Prerequisite: 65-350.) (3 lecture hours a week.)

65-376. Stochastic Operations Research
Topics covered are: deterministic and stochastic dynamic programming, queuing theory, decision analysis, and simulation. Optional topics include: inventory theory, forecasting, and Markov processes. Completion of some assignments will require the use of computer software packages. This course is intended to help students prepare for some parts of the Society of Actuaries examination on Operations Research (Course 130). Interested students should also take 62-374. (Prerequisite: 65-205 or 65-250.) (Antirequisite: 91-412.) (3 lecture hours a week.)

65-452. Experimental Designs
ANOVA models without and with interactions; randomized block, Latin square, factorial, confounded factorial, balanced incomplete block, and other designs; response surface methodology. (Prerequisite: 65-251 or 65-350.) (3 lecture hours a week.)

65-454. Sampling Theory
Basic concepts. Simple random and stratified sampling. Ratio and regression methods. Systematic and cluster sampling. Multi-stage sampling, PPS sampling. Errors in surveys. Sampling methods in social investigation. (Prerequisite: 65-251 or 65-350.) (3 lecture hours a week.)

65-455. Topics in Statistics
Advanced topics in probability or statistics not covered in other courses. (May be repeated for credit when the topic is different.) (Prerequisite: consent of the instructor.) (3 lecture hours a week.)

65-456. Regression
An applied course covering multiple linear regression, model assumptions, inference about regression parameters, residual analysis, polynomial regression, multicollinearity, transformations. Topics to be selected from stepwise regression, weighted least squares, indicator variables, nonlinear regression. (Prerequisites: 62-120 and 65-251.) (3 lecture hours a week.)

5.8 Physics

(Ext. 2647)

OFFICERS OF INSTRUCTION

Professors Emeriti

Krause, Lucjan; B.Sc. (London), M.A., Ph.D. (Toronto), D.Sc. (London; Nicholas Copernicus), F.Inst.P.-1958.

Holuj, Frank; B.Sc. (London), M.Sc., Ph.D. (McMaster)-1961.

Van Wijngaarden, Arie; B.Sc., Ph.D. (McMaster)-1961.

Szamosi, Geza; Ph.D., D.Sc. (Budapest)-1964.

Czajkowski, Mieczyslaw; M.Sc., D.Sc. (Nicholas Copernicus)-1967.

Schlesinger, Mordechay; M.Sc., Ph.D. (Jerusalem), F.Inst.P.-1968.

McConkey, John William; B.Sc., Ph.D. (Queen's University of Belfast), F.Inst.P., F.R.S.C.-1970. (Killam Research Fellow, 1986-1988)

University Professors

Baylis, William Eric; B.S. (Duke), M.S. (Illinois), D.Sc. (Technical University of Munich)-1969.

Drake, Gordon W. F.; B.Sc. (McGill), M.Sc. (Western Ontario), Ph.D. (York), F.Inst.P., F.R.S.C.-1969. (Killam Research Fellow, 1990-1992) (Head of the Department)

Professors

Atkinson, John Brian; M.A., D. Phil. (Oxford)-1972.

Maev, Roman G.; B.Sc. (Moscow Physical Engineering Institute), M.Sc. (Moscow Physical Technical University), Ph.D. (Lebedev)-1995.

Associate Professor

Reddish, Timothy John; B.Sc., Dipl. Adv. Stud. Sci., Ph.D. (Manchester University)-2003.

Assistant Professors

Maeva, Elena Yu.; B.Sc., M.Sc. (Mendeleev Institute of Chemical Technology), Ph.D. (Institute of Chemical Physics, Russian Academy of Science)-2001.

Kedzierski, Wladyslaw; M.Sc., Ph.D. (Jagiellonian University), D.Sc. (Nicholas Copernicus)-2002.

Kim, Eugene Hubert; B.Sc. (Illinois), M.A., Ph.D. (California)-1999.

Rangan, Chitra; B.Sc. (Madras), M.Sc. (Indian Inst. of Technology, Madras), Ph.D. (Louisiana State U)-2000.

Adjunct Professors

Snyder, Dexter Dean; B.A. (Wabash), Ph.D. (Massachusetts Inst. Technology)-1995.

Glass, Edward N.; B.S. (Carnegie-Mellon), M.S., Ph.D. (Syracuse)-1974.

Cross-Appointment

Aroca, Ricardo; B.Sc. (Chile), Ph.D. (Moscow State), D.Sc. (Leningrad)-1985.

5.8.1 PROGRAMS OF STUDY

Programs of study leading to the Bachelor of Science degree in Physics and High Technology (PHT), Honours Physics and Computer Science, and Honours Chemistry and Physics are offered. The Physics and High Technology degree has both a Co-op and a Fast-track option. The Fast-track option allows graduation after three years. With proper choice of options, students can graduate with a minor in Business. There is also a Physics and High Technology option for Electrical and Computer engineers, and combined Honours programs with other disciplines can be arranged. All programs are subject to the general University and Faculty of Science regulations as outlined in the relevant sections of this calendar.

Graduates from the PHT program with honours standing can normally expect to enter directly into the M.Sc. Program in Physics at Windsor and other Canadian universities. They will also be eligible for entry into most M.A.Sc. Programs in Electrical Engineering, although additional qualifying work may be required in some cases.

PROGRAM REQUIREMENTS

All options must be approved by Physics.

Physics and High Technology: Co-op Option

The Co-operative Education Program offers students the opportunity to combine their classroom experiences with related work experiences. Students who apply and are accepted to the Co-operative Education Program must successfully complete three paid work experiences interspersed throughout the four-year Honours program. The experience gained while participating in theses structured and supervised work placements is viewed as an integral component of the student's educational program.

ACADEMIC REQUIREMENTS

Physics and High Technology Co-op students must maintain full-time academic status and satisfy the following:

(a) Must maintain a minimum cumulative average of 6.0, and;
(b) Must maintain a minimum major average of 8.0, and;

(c) Must not have more than one outstanding F on their transcript.

WORK-STUDY SEQUENCE

Year of Study	*Fall Semester*	*Winter Semester*	*Summer Semester*
Year 1	Study	Study	Study/Off
Year 2	Study	Study	Work
Year 3	Study	Work	Study
Year 4	Work	Study	Study/Off

PROGRAM REQUIREMENTS

Total courses: forty-three

Major requirements: sixteen courses, including 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-310, 64-311, 64-320, 64-323, 64-331, 64-350, 64-450, 64-460, 64-484, 64-496; and 64-298, 64-398, 64-498.

Other requirements:

(a) 59-140, 59-141, 60-106, 60-205, 62-120, 62-140, 62-141, 62-215, 62-216, 62-318, 62-360, 70-151, 71-140, 72-270, 74-231, 85-130, 85-214, 88-217, 88-226;
(b) three co-op work terms (oral and written reports required), plus an optional work term following the second semester of the first year. Students must maintain an honours average (G.P.A. 8.0 or greater) to qualify for co-op placements;
(c) two additional B.Sc. or B.A.Sc. Credit courses at the 200 level or higher in the Biological Sciences, Chemistry, Computer Science, Physical Geography, Earth Sciences, Mathematics, Statistics, or Engineering that are approved by the Physics Program Co-ordinator.;
(d) two of Arts (01-), Social Sciences (02-), and/or Business Administration.

RECOMMENDED COURSE SEQUENCE

First Year: ten courses, including 59-140, 59-141, 62-120, 62-140, 62-141, 64-140, 64-141, 64-151, 85-130, and one option, followed by an optional summer work term.

Second Year: ten courses, including 62-215, 62-216, 62-318, 64-220, 64-222, 64-250, 64-320, 71-140, 85-214, and 88-226, followed by a summer Co-op work term.

Third Year: five fall courses, including 62-360, 64-323, 64-331, 64-350, 88-217; Winter co-op work term; five summer courses, including 60-205, 64-310, 64-311, 70-151, and one option.

Fourth Year: fall co-op work term; five winter courses, including 64-450, 64-460, 64-496, and one option; five summer courses, including 60-106, 64-484, 72-270, 74-231, and one option.

Physics and High Technology: Three-Year Fast Track Option

Total courses: forty, including a research project.

Major requirements: fifteen courses, including 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-310, 64-311, 64-320, 64-323, 64-331, 64-350, 64-450, 64-460, 64-496.

Other requirements:

(a) 59-140, 59-141, 60-106, 60-205, 62-120, 62-140, 62-141, 62-215, 62-216, 62-318, 62-360, 70-151, 71-140, 85-130, 85-214, 88-217, 88-226;
(b) full-time research project (64-412, 9.0 credit hours);
(c) two additional B.Sc. or B.A.Sc. courses at the 200 level or higher in the Biological Sciences, Chemistry, Computer Science, Physical Geography, Earth Sciences, Mathematics, Statistics, or Engineering that are approved by the Physics Program Co-ordinator;
(d) two of Arts (01-), Social Sciences (02-), and/or Business Administration.

Students may choose to follow this program but with an interruption of one year to add an industrial internship or study abroad, for example. Such changes must be made in consultation with the Department of Physics.

RECOMMENDED COURSE SEQUENCE

First Year: eleven courses, including 59-140, 59-141, 62-120, 62-140, 62-141, 64-140, 64-141, 64-151, 85-130, and two options, followed by an optional summer work term.

Second Year: eleven courses, including 62-215, 62-216, 62-318, 64-220, 64-222, 64-250, 64-320, 71-140, 85-214, and 88-226 and one option; followed by five summer courses including, 60-205, 60-106, 64-310, 64-311, and 70-151.

Third Year: ten courses, including 62-360, 64-323, 64-331, 64-350, 88-217, 64-450, 64-460, 64-496, and one option, followed by a full-time summer research project (64-412, 9.0 credit hours).

Graduates from the PHT fast-track option may be able to apply some results of their research project toward their Master's degree and complete their M.A.Sc. Within four years of their university entrance.

Minor in Business Administration

Students in the co-op program will be able to earn a minor in Business Administration by selecting two of their four options from Business Administration. (See 6.1.10.)

Physics and High Technology for Electrical and Computer Engineers

Students of electrical and computer engineering who maintain a G.P.A. of 8.0 or more can add a B.Sc. in Physics and High Technology to their

B.A.Sc. degrees by completing the following ten courses: 62-360, 64-222, 64-310, 64-311, 64-320, 64-323, 64-331, 64-350, 64-450, and 64-460.

Physics and Computer Science Honours

Total courses: forty.

Major requirements-Physics: twelve courses, consisting of 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-314, 64-315, 64-320, 64-323, 64-331, and 64-350.

Major requirements-Computer Science: twelve courses, consisting of 60-100, 60-140, 60-141, 60-212, 60-214, 60-231, 60-254, 60-256, 60-265, 60-330, and 60-499 (a 6.0 credit hour course.)

Other requirements:

(a) 62-120, 62-140, 62-141, both 62-215 and 62-216, 62-318, 65-205 (or 65-250), 62-360, 85-214, and 88-226;
(b) six courses from any area of study, including Physics and Computer Science.

RECOMMENDED COURSE SEQUENCE

First Year: 64-140, 64-141, 64-151, 60-100, 60-140, 60-141, 62-120, 62-140, 62-141 and one other course.

Second Year: 64-220, 64-222, 60-212, 60-214, 60-231, 60-254, 60-256, 62-215, 62-216, and 85-214.

Third Year: 64-250, 64-314, 64-315, 60-265, 60-330, 62-318, 62-360, 88-226, and two other courses.

Fourth Year: 64-320, 64-323, 64-331, 64-350, 60-499 (a 6.0 credit course), 65-205, and three other courses.

Other Combined Honours Programs

Total courses: forty.

Major requirements-Physics: twelve courses, consisting of 64-140, 64-141, 64-151, 64-220, 64-222, 64-250, 64-310, 64-320, 64-311, 64-323, 64-331, and 64-350.

Major requirements-Other Subject: as prescribed by that area of study.

Other requirements:

(a) 59-140, 59-141, 62-120, 62-140, 62-141, both 62-215 and 62-216, 62-318, and 85-214;
(b) any additional, non-major requirements as determined by the second area of study;
(c) additional courses, if necessary, from any area of study, to a total of forty.

Minor in Physics

The minor in Physics consists of 64-140, 64-141, 64-151, 64-220, 64-222, and 64-250. Selected courses leading to a minor in physics may not consist of antirequisites to courses in the student's program. Students must also remember to select only courses which may be otherwise counted for credit towards their degree programs.

Chemistry and Physics Honours

See Chemistry and Biochemistry, 5.4.1.

Major and Minor Concentrations - Bachelor of Arts and Science

Major Concentration: 64-220, 64-222, 64-250, 64-320, 64-350, 64-323, 64-331, 64-310, 62-215, 62-216, 62-218, 62-360. (Other requirements: 64-140, 64-141, 62-140, 62-141, 64-151 (replaces 65-205 from the BAS core), 62-120 (replaces 62-130 from the B.A.S. core).)

Minor Concentration: 64-151, 64-220, 64-222, 64-250, 64-310, 64-311. (Other requirements: 64-140, 64-141, 62-120, 62-140, 62-141.)

5.8.2 COURSE DESCRIPTIONS

Not all courses listed will necessariiy be offered in each year.

64-100. Acoustics of Music
An introduction to acoustics with applications to music. Wave motion, pressure amplitudes, propagation of sound, impedance, reflection, refraction, diffraction, interference; simple harmonic motion, resonance, natural modes of vibration, vibration recipes, Fourier spectra; vibrating strings, air columns, and membranes; voice; hearing, masking, pitch, loudness, sound level, and tone quality; room acoustics, reverberation, echo; tuning and temperament. (3 lecture-demonstration hours/week.)

64-114. Physical Concepts and Numeracy I
The development of critical quantitative thinking in applications of physics to everyday phenomena. The course is designed for general, non-science students but should also serve students majoring in science but weak in problem solving skills. By helping students to sharpen their analytical skills in applications of physical concepts, the course is meant to increase numeracy without being heavily mathematical. It concentrates on mechanics, properties of matter, and heat with the aid of tools such as vectors, functional relationships, their graphical representations, and elements of statistics and error analysis. (3 lecture hours a week.)

64-115. Physical Concepts and Numeracy II
A continuation of 64-114. Elements of sound, light, electricity and magnetism, and concepts of waves, cycles, resonance, input/output, and feedback, investigated with analytical tools including order-of-magnitude estimates, elementary dimensional analysis, relative sizes, and scaling. (Prerequisite: 64-114 or consent of instructor.) (3 lecture hours a week.)

64-140. Introductory Physics I
Mechanics; properties of matter and heat. A calculus-based course. (Prerequisites: Grade 12"U" Advanced Functions and Introductory

Calculus or equivalent.) (Recommended corequisite: 62-140. Students weak in physics and problem solving may wish to take 64-114 and 64-115 first.) (3 lecture, 3 laboratory hours a week.)

64-141. Introductory Physics II
Wave motion, sound, electricity and magnetism, light, and modern physics. (Prerequisite: 64-140 or 85-111.) (3 lecture, 3 laboratory hours a week.)

64-151. Introduction to Theoretical Methods
An introduction to practical problem solving and data analysis techniques in physics, emphasizing computer-aided graphical and approximate computational methods; order-of-magnitude estimations, the elements of dimensional analysis, approximate evaluation of functions, parameter optimization, complex numbers, an introduction to fractals, vector algebra, dyads. (Prerequisites: 64-140 and 62-140.) (2 lecture, 2 laboratory hours a week.)

64-190. Introduction to Astronomy I
The solar system with emphasis on the results of recent space exploration. This is a descriptive course suitable for the non-scientist. (May be taken by B.Sc. students for credit, but does not count as a Physics course or other science option towards the fulfillment of the requirements for the B.Sc. degree.) (2 lecture hours a week.)

64-191. Introduction to Astronomy II
The stars, galaxies, including pulsars, black holes, and quasars. Current theories of the structure of the universe will be discussed. This is a descriptive course suitable for the non-scientist. (May be taken by B.Sc. students for credit, but does not count as a Physics course or other science option towards the fulfillment of the requirements for the B.Sc. degree.) (2 lecture hours a week.)

64-202. Physics and Society-The Past
The interaction between physics and society from prehistoric times up to the industrial revolution is discussed. The ways in which man's growing understanding of the physical universe has influenced practical skills, and political, economic, and philosophical thinking are extensively explored and developed. (Not open to first-year students.) (2 lecture hours a week.)

64-203. Physics and Society-The Present
Modern society is dominated by the explosive development of physics and technology from the industrial revolution to the present. This development and its impact on society are explored. A number of topics of current interest such as nuclear energy, world energy supplies, pollution, and possible solutions to the energy crisis are discussed in detail. (Not open to first-year students.) (2 lecture hours a week.)

64-204. Elements of Atomic Physics
Properties of waves, atomic structure, wave nature of matter. This course is recommended for students in the Faculty of Engineering, and is not available for credit toward a B.Sc. degree in Physics. (Corequisites: 85-111 and 85-124 or equivalent.) (3 lecture, 1.5 laboratory hours a week.)

64-220. EM Fields and Photons
Electrostatic fields and potentials. Charges and capacitance. Currents and conduction in solids. Magnetic fields; induction; introduction to Maxwell equations, electromagnetic waves, and photons; the photoelectric effect. (Prerequisite: 64-141, or 85-124, or equivalent.) (3 lecture, 3 laboratory hours a week.)

64-222. Optics
Geometrical optics: review of laws of reflection and refraction; lenses and mirrors (matrix optics); stops, optical systems, aberrations. Introduction to wave optics; interferometry, diffraction, polarization, Fresnel equations, elements of dispersion theory. (Prerequisites: 64-141 and 62-141.) (3 lecture, 3 laboratory hours a week.)

64-250. Mechanics
Newton's Laws, Galilean transformations, rotating reference frames, conservation laws, angular momentum and torque, driven oscillators with damping, dynamics of rigid bodies, inverse square forces, Lorentz transformation, relativistic kinematics and dynamics. (Prerequisite: 64-140 or equivalent and 64-151 or consent of instructor; corequisite: 62-215 or equivalent.) (3 lecture hours, 1 tutorial hour a week.)

64-298. Co-op Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

64-310. Quantum Physics and Chemistry
Classical and quantum physics, relativistic physics, black-body radiation, photoelectric effect, Compton scattering, atomic structure, Schroedinger equation, particle in a box, harmonic oscillator, conduction in solids; semiconductor and superconductor devices. (Prerequisites: 62-215 and 62-216 or equivalents.) (3 lecture, 3 laboratory hours a week.)

64-311. Atomic and Molecular Spectra
Introduction to atomic and molecular spectroscopy, hydrogen and helium atoms, perturbation theory, isotopes; introduction to nuclear physics. (Prerequisites: 64-310 or 64-314, 62-215, and 62-216, or equivalents.) (3 lecture, 3 laboratory hours a week.)

64-314. Quantum Physics and Chemistry
(Same as 64-310 without the laboratory.) Classical and quantum physics, black-body radiation, photoelectric effect, Compton scattering, atomic structure, Schroedinger equation, particle in a box, harmonic oscillator, conduction in solids; semiconductor and superconductor devices. (Prerequisites: 62-215 and 62-216 or equivalents.) (3 lecture hours a week.)

64-315. Atomic and Molecular Spectra
(Same as 64-311 without the laboratory.) Introduction to atomic and molecular spectroscopy, hydrogen and helium atoms, perturbation theory, isotopes; introduction to nuclear physics (Prerequisites: 64-310 or 64-314, 62-215, and 62-216 or equivalents.) (3 lecture hours a week.)

64-320. Electromagnetic Theory
Electrostatics, potential theory, boundary-value problems, multipole expansion, electrostatics of ponderable media, magnetostatics, electromagnetic induction, Maxwell's equations. (Prerequisites: 62-215, 64-220.) (Corequisite: 62-216.) (3 lecture hours a week.)

64-323. Electromagnetic Waves
Maxwell's equations in macroscopic media, gauge invariance; electromagnetic waves in a relativistic formulation; propagation, refraction, and reflection at dielectric and metal interfaces; polarization, Stokes parameters; Fourier analysis; transmission lines, wave guides, relativistic dynamics of charges in external fields. (Prerequisites: 64-222, 64-320, and 62-318.) (3 lecture, 3 laboratory/tutorial hours a week.)

64-331. Thermodynamics and Statistical Mechanics
The nature of heat, the first, second, and third laws of thermodynamics and their applications, equation of state, Maxwell's relations and applications of thermodynamics to the properties of matter. Kinetic theory; statistical mechanics and the statistical interpretation of thermodynamics; Boltzmann, Fermi, and Bose distributions; applications. (Prerequisites: 64-141, 62-215, and 62-216 or equivalents.) (3 lecture hours, 1 tutorial hour a week.)

64-350. Classical Mechanics I
Dynamics of particles and systems of particles; Newtonian mechanics in the Lagrangean formulation; variational principles, conservation laws; symmetry and Noether's theorem; two-body central forces, scattering; small oscillations. (Prerequisites: 64-250, 62-215, and 62-216 or equivalents.) (3 lecture hours, 1 tutorial hour a week.)

64-351. Classical Mechanics II
Rotational motion, non-inertial frames; rigid-body rotations, inertia tensor, Euler's equations, chaotic systems. Hamiltonian formulation; canonical transformations; Poisson brackets, symmetry groups; Hamilton-Jacobi theory; Schroedinger equation. (Prerequisite: 64-350.) (3 lecture hours, 1 tutorial hour a week.)

64-398. Co-op Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

64-412. Research
Design, researching, execution and managing, analysis, and reporting (Written and oral) of a supervised physics project in a recognized research laboratory, on- or off-campus. This is a problem-based course with emphasis on team work. Normally, three reports are to be submitted: a report on background, one on the research plan, and a final report containing the main results, conclusions, and suggestions for further work. With departmental approval, the research may be applied toward partial fulfillment of the M.Sc. degree. (35-40 laboratory hours a week.) (9.0 credit hours.)

64-420. Classical Electrodynamics
Conservation laws, Bremsstrahlung scattering of radiation, multipole radiations fields, Liénard-Wiechert potentials, Green functions, radiation reaction, Lorentz-Dirac equation, radiation from time-dependent currents. (Prerequisites: 64-320 and 64-323.) (3 lecture hours a week.)

64-443. Quantum Optics and Spectroscopy
Emission and absorption of optical radiation, the widths of spectral lines, stimulated emission and transition probabilities, atomic structure and angular momentum coupling, the Zeeman effect, introduction to molecular spectroscopy. (Prerequisites: 64-323 and 64-450.) (A directed, self-study course. 1 consultation hour a week.)

64-450. Quantum Mechanics I
Probability amplitudes and transformations; operators and physical observables; symmetries and conservation theorems; time-development operator and Dyson expansion; two-state systems, density matrices; perturbation theory and the variational method; identical particles, spin, the Thomas-Fermi atom. (Prerequisites: 64-315, 64-350, and 62-360 or consent of instructor.) (3 lecture hours a week.)

64-451. Quantum Mechanics II
Scattering in one and three dimensions, the S matrix, partial waves, scattering phase shifts; JWKB approximation; the harmonic oscillator with annihilation and creation operators; Schroedinger, Heisenberg, and interaction pictures; matrix mechanics and Hilbert space; angular momenta and rotations. (Prerequisite: 64-450.) (3 lectures a week.)

64-460. Condensed-Matter Physics
Elements of crystallography, crystal diffraction, reciprocal lattices, lattice dynamics and thermal properties of solids, phonons, solution of Schroedinger equation in periodic potential, band theory, Fermi surfaces of metals and semiconductors, optical properties of dielectrics. (Prerequisite: 64-314 or consent of instructor.) (3 lecture hours a week.)

64-463. Special Topics in Physics
Advanced topics in contemporary physics. (Prerequisite: to be determined according to the topic.) (May be given as a seminar course , or as a directed, self-study course.)

64-474. Introduction to General Relativity
Curved spacetime, an introduction to differential geometry, general covariance, Riemann tensor, Einstein field equations. (Prerequisite: 64-250 or consent of the instructor.) (3 lecture hours a week.)

64-481. Thin Films: Experiments, Theory and Applications
Definition of thin films and their classification; methods of preparation; elements of high-vacuum technology; thin film formation, structure and methods of investigation; mechanical, optical, electrical properties of thin films and their application in modern technology. (Prerequisites: 64-311 or 64-220, and 64-222, or three years of Electrical Engineering or Engineering Materials, or equivalent.) (3 lecture hours a week.)

64-484. Design and Application of Lasers
Stimulated emission, rate equation approach to amplification and output power calculations; Gaussian beams, stable and unstable resonators, Q-switching, mode-locking and cavity dumping, ruby, Nd:YAG and other solid-state lasers, semi-conductor, gas and dye lasers. (Prerequisites: 64-311 or 64-220, and 64-222, or three years of Electrical Engineering or Engineering Materials, or equivalent.) (3 lecture hours a week.)

64-496. Technical Communication Skills
Introductory lectures and workshops on technical writing and instruction, followed by supervised instruction of first-year Physics students in 64-151, and projects in writing resumes and technical manuals and in preparing a multimedia computer module for a problem area in physics instruction. The computer module can employ any suitable combination of Maple, C++, Visual Basic, HTML, Java. (Prerequisite: 64-151.) (2 lecture, 2 laboratory honours a week.)

64-498. Co-op Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

6 ODETTE SCHOOL OF BUSINESS ADMINISTRATION

Dean

Roger D. Hussey; M.Sc., Ph.D. (Bath).

Associate Dean

Diana Kao; LL.B. (National Cheng-Chi), Dip. in Acc. (Wilfred Laurier), M.B.A. (McMaster), Ph.D. (Western Ontario)-1990.

OFFICERS OF INSTRUCTION

Professors Emeriti

Zin, Michael; B.Comm. (Assumption), M.B.A. (Michigan), Ph.D. (Michigan State), F.C.G.A.-1956.

Morgan, Alfie; B.Comm. (Cairo), M.B.A. (Boston), Ph.D. (American U.)-1969.

Rosenbaum, Edward; B.A. (Wayne State), M.S., Ph.D. (Wisconsin), J.D. (Detroit College of Law), C.F.A.-1969.

Lam, Wai P.; B.Comm. (St. Mary's), M.B.A., Ph.D. (Michigan State), F.C.A.-1973.

Crocker, Olga Lillian; B.Ed., M.B.A. (Alberta), Ph.D. (U. of Washington)-1976.

Brill, Percy; B.Sc. (Carleton), M.A. (Columbia), Ph.D. (Toronto)-1983.

Professors

Faria, Anthony John; B.S., M.B.A. (Wayne State), Ph.D. (Michigan State)-1975.

Andiappan, Palaniappan; B.A., M.A., M.Litt. (Madras), M.S. (Massachussetts), Ph.D. (Iowa)-1980.

Dickinson, John R.; B.S.B.A., M.B.A., D.B.A. (Indiana)-1980.

Thacker, James W.; B.A. (Winnipeg), M.A., Ph.D. (Wayne State)-1982.

Aneja, Yash Paul; M.S., B.S. (Indian Statistical Inst.), Ph.D. (Johns Hopkins)-1983.

Chandra, Ramesh; B.S. (Bihar Institute of Tech.), M.S. (Mississippi State), Ph.D. (Union College), Ph.D. (Oklahoma)-1983.

Kantor, Jeffrey; B. Bus. Sc., B. Comm. (Hons.) (Capetown), C.P.A., C.A. (Ontario), Ph.D. (Bradford, England)-1983.

Templer, Andrew; B.A. (Hons.), (Witwatersrand), M.A. (South Africa), M.Sc. (London), Ph.D. (Witwatersrand)-1983.

Fields, Mitchell; B.A. (Maryland), M.A., Ph.D. (Wayne State)-1985.

Okechuku, Chike; B.A.Sc., M.A.Sc. (Toronto), M.B.A., Ph.D. (York)-1986.

Singh, Jang; B.A. (Toronto), M.A. (College of St. Thomas), M.B.A. (Windsor), M.A., Ph.D. (Toronto)-1986.

Withane, Sirinimal; B.Sc. (Sri Jayawardenpura), M.Sc. (Moratuwa University), M.A. (Carleton), Ph.D. (Rockefeller College, SUNY)-1986.

Armstrong-Stassen, Marjorie; B.S., M.L.H.R. Ph.D. (Ohio State)-1989.

Ursel, Nancy D.; B.Comm. (McGill), M.B.A. Ph.D. (Concordia)-1989.

Fleisher, Craig; B.S.B.A. (University of Florida), M.S.A. (Lincoln Graduate Centre), M.B.A. (Vanderbilt University), Ph.D. (University of Pittsburgh)-1991.

Hussey, Roger D.; M.Sc., Ph.D. (Bath)-2000. (Dean)

Associate Professors

Musson, Harold Douglas; B.Comm. (Windsor), M.B.A. (Michigan State)-1968.

Freeman, Jack L.; B.S. (Michigan State), M.B.A. (Wayne State), Ph.D. (Michigan State)-1972.

Cattaneo, R. Julian; Licenciado (Buenos Aires), Ph.D. (Michigan)-1980.

Gunay, Erdal; B.S. (Middle East Technical University), M.B.A., Ph.D. (Syracuse)-1983.

Rieger, Fritz; B.S. (Manhattan), M.B.A. (Columbia), Ph.D. (McGill)-1983.

Forrest, Anne; B.Sc., M.I.R. (Toronto), Ph.D. (Warwick)-1985. (Program Chair, Women's Studies)

Chaouch, A.; B.Sc. (Algiers), M.Sc. (Stanford), Ph.D. (Waterloo)-1986.

Reavley, Martha; B.Comm., M.B.A. (Windsor), Ph.D. (Wayne State)-1986.

Wellington, William; B.Sc. (Western Ontario), M.B.A. (Windsor), Ph.D. (Michigan State)-1986. (Associate Dean)

Lan, George; B.S. (Beloit College), M.A. (Smith College), M.B.A. (Tulane University), Ph.D. (Queen's)-1988.

Assistant Professors

Miller, Peter; B.Eng. (McGill), M.B.A. (Toronto)-1977.

Al-Hayale, Talal H. S.; B.Sc. (University of Mosul), M.A., Ph.D. (University of Wales)-1990.

Kao, Diana; LL.B., (National Cheng-Chi), Dip. in Acc., (Wilfrid Laurier), M.B.A. (McMaster), Ph.D. (Western Ontario)-1990.

Pathak, Jagdish; B.Comm., M.Comm. (Univ. of Rajasthan), Ph.D. (University of Goa)-1995.

Lin, Howard Xiaohua; B.A. (Central Nationality University), M.S. (Chinese Academy of Social Sciences), Ph.D. (Oklahoma State)-1996.

Assef, Ata; B.A. (Lebanese U.), D.H.S., M.A. (Western Ontario), Ph.D. (McGill)-1999.

Baki, Mohammed Fazle; B.Sc. (Bangladesh Inst. of Technology), M.B.A. (University of Dhaka), M.B.A. (Univ. of New Brunswick), Ph.D. (University of Waterloo)-1999.

Ong, Audra; B.Sc. (Queen's, Belfast), M.B.A. (Wales), Ph.D. (West of England, Bristol)-2000.

Sinha, Rajeeva; B.A. (Patna), M.A.(Jaawalharlal Nehru), M.Phil. (Delhi), Ph.D. (Warwick)-2000.

Higginson, James; B.Comm. (McMaster), M.B.A., Ph.D. (Waterloo)-2001.

Kerr, Gerard; B.A. (Western Ontario), B.A., B.Admin. (Brock), M.B.A. (McMaster), Ph.D. (York)-2001.

Cheung, Keith; B.A., M.A., Ph.D. (York)-2002.

Lee, Hua; B.A. (Fu Jen Catholic), M.B.A. (National Taiwan), Ph.D. (National Taiwan)-2003.

Moro, Francisco; B.A. (Pontifical Catholic), M.Eng., Dr.Eng. (Santa Catarina), Ph.D. (Wisconsin)-2003.

Lee, Jonathan; B.Comm., M.B.A. (Windsor), Ph.D. (South Carolina)-2003.

6.1 Programs of Study

6.1.1 CO-OPERATIVE EDUCATION PROGRAMS IN BUSINESS ADMINISTRATION

Bachelor of Commerce (Honours Business Administration)

The Business Administration Co-op Program will help students acquire valuable professional experience in the workplace while they are pursuing their academic careers.

Students are admitted into the Bachelor of Commerce Co-op Program either directly out of their Grade 12 (or equivalent) Year, or in the Fall term of their second year of study in the Odette School of Business Administration. The Co-operative option is not available for the Honours Business and Economics or the Commerce for University Graduates program. Admission to the Program is competitive. Students applying from secondary school will be admitted based on academic achievement (typically, a minimum of 75% is required). Second-year students will complete a co-op application form and may be invited to an interview.

Students admitted to the Program must maintain a major average of 8.0 or better and a cumulative average of 6.0 or better, and must successfully complete three paid work terms to remain in the Co-op Program. Students may receive no more than two F grades in their program.

The process for obtaining employment is competitive. The University does not guarantee employment. The interview process is as follows:

1) Job descriptions will be posted and all qualified co-op students will be invited to apply.

2) Employers will be sent the resumes of all students who have applied.

3) Interviews will take place and a match will be created.

4) Both employers and students will have input into the matching process.

The work/study sequence is as follows:

YEAR 1
Fall term: Study
Winter term: Study
Summer term: Work/Study/Holiday

YEAR 2
Fall term: Study
Winter term: Study
Summer term: Work

YEAR 3
Fall term: Study
Winter term: Work
Summer term: Study

YEAR 4
Fall term: Work
Winter term: Study
Summer term: Study

PROGRAM REQUIREMENTS

Total courses: forty-three

Major requirements: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-101*, 73-102, 73-213, 73-220, 74-231, 75-498, three of 75-401, 75-402, 75-403 and 75-404; plus ten to twelve additional Business courses.

**Students with grade 12 "U" Data Management do not require 73-101 and will need to replace that course with another Business course.*

Other requirements: 41-110, 41-111, 60-104, 62-101**, 62-194; two courses from Arts/Languages; plus ten to twelve additional courses from outside of the Odette School of Business Administration. Students wishing a stronger Mathematics background should take 62-120 or 62-140 instead of 62-194. Students may also opt to take 62-130 in place of 62-194 but are cautioned that 62-130 is not a prerequisite for upper-level Mathematics courses.

***Students with either a Grade 12"U" Advanced Functions and Introductory Calculus or equivalent course do not require 62-101 and will need to replace that course with another course from outside the Odette School of Business Administration.*

Work experience obtained with C.A. firms will count toward work experience required for obtaining a C.A. designation. Students in the C.A. stream will be given credit for work experience earned since September 1, 1997 with an office approved for the training of C.A. students.

YEAR 1

First Term
70-151
41-110
60-104
73-101 (If no Grade 12"U" Data Management or equivalent)
62-101 (If no Grade 12"U" Calculus or equivalent)

If student has only four courses, complete 1 Arts elective.
If student has only three courses, complete 1 Arts elective and 1 non-Business elective.

Second Term
70-152
71-140
73-102
41-111
62-194

Third Term
Work/Study

YEAR 2

First Term
71-243
72-270
73-213
74-231
One course from within or outside of Business Administration

Second Term
72-271
73-220
Three courses from within or outside of Business Administration

Third Term
Work

YEAR 3

First Term
Five courses. (Consult a faculty advisor.).

Second Term
Work

Third Term
Five courses. (Consult a faculty advisor).

YEAR 4

First Term
Work

Second and Third Terms
75-498 and nine additional courses. (Consult a faculty advisor.)

Bachelor of Commerce (Honours Business Administration and Computer Science)

The University of Windsor offers an interdisciplinary program leading to the degree of Bachelor of Commerce (Honours Business Administration and Computer Science). The objective of the program is to provide students with the knowledge, skills, and abilities to direct, co-ordinate, and manage information technology in current business organizations.

Admission to this interdisciplinary program is from the Grade 12"U" or equivalent level only, to the University of Windsor, in consultation with representative(s) from the Faculty of Science, the Odette School of Business Administration, and the Office of Co-operative Education and Career Services. OSS requirements include Grade 12"U" English, Advanced Functions and Introductory Calculus, Geometry and Discrete Mathematics, plus three other Grade 12 "U" credits, or their equivalents. An eighty percent average is recommended. At least sixty percent in all Grade 12"U" math (or equivalent) courses taken is required.

Students admitted to this program must complete a total of forty semester courses, must maintain a major average of 8.0 or better, a cumulative average of 6.0 or better, and successfully complete three work terms. Specific Co-op requirements are available through the Office of Co-operative Education and Career Services.

The process for obtaining employment is competitive. The University does not guarantee employment. The interview process is as follows:

1) Job descriptions will be posted and all qualified co-op students will be invited to apply.
2) Employers will be sent the resumes of all students who have applied.
3) Interviews will take place and a match will be created.
4) Both employers and students will have input into the matching process.

The work/study sequence is as follows:

YEAR 1
Fall term: Study
Winter term: Study
Summer term: Work/Study/Holiday

YEAR 2
Fall term: Study
Winter term: Study
Summer term: Work

YEAR 3
Fall term: Study
Winter term: Work
Summer term: Study

YEAR 4
Fall term: Work
Winter term: Study
Summer term: Study

PROGRAM REQUIREMENTS

Total courses: forty-three.

Major requirements - Business Administration: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-220, 74-231, 75-498; 75-404, and two of 75-401, 75-402, 75-403; plus nine additional Business courses.

Major requirements - Computer Science: 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-315, 60-330, 60-334, 60-367, 60-393 plus two 300-level or above Computer Science courses.

Other requirements: 41-110, 41-111, 62-120, 62-140 (or 62-130), and 65-205; plus one Arts/Languages course; and one Arts/Languages or Social Sciences course; and one Science course.

Students who substitute 62-130 in place of 62-140 are cautioned that 62-130 is not a prerequisite for upper-level Mathematics courses.

RECOMMENDED COURSE SEQUENCE

YEAR 1

First Term
41-110
60-100
60-140

62-140
70-151

Second Term
41-111
60-141
65-205
70-152
71-140

Third Term
Work/Study

YEAR 2

First Term
60-212
60-265
62-120
72-270
74-231

Second Term
60-254
60-256
72-271
71-243
73-220

Third Term
Work

YEAR 3

First Term
60-315
60-330
60-393
Two Business courses

Second Term
Work

Third Term
60-334
60-367
Two Business courses
One Arts/Languages course

YEAR 4

First Term
Work (mandatory)

Second Term
Two Business courses
Two Computer Science courses
One Science course

Third Term
75-498
Three Business courses
One Arts, Languages, or Social Sciences course

6.1.2 BACHELOR OF COMMERCE (HONOURS BUSINESS ADMINISTRATION)

The purpose of the Bachelor of Commerce program is to develop educated men and women with a grounding in business ideas and techniques which will help equip them for positions of responsibility in industry and commerce. The program is designed to provide the broad outlook needed in modern business, and accordingly stresses general procedures and methods of attack on problems. Students are guided toward independent study, and they are encouraged to grapple with business problems on their own. The objective is to give students an awareness of the position and significance of business in the world today.

Total courses: forty.

Major requirements: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-101*, 73-102, 73-213, 73-220, 74-231, 75-498 plus ten to twelve additional Business courses.

**Students with grade 12 "U" Data Management do not require 73-101 and will need to replace that course with another Business course.*

Other requirements: 41-110, 41-111, 60-104, 62-101**, 62-194; two courses from Arts/Languages; plus nine to eleven additional courses from outside the Odette School of Business Administration. Students wishing a stronger Mathematics background should take 62-120 and 62-140 instead of 62-194. Students may opt to take 62-130 in place of 62-140 but are cautioned that 62-130 is not a prerequisite for upper level Mathematics courses.

***Students with either a Grade 12"U" Advanced Functions and Introductory Calculus or equivalent course do not require 62-101 and will need to replace that course with another course from outside the Odette School of Business Administration.*

RECOMMENDED COURSE SEQUENCE

Students who desire to concentrate their studies in a particular area may need to modify this recommended sequence. These students should consult a faculty member in that area for an optimal sequence of courses.

YEAR 1

First Term
70-151
41-110
60-104
73-101 (If no Grade 12"U" Data Management or equivalent)
62-101 (If no Grade 12"U" Calculus or equivalent)

If student has only four courses, complete 1 Arts elective.
If student has only three courses, complete 1 Arts elective and 1 non-Business elective.

Second Term
70-152
71-140
73-102
41-111
62-194

YEAR 2

First Term
71-243
72-270
73-213
74-231
One course from within or outside of Business Administration

Second Term
72-271
73-220
Three courses from within or outside of Business Administration

YEAR 3

Ten courses (Consult a faculty advisor.)

YEAR 4

75-498
Nine additional courses (Consult a faculty advisor.)

6.1.3 BACHELOR OF COMMERCE (HONOURS BUSINESS ADMINISTRATION AND ECONOMICS)

The University of Windsor offers an Interdisciplinary Program leading to the Degree Bachelor of Commerce (Honours Business Administration and Economics). The objective of the program is to prepare students for the growing demand for graduates trained in Business with a strong Economics background.

The program combines both the core of the Bachelor of Commerce program and the core of the Bachelor of Arts Economics program while allowing the student to use the options to gain additional training in Economics.

PROGRAM REQUIREMENTS

Total courses: forty.

Major requirements-Business: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-213, 73-220, 74-231, and 75-498; plus eight additional Business courses;

Major requirements - Economics: 41-110, 41-111, 41-212 (or 65-251), 41-221, 41-222, 41-231, and 41-232; plus six additional Economics courses at the 300 or 400 level.

Other requirements: 60-104, 62-194 and 65-205 (or 65-250); two courses from Arts/Languages; four courses from any area of study, excluding Business and Economics. Students wishing a stronger Mathematics background should take 62-120 and 62-140 instead of 62-194 and should enroll in further Mathematics courses. Students may also opt to take 62-130 in place of 62-140 but are cautioned that 62-130 is not a prerequisite for upper level Mathematics courses.

RECOMMENDED SEQUENCE

Students who desire to concentrate their studies in a particular area may need to modify this recommended sequence. These students should consult a faculty member in that area for an optimal sequence of courses.

YEAR 1

First Term
70-151
41-110
60-104
65-205
62-101 (If no Grade 12"U" Calculus course or equivalent)

If student has only four courses, complete 1 Arts/Languages elective.

Second Term
70-152
71-140
62-194
41-111
One Arts/Languages course

YEAR 2

First Term
41-212
41-221
72-270
73-213
74-231

Second Term
41-222
41-231
72-271
73-220
One Business course

YEAR 3

First Term
41-232
71-243

Two Business courses
One Economics course

Second Term
Two Business courses
Three Economics courses

YEAR 4

First Term
Three Economics courses
One Business course
One Arts/Languages course

Second Term
75-498
One Business course
One Economics course
Two courses from outside of Business and Economics

Notes:
1) Non-required courses taken in the Odette School of Business Administration should be chosen in consultation with the appropriate Area Chairperson and will lead to some specialization in the fields of P-IR, Finance and Marketing.

2) Non-required courses taken in Economics should likewise be chosen in consultation with an advisor.

3) In either case, all non-required courses in Business and Economics must be chosen from 300- or 400-level courses

4) 41-321 and 41-322 are not available as non-required Economics courses. Also, credit may not be obtained for both of 71-344 and 41-353.

5) Students who wish to accelerate their programs by taking courses in Summer must seek academic advising in the appropriate area.

6.1.4 BACHELOR OF COMMERCE (HONOURS BUSINESS ADMINISTRATION AND COMPUTER SCIENCE)

The University of Windsor offers an interdisciplinary program leading to the degree of Bachelor of Commerce (Honours Business Administration and Computer Science). The objective of the program is to provide students with the knowledge, skills, and abilities to direct, co-ordinate, and manage information technology in current business organizations.

PROGRAM REQUIREMENTS

Total courses: forty.

Major requirements-Business Administration: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-220, 74-231, and 75-498; plus nine additional Business courses.

Major requirements - Computer Science: 60-100, 60-140, 60-141, 60-212, 60-254, 60-256, 60-265, 60-315, 60-330, 60-334, 60-367, 60-393 plus two 300-level or above Computer Science courses.

Other requirements: 41-110, 41-111, 62-120, 62-140, and 65-205; plus one Arts/Languages course; and one Arts/Languages or Social Sciences course; and one Science course.

Students may also substitute 62-130 in place of 62-140 but are cautioned that 62-130 is not a prerequisite for upper-level Mathematics courses.

RECOMMENDED COURSE SEQUENCE

YEAR 1

First Term
41-110
60-100
60-140
62-140
70-151

Second Term
41-111
60-141
65-205
70-152
71-140

YEAR 2

First Term
60-212
60-265
62-120
72-270
74-231

Second Term
60-254
60-256
72-271
71-243
73-220

YEAR 3

First Term
60-315
60-330
60-393
Two Business courses

Second Term
60-334
60-367

Two Business courses
One Arts/Languages course

YEAR 4

First Term
Two Business courses
Two Computer Science courses
One Science course

Second Term
75-498
Three Business Courses
One Arts/Languages or Social Sciences course

6.1.5 BACHELOR OF COMMERCE PROGRAM FOR UNIVERSITY GRADUATES

Students who wish to pursue the degree of Bachelor of Commerce following a baccalaureate degree previously completed with a 7.0 (C+) average or better in an area other than Business Administration must complete sixty semester credit hours (twenty courses) in Business Administration subjects offered by the Odette School of Business Administration at the University of Windsor. These hours are in addition to those Business Administration courses or their equivalents already taken for credit toward another degree. (Although the program requirement is that twenty Business Administration courses be completed at the University of Windsor, advanced standing may be granted to a maximum of four courses for introductory Business Administration courses provided that such courses were passed with a minimum of C- grade and are beyond the student's initial degree requirements. If the courses were part of the initial degree, the student must substitute for such courses by taking additional courses.)

Applicants to the Bachelor of Commerce Program for University Graduates must have completed at least one university-level mathematics course prior to entry into the program. Applicants who do not present a university mathematics course will be required to take 62-194 (mathematics for Business) as indicated in the Recommended Sequence for this program. Applicants who do not possess a Grade 12"U" or equivalent mathematics course prior to entry to this program will be required to complete a Grade 12"U" mathematics course, or its equivalent, prior to graduation from the program.

Students with degrees from universities outside Canada may be required to complete additional courses.

Total courses: twenty to twenty-six courses

Major requirements: 70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-102, 73-213, 73-220, 74-231, and 75-498; plus nine additional business courses.

Other requirements: 41-110, 41-111, 60-104, 62-101, 62-194 and 73-101 (if not completed prior to entry into the program, or their equivalent(s) as determined by the Odette School of Business.

RECOMMENDED SEQUENCE (See Note 1)

First Term
70-151
71-140
73-102
73-213
74-231

Second Term
70-152
72-270
73-220
Two other Business courses

Third Term
71-243
72-271
Three other Business courses

Fourth Term
75-498
Four other Business courses

Notes:
1) The above sequence is based upon prior completion of "*Other requirements*". Students who have not previously completed these requirements should do so as early as possible to meet prerequisites for various Business courses.

For the purpose of the above recommended sequence, Intersession and Summer Session are treated as one term.

2) The maximum load for students in this program is six courses in each of the Fall and Winter terms and five courses over both Intersession and Summer Session.

6.1.6 BACHELOR OF BUSINESS STUDIES (GENERAL) - ACCOUNTING TRACK

ADMISSION REQUIREMENTS

This program is restricted to graduates of three-year business diploma programs from colleges of applied arts and technology with a major in accounting and a minimum cumulative average of B or 70 percent. Those who qualify are granted twenty unspecified semester course equivalents towards this thirty-three-course degree.

The program requirements can be completed in three terms of full-time study or through Flexible Learning. Completion of the Bachelor of Commerce (Honours Business Administration) would require an additional seven courses. Students may retain only one of these degrees.

Total courses: thirty-three.

Major requirements: 70-360, 70-361, 70-456, 70-457, 70-458, 70-461, 71-243, 72-271, 73-213, 73-220, and 75-498.

Other requirements: a non-Business course. (62-194 is recommended for those intending to pursue the B.Comm. degree.)

Students with an equivalent course to 70-360 or 70-361 may substitute another Accounting course at the 300 or 400 level. (70-460 is recommended for those working towards their C.A. designation.)

Students with an equivalent course in the 71-, 72-, 73-, or 74-, areas may replace that course with another from within or outside Business Administration at the 200 level or above, provided that at least four of the substituted courses are from Business Administration.

Residency requirement: Thirteen courses must be successfully completed at the University of Windsor.

RECOMMENDED COURSE SEQUENCE

First Term
70-361
71-243
73-213
One Business course
One non-Business course (Recommended: 62-194.)

Second Term
70-360
70-456
70-457
70-461
73-220

Third Term
70-458
72-271
75-498

6.1.7 PROFESSIONAL AND CERTIFICATE COURSES

Designated courses in the Management and Labour Studies area meet the educational requirements for achieving Professional Designation by the Human Resources Professionals Association of Ontario (HRPAO). Consult with a Faculty Advisor in Management and Labour Studies for details.

The Michigan State Board of Accounting accepts graduates of the program with a major in accounting for the Certificate Examination.

The Institute of Chartered Accountants of Ontario, the Society of Management Accountants of Ontario and the Certified General Accountants' Association of Ontario grant graduates of the Bachelor of Commerce program credits towards professional certification for the satisfactory completion of certain Business Administration courses. A faculty advisor in Accounting should be consulted with respect to the specific exemptions available.

6.1.8 CERTIFICATE IN BUSINESS ADMINISTRATION

This program is intended for part-time students. Courses are regular University credit courses and may be applied toward the Bachelor of Commerce degree.

Required courses:
70-151, 70-152, 71-140, 71-243, 71-340, and 71-344; Economics 41-110 and 41-111; plus four additional courses in Business Administration.

To be eligible to receive the Certificate in Business, a student must obtain a cumulative average of 5.0 or better.

In the event that an applicant has completed equivalent courses elsewhere, other courses may be substituted by the applicant with the consent of the Dean of the Odette School of Business Administration.

Certificate in Arts Management

See 4.23.1.

6.1.9 INTEGRATED M.B.A./LL.B. PROGRAM

This special program provides students interested in a career which combines legal and business management skills with an opportunity to complete both the M.B.A. and the LL.B. degrees in four years.

For details, consult the separate brochure, or an advisor in either of the Faculties.

6.1.10 MINOR IN BUSINESS ADMINISTRATION

Only students registered in the Faculty of Engineering and the Faculty of Science may choose to fulfill the requirements for a Minor in Business Administration. The Minor shall consist of one of 62-120, 62-130, 62-140, or 62-194, and one course in statistics from Engineering, Science, or Business, plus 70-151, 71-140, 72-270, 73-220, 74-231, and one additional Business course. Students must obtain a minimum grade of 5.0 in every course applied to the minor.

Having applied for graduation, and after completing the requirements for the minor, the student must submit a "Minor Form" to the Office of the Dean of Business. If approved, the minor in Business Administration will be recorded on the student's transcript.

6.2 Course Descriptions

Business courses are restricted to those students registered in the Odette School of Business Administration or to those students whose programs otherwise require certain Business courses.

Pursuant to a grading policy set by the Odette School of Business, all required business courses in the first and second year will be graded to an average in the C range (70-151, 70-152, 71-140, 71-243, 72-270, 72-271, 73-213, 73-220, and 74-231).

Courses below are listed according to the informal administrative units of the Faculty.

Not all courses listed will necessarily be offered in a particular term or year.

Special permission to enter courses without the stated prerequisites must be arranged with the Dean and the instructor involved.

Except as otherwise noted, there will be a minimum of thirty-nine hours of class contact for all courses. All courses will be three hours a week unless otherwise indicated.

6.2.1 ACCOUNTING

70-151. Accounting I
An introduction to the theory and practice of accounting. Emphasis is placed on the interpretation and use of accounting information for business decisions and on the concepts and principles underlying such information. The impact of ethical, regulatory, and environmental aspects on preparation and use of accounting information will be discussed. Topics covered include: accounting for transactions, accounting for business assets, preparation and presentation of financial statements, ethics, professional judgment and interpretation and use of accounting information.

70-152. Accounting II
A further introduction to the theory and practice of accounting. Emphasis is placed on the concepts and principles underlying accounting information as well as the presentation, interpretation, and use of such information. Topics covered include: accounting for partnerships and corporations, income taxes, cash flows, analysis and interpretation of accounting information, management accounting and managerial decision making techniques. (Prerequisite: 70-151.)

70-256. Managerial Cost Accounting
Accounting for, and reporting and analysis of costs relating to production, marketing and administration of enterprises. Emphasis will be on analysis of accounting information in connection with planning, controlling, reporting, performance evaluation, and decision-making. Behavioural and ethical issues in the use of accounting information will be discussed. (Prerequisite: 70-152.)

70-351. Accounting Theory I
Current developments in the theory of generally accepted accounting principles and standards are introduced. An in-depth theoretical examination of the determination, measurement, classification and reporting of assets. Accounting for special items, such as accounting changes and error corrections are examined in detail. (Prerequisite: 70-152 with a min. C [6.0] grade.)

70-352. Accounting Theory II
An in-depth theoretical examination of the determination, measurement, classification and reporting of liabilities, income taxes, and owners' equity. Emphasis is given to the use of time-adjustment techniques in connection with the accounting for bonds, pensions, and leases. The statement of changes in financial position is studied in detail. (Prerequisite: 70-351 or consent of the instructor.)

70-358. Accounting Information Systems
The design and operation of manual and computerized accounting systems. The study of control environment, management and control of transactions and accounts, such as, accounts receivable, accounts payable and inventory. Emphasis will be given to the acquisition and input of information into accounting information systems; modes and methods of file structures and storage of accounting information; retrieval inquiry and report creation of information in files as well as financial statement preparation, analysis, and managerial decision making. Related issues such as audit trail, data retrieval, and data security will also be covered. (Prerequisite: 70-256 and 73-213 or consent of the instructor.)

70-360. Auditing I
An introductory course designed to provide a broad foundation for all major aspects of auditing. This course focuses on objectives, concepts, standards, strategies, processes, and communications relating to external audits. Other services provided by public accountants and current developments affecting auditing and the auditing profession are considered. (Prerequisite: 70-352, and Corequisite 70-358.)

70-361. Taxation I
This is the first of two courses designed to examine the Income Tax Act. This course focuses on the determination of residency and of income for tax purposes. Other tax related topics such as tax planning concepts, and concepts underlying the Act will be discussed. (Prerequisite: 70-351 or consent of the instructor.)

70-452. Independent Study in Accounting
This course must be taken under the direct supervision of an accounting faculty member. (May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

70-456. Advanced Managerial Cost Accounting and Analysis
This course is designed to focus on the role and use of accounting information in management decision making, and for formulating policy and strategy. The application of some of the advanced techniques for planning, controlling and performance evaluation will be discussed. Behavioural and ethical issues will be considered. (Prerequisite: 70-256 with a min. of C [6.0] grade.)

70-457. Advanced Accounting I
A study of concepts, standards and procedures underlying intercorporate investments including portfolio investments, investments involving significant influence, and investments involving control. The preparation of consolidated financial statements under a variety of circumstances is studied in detail. Other topical areas, such as foreign currency transactions and translation, will also be covered. (Prerequisite: 70-352.)

70-458. Advanced Accounting II
A study of the topical areas in accounting such as price-level and current -value accounting; governmental and other non-profit organizations;

international accounting; interim and segmented reports; forecasts and projections; effect on human behaviour and emerging issues. (Prerequisite: 70-457 or consent of the instructor.)

70-460. Auditing II
This course is designed to provide an in-depth knowledge of the major aspects of auditing. It will examine topics such as audit sampling; public accountants' communications to users of accounting and non-accounting information; and emerging issues in auditing. (Prerequisites: 70-358 and 360.)

70-461. Taxation II
This course will focus on the computation of taxable income for individuals and corporations, and determination of tax. Tax planning techniques in business in a variety of situations will be discussed and other topics such as the Goods and Services Tax will also be considered. (Prerequisite: 70-361.)

70-462. EDP Auditing
This course is designed to focus on the integration of auditing concepts, standards and procedures in a computerized environment. It will examine EDP general and application controls, the similarities and differences between manual and EDP systems from the auditor's perspective, and will introduce computer-assisted audit techniques, and emerging technologies in EDP auditing. (Prerequisites: 70-358 and 70-360.)

6.2.2 MANAGEMENT AND LABOUR STUDIES

71-140. Principles of Management
As an introduction to management in organizations, this course surveys a variety of contemporary management topics including: motivation, leadership, job and organizational design, technology, ethics, demographic diversity, and international management. The functions of management are discussed from classical, behavioural, contingency and systems perspectives.

71-243. Human Resources Management
Human Resources Management (HRM) is concerned with the management of people at work - a key responsibility of people at work - a key responsibility of every manager within an organization. Topics include: integrating HRM decision making within a business strategy, recruiting and selecting qualified employees, developing and evaluating human resources and retaining and motivating employees through compensation systems, labour relations, and quality of work life initiatives. In recognition of the importance of the increasingly global context to Canadian organizations, the course incorporates a continuing international focus. (Prerequisites: 71-140 or consent of the instructor.)

71-340. Organizational Behaviour
A study of individual and group behaviour in formal organizations as influenced by social, individual, organizational, and technological constraints. Topics include: personality; attitudes; motivation; group dynamics; roles, norms and status; decision making; power and control; conflict; change; leadership. Emphasis is placed on group projects that allow students to gain stills at managing behavioural differences in organizations. (Prerequisite: 71-140 or consent of the instructor.)

71-342. Compensation Management
This course is intended to give an understanding of the power of organizational rewards and managing this power for organizational effectiveness. This course entails an outline of the major concepts and principles of equitable reward design within organizations. Topics include the planning of salary and wages, pay equity, incentive pay, benefits, non-financial rewards, and the clarification of the linkages between rewards and desired behaviours. Special emphasis is given to reward system design and the evaluation of compensation program effectiveness. (Prerequisites: 71-243 and 71-340.)

71-344. Labour-Management Relations
A comprehensive introduction to the dynamic world of labour and management relations focusing on the unionized sector. The problems, issues, and challenges growing out of the labour-management relationship are examined against a broad background of information, including: the differences between union and non-union workplaces; the development and operation of labour unions; the impact of labour legislation; the negotiation and administration of collective agreements; and the resolution of industrial conflict. Given the size and importance of this unionized workforce in Canada, the knowledge and skills developed in this course have wide application. (Prerequisite: 71-243 or Semester 3 or above standing in the Labour Studies program.)

71-347. Women at Work
This course examines women's work experiences in the workplace and in the household from a critical perspective. Topics include the division of labour by sex, the value of women's labour, sexual harassment, and women's union participation. (Prerequisite: 71-140 or 53-100 and Semester 4 or above standing.) (Cross-listed as 53-360.)

71-383. Managing in a Global Business Environment
This course examines the management process for firms operating in the global business environment; we discuss planning, organizing, staffing, directing, and control issues from an international perspective, including global, ethical and environmental issues. A particular focus of the course is the management of people; we discuss staffing and training choices for parent country nationals, host country nationals and third country nationals, and we explore issues relating to motivation in diverse cultural contexts. (Prerequisite: 71-243.)

71-441. Training and Development
This course has an experiential focus: student teams are responsible for developing and presenting their own training programs. The focus of this course is on the three major aspects of training and development efforts: (1) needs assessment, (2) program development, and (3) evaluation. Course topics include the design of training programs, adult learning models, development managerial skills, and the design of effective workshops. This course has an experiential focus; student teams are responsible for development and presenting their own training programs. (Prerequisites: 71-243 and 71-340.)

71-443. Human Resources Research and Information Systems
This course is designed to provide the student with an understanding of the research methodology as applied to the fields of human resources management and industrial relations. Topics will include experimental

designs, field studies and surveys, scale development, and ethical issues in research. The course also will introduce the basic development, implementation, and use of a computerized human resources information system. (Prerequisites: 71-243, 71-340, 71-344, and 73-213.)

71-445. Organization Design
This course is designed to provide the student with an understanding of the importance of structure and processes in the analysis of modern complex organizations. It addresses how the internal structures should be changed, renewed, and adapted in view of external environmental threats and opportunities emanating from political, economic, social, legal, technological, and demographic changes. Topics include: organizational goals and effectiveness, structure and design, bureaucracy and life cycle, structural archetypes, information and control, power and politics, intergroup relations and conflict, structure-strategy relations and organizational renewal. This course utilizes the case method and other applied problem-solving skills in analyzing and evaluating organizational structures and processes. (Prerequisite: 71-340.)

71-446. Topics in Management and Labour Studies
This is a seminar course covering major concepts or current problems or issues in the area of Management and Labour Studies. The topic to be covered in a particular semester will vary and will be announced in the previous semester. Interested students should consult the Area Convenor of Management and Labour Studies. (May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

71-448. Labour Relations Law and Employment Legislation
Legislation, administrative agencies and courts play a significant role in shaping employer-employee relationships. this course aims to increase the knowledge and provide analytical skills to students who are interested in employment relationships in union and non-union workplaces. The course includes an analysis of labour relations law, employment standards law, the occupational health and safety law. Emphasis will be placed on Ontario laws. Lectures and case discussions will be used. (Prerequisite: 71-344.)

71-449. Collective Bargaining
Various aspects of union-management negotiations in the private and public sector will be discussed. A key aspect of the course is a bargaining simulation played by students assuming the role of union and management negotiators. Grievance arbitration and other dispute settlement procedures will also be discussed. Students will learn negotiation and conflict resolution skills relating to the union-management relations. (Prerequisite: 71-344.)

71-451. Organizational Staffing
At the heart of the organizational staffing process is the forming of matches between people and jobs that will result in an effective workforce for the organization. The course identifies the key influences upon, and components of staffing and overviews such support activities as job analysis, external and internal recruitment, selection and the assessment of staffing effectiveness. The course goes on to examine the deployment processes that represent the end pont of the person/job match. This match does may not be permanent, and so the course does go on to give consideration to equitable termination and outplacement practices which are required when people leave the organization. (Prerequisite: 71-243.)

71-452. The Management of Organization Health, Wellness and Safety
Health and safety plays a prominent role in the development of a strong organizational culture and a productive workforce. This course emphasizes the key goal of managers and HR professionals to create, develop and nurture a culture that is fully aware of the importance of safety and the advantages of a proactive employee wellness culture, and is willing to take the necessary steps to achieve it. Students will evaluate practices in the areas of health, safety, security and Workers' Compensation and the importance of due diligence and meeting safety legislation. An emphasis in the course is the adoption of proactive programs of employee wellness and assistance, careful medical and safety testing and the implementation of strategies to minimize compensation costs and maximize compliance with safety guidelines. (Prerequisite: 71-243.)

71-481. Diversity in the Workplace
This course will address the knowledge and skills managers must develop in meeting the opportunities and challenges created by the diversity in the labour force. It will draw on the literature from a number of disciplines in focussing on interpersonal relationships as managers interact with and work with persons who are different from themselves. The human rights legislation will provide the framework for discussions on managing and valuing diversity in terms of gender, age, race, religion, ability and other groups. The course will use lectures and case discussions on the role of union and management in implementing equity in the workplace. (Prerequisite: 71-243.)

71-485. Human Resources Planning
This course is concerned with planning of the human resources needs of organizations, focusing, in particular, on the role of the Human Resources Management function in this task. The objective is to provide an understanding of how the essential elements of the human resources planning process, in both unionized and non-unionized organizations, can be designed to match the wider organizational context. Topics include the assessment of human resources strategy and the application of planning principles to the different activity areas of human resources management, such as staffing, development and the management of diversity. An ongoing theme is the evaluation of how strategic human resources management contributes to organizational effectiveness. (Prerequisites: 71-243, 71-340 and 71-344.)

71-492. Independent Study Course
The student, with the agreement of the instructor, will select, research and report on a topic. (May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

6.2.3 FINANCE

72-270. Business Finance I
A basic theoretical framework for decision making in financial management. The primary objective of the course is to study and understand the

concepts and principles of financial management of the business enterprise. After an introduction to managerial finance, the course will cover the areas of financial analysis, planning and control, and working capital management. (Prerequisites: 70-151, 73-101, and 62-194 or equivalent.)

72-271. Business Finance II
The focus of this course is the long-term area of financial management. The objective is to develop an understanding of the concepts and principles of the management of capital assets and resources. Topics include capital budgeting, cost of capital, capital structure, sources of long-term financing, and budgeting will be covered. (Prerequisites: 73-102 or 73-105 and 72-270.)

72-371. Intermediate Corporate Finance
This course covers important topics in Corporate Finance regarding long-term investment and financing decisions. It provides an in-depth analysis of valuation and capital budgeting, risk and return, capital structure and dividend policy, long-term financing, and mergers and acquisitions. The approach will be oriented towards the development of skills which serve to enhanced decision making in a corporate setting. (Prerequisite: 72-271.)

72-373. Working Capital Management
A seminar in working capital management using case studies. Emphasis is placed on domestic and international cash management, control of accounts receivable, principles of inventory management, short and intermediate term financing. (Prerequisite: 72-271.)

72-374. Finance: Long-term Financial Management
A seminar course in long-term financial management. Particular attention is directed toward long-term sources of funds, the firm's capital structure, and the cost of the various sources of long-term funds. Principles are illustrated by means of case studies. (Prerequisite: 72-271.)

72-375. Pension Management and Design
This course provides an overview of pension administration and design. Emphasis is placed on analyzing the problems corporations face in establishing, changing or terminating a pension plan. The concepts and techniques used in managing existing plans are also discussed. (Prerequisite: 72-271.)

72-471. Investment Fundamentals
Appraising bonds, preferred, and common stocks as vehicles for investment. The course also involves the study of alternative investments, the market setting, technical analysis, and securities legislation in Canada. (Prerequisite: 72-271.)

72-472. Portfolio Management
The shaping of portfolios to fulfill the needs of individuals and institutions including risk-return concepts, diversification, beta analysis, and market efficiency. (Prerequisite: 72-371.)

72-475. Management of Financial Institutions
An analysis of the assets and liabilities of major Canadian financial institutions. An evaluation of the domestic and international financial problems faced by these institutions. A review of financial systems outside of Canada. (Prerequisite: 72-271.)

72-476. International Financial Management
A study of international corporate financial management, international banking, and financial markets. Emphasis is placed on foreign exchange and exposure management. The financial problems and risks faced by multinational corporations and banks are also discussed. (Prerequisite: 72-271.)

72-477. Analysis of Financial Decisions
This course focuses on the quantitative tools and models that have been most widely used in financial management, including: measurement and management of different dimensions of risk, valuation of different securities, arbitrage pricing relationships across securities markets. It is also to acquaint students with a number of important issues in current financial industry and to introduce some basic financial research techniques. (Prerequisite: 72-371.)

72-479. Independent Study
(May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

6.2.4 MANAGEMENT SCIENCE

73-101. An Introduction to Business Data Analysis
An introduction to uncertainty and the use of probability and statistics in analysing this uncertainty in a business context. Topics include graphical and numerical descriptive statistics; probability concepts and rules; expectation; discrete and continuous probability distributions; sampling distributions; and, an introduction to statistical inference. (Antirequisites: Grade 12"U" Data Management; or any equivalent introductory Statistics course.)

73-102. Business Data Analysis
Statistical inference in a business environment. Topics include one population inferences, two population inferences, analysis of variance, Chi-Square tests, linear regression and correlation. (Prerequisite: 73-101 or Grade 12 "U" Data Management. Antirequisites: 73-205 or any equivalent statistics course.)

73-213. Introduction to Management Information Systems
This course provides an overview of Management Information Systems (MIS). Topics include: various types of MIS such as Information Reporting Systems, Decision Support Systems, and Office Automation Systems; introduction to hardware and software technology; personal, functional and enterprise information systems; and the value added to an organization by MIS. (Prerequisite: 60-104 or consent of the instructor.)

73-220. Quantitative Decision Models I
An introduction to the use of quantitative approaches to decision making. Topics include linear programming (model formulation and applica-

tions, computer solution, sensitivity analysis, and interpretation), transportation model, project management; PERT/CPM, inventory control. (Prerequisite: 73-102 or 73-105 and 62-194.)

73-305. Statistical Quality Design and Control
The course discusses some of the important statistical concepts and methods for quality design and improvement. Topics include: statistical process control, development and interpretation of different kinds of control charts for variable and attribute data, designs of experiment for product/process improvement. A software package may be required to simulate the operation of an actual process, and to illustrate the methodology. (Prerequisites: 73-102 or 73-205.)

73-311. Introduction to Data Base Management
A study of the planning and design of data base systems in a business organization. Topics include: data concepts and modelling, data base planning, data structure and storage techniques, and data base design. A micro-computer-based data base software package will be used for regular assignments and team projects. (Prerequisite: 73-213.)

73-320. Quantitative Decision Models II
An introduction to the use of quantitative approaches to decision making under uncertainty. Topics include: inventory management under probabilistic demand, waiting line models or queues, computer simulation, decision analysis, multi-criteria decision making. (Prerequisite: 73-220.)

73-331. Operations Management I
An introduction to the problems and techniques encountered in the production of goods and services. Topics include: forecasting, capacity planning, facility location and layout, aggregate planning, inventories and materials requirement planning. (Prerequisite: 73-220.)

73-425. Special Topics in Management Science
(May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

73-429. Independent Study
(May be taken for credit twice if content is different.) (Prerequisite: consent of the instructor.)

73-431. Operations Management II
The course explores other substantive and analytical issues in the planning and control of operations and manufacturing. Topics include: operations scheduling, quality and assurance, reliability and maintainability; and recent advances in manufacturing technologies and control. Team or individual presentations on selected topics may be required. (Prerequisite: 73-331.)

6.2.5 MARKETING

74-231. Principles of Marketing
An introduction to the principles, concepts and techniques of marketing. A significant objective of the course is the development of a basic understanding of the marketing process and its role in the organization, in the economy, and in global markets.

74-232. Marketing Problems-Applications and Decisions
The application of concepts and techniques in marketing through the use of cases and simulation gaming. The course will apply the concepts learned in 74-231, Principles of Marketing, in a managerial, decision-making format. (Prerequisite: 74-231 and Corequisite: 72-270.)

74-332. Research Methods in Marketing
The use of analytical methods to improve the efficiency of the marketing operations of companies and other organizations with emphasis on the development of a broad understanding of the uses and methods of research as applied to marketing. (Prerequisite: 73-102 or 73-105.)

74-334. Consumer Behaviour
An analysis of consumer and buyer behaviour and their implications for marketing decisions. The course examines theories of, and research in, consumer behaviour through cases and group projects. (Prerequisite: 74-232.)

74-335. Marketing Channels
This course provides an introduction to the management of marketing channels. Major topics include the types and roles of marketing channel members, principles of marketing channel design, the impact of the other elements of the marketing mix on channel management, and issues in marketing channel management, such as power and conflict, communication, and evaluation of channel members. (Prerequisite: 74-232.)

74-337. Quantitative Analysis for Marketing Decisions
The application of quantitative techniques to marketing problems and strategy. (Prerequisite: 73-102 or 73-105.)

74-338. Retail Marketing Management
An introduction to retailing concepts and the examination of various managerial issues related to retailing, including retail marketing strategy formulation, customer care and service, product assortments, retailer-supplier relations, pricing, inventory control, and location and layout decisions. (Prerequisite: 74-232.)

74-339. Logistics and Supply Chain Management
An introduction to the planning, implementing, and controlling of activities associated with the flow and transformation of goods and related information, from the raw materials stage through to the end user. Topics include principles of logistics network/supply chain design, management of traditional logistics activities, international logistics, logistics information technology, and logistics/supply chain strategy. (Prerequisite: 74-232.)

74-431. Independent Study
This course is of varying content dealing with topical issues in marketing. The course might focus on a specific functional area or a particular environment for the application of marketing concepts. Administration of the course will vary as appropriate with its content and might involve a literary survey, research project, experiential exercise, or other format. (May be repeated for credit if content is different.) (Prerequisites: 74-232 and consent of the instructor.)

74-432. Product Planning for Marketing Management
An overall view of the product planning function (including the planning of services) in a company or institution, including the development and appraisal of product ideas, optimal organization of the planning process, product audits, financial and legal aspects of product planning, and intra-organizational factors. (Prerequisite: 74-232 or consent of the instructor.)

74-433. Internet Marketing
This course explores the impact of the Internet on traditional marketing strategy and actions. Specific emphasis will be placed on customer segmentation/targeting, consumer behaviour and issues of on-line/off-line consistency. Students will be expected to develop an understanding of web site design and basic html coding. Classes consist of lectures, lab work, case analysis, and student discussions/presentations. The course requires both qualitative and quantitative treatment of issues. (Prerequisites 74-232, 60-104.)

74-435. International Marketing
This course is concerned with the problems and opportunities of marketing in foreign environments. It will focus on the cultural, economic, and geographical problems encountered in managing the marketing function from a Canadian manager's perspective. (Prerequisite: 74-232.)

74-436. Advertising Management
A study of how to approach the management of advertising in business enterprises. The focus will be on making advertising decisions (e.g., setting advertising objectives, creating advertising campaigns, developing media strategies, and measuring advertising results) in relation to the overall marketing strategy of the business or non-business enterprise. (Prerequisite: 74-232 or consent of the instructor.)

74-437. Sales Management
The study of the personal selling area, including an examination of the role and responsibilities of the salesperson, the sales management, and sales management functions. (Prerequisite: 74-232.)

74-439. Marketing Strategy and Planning
An advanced course in the management of the marketing function. The course will include an appraisal of the key issues in the management of the marketing function with major emphasis on the development, formulation, implementation, and control of the firm's marketing plan. Emphasis will also be placed on current key issues in the marketing area and global marketing considerations. (Prerequisites: 74-332 and 74-334, or consent of the instructor.)

6.2.6 BUSINESS STRATEGY AND ENTREPRENEURSHIP

75-290. Fundamentals of Entrepreneurship
This is a survey course designed to introduce students from all faculties to entrepreneurship as a career option. The entrepreneurial process will be explored through a mix of lectures and case studies. Topics include the identification of profitable business ideas, assessment of business opportunities, entry strategies, marshalling resources, and the start-up process. (Prerequisite: Semester 3 standing or above.)

75-391. New Venture Formation
Designed for students who choose entrepreneurship as a career option, this course is an in-depth study of the process of drawing the blueprints for a new enterprise including: developing business ideas, developing business concepts, conducting feasibility studies, choosing a legal form or business, writing business plans, identifying and approaching sources of money, raising funds, and putting together a package of resources to start an enterprise. (Prerequisites: 71-140, 72-271, 74-231.)

75-392. New Venture Management
Building on the knowledge gained in 75-391, students examine the details of two main stages in the life of a business venture: start-up and venture growth, and the stabilization phase. Topics include: leveraging, negotiating, teaming, raising equity capital, actual acquisition of physical resources, building an organization, generating sales, establishing information and control systems, crisis management, managing growing pains, and stabilizing the enterprise. (Prerequisite: 75-391.)

75-393. International Business
This course is designed to provide students with the tools to think globally and manage internationally. This survey course covers a wide range of topics including, the global trade and investment environment, the international firm's cultural, political, and competitive environment, and the management and operations of international firms. The focus throughout the course is on the changes that occur when a firm moves from a domestic focus to a global one. (Prerequisites: 71-140, 72-271, 74-231.)

75-397. The Law and Business Administration
A survey of the law pertaining to business administration. Topics include: the legal approach to business problems, contracts, sale of goods, bills of exchange, agency, bailment, real property, partnerships, corporations, and bankruptcy. (Prerequisite: Semester 5 standing or above or permission of instructor.)

75-401. Co-op Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

75-402. Co-op Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

75-403. Co-op Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

75-404. Co-op Work Term IV
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course can not continue in the co-op program.)

75-490. Strategy in the Global Business Environment
This course builds on the basic knowledge provided in 75-393 to provide students with an in-depth appreciation of global management issues. The course focuses on developing and implementing global strategies. This includes a detailed analysis of the international environment and the forces that determine global effectiveness, as well as consideration of different forms of entry available to firms and the specific factors that must be addressed to implement global strategies successfully. (Prerequisite: 75-393.)

75-491. Special Topics in Strategic Management
This is an advanced course designed to examine, in-depth, the strategic issues facing business decision makers. Coverage will vary to reflect the contemporary issues and concerns of today's executives. (May be taken for credit twice if content is different.) (Prerequisite: Semester 7 or Semester 8 standing.)

75-493. Field Study in Strategic Management and Entrepreneurship
In this course, teams of students study an actual firm focusing on identifying the strategic issues facing the firm, the needed strategic plans for addressing them, and the implementation of such plans. Students pursuing the entrepreneurial option can also take this course to finalize the prototype for the business they intend to start. (Prerequisite: Semester 7 or Semester 8 standing.)

75-494. Directed Study in Strategic Management and Entrepreneurship
Under faculty supervision, students undertake an individualized program of independent study to pursue, in great depth, a topic in strategic management or entrepreneurship where they can apply the knowledge gained in prior courses. (May be taken for credit twice if content is different.) (Prerequisite: consent of instructor.)

75-498. Strategic Management
Taught from the perspective of the CEO, this is the capstone course of the B.Comm. Program. It is designed to integrate the knowledge gained in all business courses and focus such knowledge on the central task of managing the firm in its entirety. (Prerequisites: Semester 7 or Semester 8 standing in the B.Comm. program or B.Comm. for University Graduates program and all other required Business courses.)

7 FACULTY OF EDUCATION

Dean

Pat Rogers; B.A. (Oxon), M.Sc. (Toronto), Ph.D. (London).

OFFICERS OF INSTRUCTION

Professors

Crawford, W. J. Ian; B.Sc.(Hons.) (Windsor), M.A.(Ed.) (Ottawa), M.Ed., Ed.D. (Wayne State)-1973.

Laing, Donald A.; B.A., M.A., Ph.D. (Toronto)-1976.

Williams, Noel H.; B.A. (Sir George Williams), M.Ed. (McGill), Ph.D. (Alberta)-1976.

Morton, Larry; B.A. (Waterloo), B.Th. (O.B.C.), B.Ed. (O.T.E.C.), M.A., Ph.D. (Toronto)-1988. (Co-ordinator of Graduate Studies)

Rogers, Pat; B.A. (Oxon), M.Sc. (Toronto), Ph.D. (London)-2001. (Dean of the Faculty of Education)

Associate Professors

McKay, Linda; B.S. (North Carolina), M.S. (Maryland), Ph.D. (Wayne State)-1968.

Stenlund, Vern; B.A., B.Ed. (Western Ontario), M.Ed. (Windsor), Ed.D. (Michigan)-1986.

Diffey, Norman R.; B.A., Dip.Ed. (Oxon), M.A. (McMaster), Ph.D. (McGill)-1987. (Co-ordinator of Field Experience)

Flewelling, Janet; B.A. (Hons.) (Guelph), B.Ed. (Queen's), M.Ed., Ed.D. (Toronto)-1990. (Co-ordinator of In-Service Programs)

Tarailo, Michele; B.F.A., B.Ed. (Windsor), M.F.A. (Cranbrook), Ed.D. (Wayne State)-1990.

Glassford, Larry; B.A., Dip.Ed.(Western Ontario), M.A. (Carleton), Ph.D. (York)-1991.

Shantz, Doreen; B.A. (Laurier), M.Ed., Ed.D. (Toronto)-1991.

Starr, Elizabeth; B.A. (Guelph), B.Ed. (Queen's), M.Ed. (Acadia), Ph.D. (Alberta)-1996.

Egbo, Benedicta O.; B.Ed., Dip.Ed. (Alberta), M.A., Ph.D. (Toronto)-1998.

Ezeife, Anthony N.; B.Sc. (Lagos), M.A., M.Sc. (Columbia), Ph.D. (Nigeria)-2002.

Assistant Professors

Smith, Kara; B.A. (Waterloo), B.Comm. (Windsor), B.Ed., M.Ed. (Western Ontario), Ph.D. (Stirling)-1998.

Antosz, Edmund; B.Sc. (Loyola), M.A. (Sir George Williams), M.A. (Concordia), Ed.D. (Michigan)-1999.

Clovis, Christopher; B.Sc., Ph.D. (Chelsea College), Cert.Ed. (Avery Hill College)-1999.

Salinitri, Geri; B.Sc., B.Ed., M.Ed., Ph.D. (Windsor)-1999.

Allen, Andrew; Dip.Tech., B.Tech. (Ryerson), B.Ed., M.Ed. (York), Ph.D. (Toronto)-2002.

Tobin, Ruthanne; B.A. (Dalhousie), B.Ed. (Montreal), M.Ed., Ph.D. (Victoria)-2001.

Beckford, Clinton L.; Cert. in Teaching (Church), B.A. (West Indies), Ph.D. (West Indies)-2002.

Bayley, Jonathan G.; B.Mus. (McGill), B.Ed., M.Mus. (Alberta), M.M. (Eastman), Ph.D. (Ohio State)-2003.

Dlamini, S. Nombuso; B.A., Dipl.Ed. (Swaziland), M.A. (St. Mary's), Ph.D. (Toronto)-2003.

Chevian, Finney V.; B.Sc., B.Ed., M.Ed., Ph.D. (Toronto)-2004.

Daniel, Yvette; Teach.Cert. (Hebrew University Teachers' College), B.A., M.Ed. (Toronto), Ph.D. (York)-2004.

Limited Term Faculty

Romiens, Todd; B.A. (Wilfrid Laurier), M.Ed. (Wayne State)-1973.

7.1 General Information

History

The Faculty of Education, University of Windsor, was established on July 1, 1970, thus becoming the seventh Faculty in the University. Its predecessor, Windsor Teachers' College, founded in 1962, trained its students to teach in the elementary schools of Ontario. Integration with the University opened the way to the development of new programs of study designed to prepare candidates for teaching in both elementary and secondary schools.

The Role of the Faculty of Education

Teaching is a familiar, common experience prevalent during a large part of everyone's life. Although teaching is familiar, it is also elusive; although it is common, it is also extraordinary; although it is prevalent, it is also esoteric. Teaching is a complex process intertwining many philosophies, approaches, and facets.

It follows from this view of teaching that teachers must be extremely knowledgeable and highly expert in order to make sound decisions. The role of the Faculty of Education, University of Windsor is to present a thorough knowledge base for teaching and to ensure that teachers use this knowledge base appropriately in making complex judgements on behalf of their students. Such judgements must be based upon a knowledge of curriculum and learning theory, human development and cognition, and instructional design, implementation, and evaluation. Most importantly, the prospective teacher must be able to connect this knowledge to the understandings, dispositions, and conceptions that individual students bring with them to the classroom. The task of teaching is less a matter of "covering the material" than of connecting with the student in whatever ways are necessary to make knowledge the possession of the learner.

Teaching is not routine. It is a complex human phenomenon presenting a major challenge to its practitioners. Arguments about the purposes of education in society, how to teach, what to teach, and when to teach it, and the interactive relationship between the teacher and the learner have long been subjects for study and debate. Consequently, the ideal way of preparing teachers has been an elusive goal, and it would seem that there are as many notions and opinions as there are people to express them. The debates continue. The Faculty of Education, acknowledging the importance of the continual critical examination of the processes of education in all its aspects, has carefully and thoughtfully designed courses and learning experiences to prepare its students to begin the practice of teaching and to become knowledgeable about educational problems, issues and technology.

7.2 Regulations

7.2.1 LIMITATION OF enrollment

The Faculty of Education reserves the right to limit the number of registrants in any program or individual course of instruction described in this Calendar in cases where the Faculty's teaching and other resources cannot accommodate all of the qualified applicants. In addition, not all courses listed may be offered.

7.3 Programs of Study - Pre-Service Program

7.3.1 CONSECUTIVE BACHELOR OF EDUCATION DEGREE

APPLICATION

Candidates wishing to enter the one-year, pre-service program of study must apply through the Ontario Universities' Application Centre using the on-line application form (www.ouac.on.ca/teas/).

Applications must be received by the Centre by the announced date.

Applicants select one of three possible levels of teaching specialization: Primary-Junior (Junior Kindergarten to Grade 6), Junior-Intermediate (Grades 4 to 10), and Intermediate-Senior (Grade 7 to 12). Pertinent theory and exemplary teaching practices (presented in an integrated manner at the Faculty of Education) are supplemented by directed observation and field experience.

SELECTION OF CANDIDATES

Candidates will be selected for admission to the Pre-Service program on the basis of superior academic qualifications; some students will also be admitted on the basis of experience profiles.

The Faculty of Education also offers an Equity Access Program.

ADMISSION REQUIREMENTS

1) A candidate for admission to the one-year, pre-service program of study leading to the Bachelor of Education (General) Degree and the Ontario Certificate of Qualification must submit proof of graduation with an approved degree from the University of Windsor or another accredited university.

The candidate's university degree program must include at least ninety academic credits or equivalent beyond the Ontario Secondary Diploma (or equivalent.)

2) A candidate who wishes to qualify for the Ontario Certificate of Qualification, Intermediate-Senior concentration, will be required to select two teachable subjects from the following: Biology, Chemistry, Computer Science, Dramatic Arts, English, French, Geography, History, Mathematics, Music-Instrumental, Music-Vocal, Physical and Health Education, Physics, Religious Education in the Roman Catholic Schools, Science (General), Individual and Society, and Visual Arts.

Junior-Intermediate candidates will be required to select one teachable subject from the same list, excluding Individual and Society.

A candidate for the Intermediate-Senior area must have as prerequisites for the major teachable subject at least ten semester courses or equivalent (thirty credits) and for the minor teachable subject at least six semester courses or equivalent (eighteen credits). Prerequisites for Individual and Society include courses in Anthropology, Psychology, and/or Sociology. Candidates for the Junior-Intermediate area should have as prerequisites for their teachable subject at least six semester courses or equivalent (eighteen credits). Unless special arrangements are made, courses in the above subjects may not be offered if there is insufficient enrollment.

3) *The following are required of all applicants:*

(a) completed application form with the documents noted on form;
(b) birth certificate and Social Insurance Number (S.I.N.);
(c) proof of Canadian Citizenship or permanent residency as defined by the Immigration Act (Canada), or of eligibility for employment in Canada (if the Ontario Certificate of

Qualification or a Temporary Letter of Standing is to be awarded);

(d) legal proof of change of name must be submitted where the name being used differs from that shown on the birth certificate.

4) *Additional requirements:*

(a) Prior to September 15, the candidate must present proof of a tuberculin test as required by the Ontario Ministry of Health. The test must have been administered during the previous twelve months.

(b) An official police criminal record check. The check must have been obtained within the previous six months.

(c) After acceptance, students are required to submit to the Faculty a recent photograph (passport-size) for identification purposes within the Faculty of Education.

(d) Candidates are advised that they are responsible for their own transportation to and from field placements.

DEGREE REQUIREMENTS

1) The letter grading system of the University is used in reporting courses and practice teaching (see 2.6.3). Candidates who obtain three or more final course grades below C will not be recommended for certification. Candidates who are unsuccessful in practice teaching or obtain a grade of F in any course will not be recommended for either a degree or certification.

2) Sessional records include term assignments, oral and written tests, and practical work. The general attitude of the candidate to his or her work, adaptability to teaching, and the probability of future success as a teacher may be taken into consideration in determining sessional standing.

3) Final grades awarded are based upon the accumulated evaluation of the candidate. Formal final examinations may be held; however, no formal supplemental examinations will be allowed.

TEACHER CERTIFICATION

The Faculty of Education provides programs and courses in teacher education but does not issue a teaching certificate. The responsibility for teacher certification lies with the Ontario College of Teachers. Upon successful completion of the requirements for teacher certification in Ontario, a recommendation will be made by the Dean of the Faculty to the Ontario College of Teachers indicating eligibility for the Ontario Certificate of Qualification. Candidates who successfully complete either the Consecutive or the Concurrent Programs of Study and Practice Teaching will be awarded the B.Ed. degree of the University of Windsor, and will be recommended to the Ontario College of Teachers indicating eligibility for an Ontario Certificate of Qualification.

OUTLINE OF STUDY

The number of lecture hours per week is indicated in parentheses after each course listed.

Compulsory Courses:

80-203. Psychology in Education (2)
or
80-207. Introduction to Issues in Education (available with permission only to students who have already taken 80-203 or equivalent.) (2)
80-204. Education of Exceptional People (2)
80-205. Organization and Management in Educational Administration (2)
80-499. Practice Teaching

Optional Course:

80-200. Religious Education in Roman Catholic Schools (1)

Additional Requirements for Primary-Junior Candidates:

80-301. General Methodology: Content and Methods (10)

Additional Requirements for Junior-Intermediate Candidates:

80-302. General Methodology: Content and Methods (6.5)

Junior-Intermediate candidates must also select one course from the following:

TABLE OF OPTIONS

80-352. Art (3)
80-353. Computer Science (3)
80-356. English (3)
80-358. French (3)
80-359. Geography (3)
80-362. History (3)
80-365. Religious Education in Roman Catholic Schools (3)
80-366. Mathematics (3)
80-367. Music-Vocal (3)
80-368. Music-Instrumental (3)
80-369. Health and Physical Education (3)
80-373. Biology (3)
80-374. Chemistry (3)
80-376. Physics (3)
80-379. Dramatic Arts (3)
80-380. Science-General (3)

Additional Requirements for Intermediate-Senior Candidates:

80-303. General Methodology: Content and Methods (5.5)

Intermediate-Senior candidates must also take two courses from the following:

TABLE OF OPTIONS

80-352. Art (3)
80-353. Computer Science (3)

80-356. English (3)
80-358. French (3)
80-359. Geography (3)
80-362. History (3)
80-365. Religious Education in Roman Catholic Schools (3)
80-366. Mathematics (3)
80-367. Music-Vocal (3)
80-368. Music-Instrumental (3)
80-369. Health and Physical Education (3)
80-373. Biology (3)
80-374. Chemistry (3)
80-376. Physics (3)
80-377. Individual and Society (3)
80-379. Dramatic Arts (3)
80-380. Science-General (3)

7.3.2 CONCURRENT BACHELOR OF SCIENCE (GENERAL SCIENCE,)/BACHELOR OF EDUCATION

The Concurrent Bachelor of Science (General Science)/Bachelor of Education Program is offered jointly over four years by the Faculty of Science and the Faculty of Education. This program prepares individuals to teach science at the intermediate and senior levels (Grade 7 to 12).

Graduates of this program will acquire the necessary skills and knowledge for teaching two subjects and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teacher certification early in their academic careers.

APPLICATION AND ADMISSION

Admission is to first-year only. Applicants must present six Grade 12 "U" or "M" courses including English 1, Advanced Functions and Introductory Calculus and two of Geometry and Discrete Mathematics, Biology, Chemistry and Physics, or their equivalents. Admission requires completion and submission of a student profile, by the prescribed deadline, and may require an interview. enrollment in this program is limited to 20 students.

For program requirements and course sequence, see "Faculty of Science", 5.1.3.

7.3.3 CONCURRENT BACHELOR OF MATHEMATICS/ BACHELOR OF EDUCATION

The Concurrent Bachelor of Mathematics/Bachelor of Education Program is offered jointly over four or five years by the Department of Mathematics and Statistics and the Faculty of Education. The program prepares individuals to teach mathematics at the intermediate and senior levels (Grade 7 to 12).

Graduates of this program will acquire the necessary skills and knowledge for teaching two subjects and fulfill the requirements for certification by the Ontario College of Teachers. It offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can pursue academic studies in mathematics and statistics while concurrently studying education and doing practice teaching in schools. Practice teaching begins in year one of the program. All students should see an advisor in the Department of Mathematics and Statistics, and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

APPLICATION AND ADMISSION

Admission is to first-year only. Applicants must present six Grade 12 "U" or "M" courses including Grade 12 "U" English I, Grade 12 "U" Advanced Functions and Introductory Calculus, and Grade 12 "U" Geometry and Discrete Mathematics, or their equivalents. Admission also requires completion and submission of a student profile, by the prescribed deadline. enrollment in this program is limited to 10 students.

For program requirements and course sequence, see "Department of Mathematics and Statistics", 5.7.1.

7.3.4 CONCURRENT BACHELOR OF ARTS/BACHELOR OF EDUCATION IN FRENCH

The Concurrent French Bachelor of Arts/Bachelor of Education Program is offered jointly over four or five years by the French Studies Program and the Faculty of Education. The aim is to provide the opportunity and education to individuals who wish to teach at the junior and intermediate levels (grades 4 to 10), with a particular emphasis on teaching French as a Second Language in grades 4 to 8.

Graduates of this program will receive two degrees and will acquire the necessary skills and knowledge for teaching French as a second language and fulfill the requirements for certification by the Ontario College of Teachers. The program offers students the opportunity to begin working towards teaching certification early in their academic careers. Students can qualify for the Bachelor of Arts (French) degree while concurrently studying education and doing practice teaching in schools. Practice teaching begins in year one of the program. All students should see an advisor in the French Studies Program and in the Faculty of Education, on a regular basis, to discuss course selection and academic progress.

APPLICATION AND ADMISSION

Admission is to first-year only. Applicants must present six Grade 12"U" or "M" courses including Grade 12"U" English I, Grade 12"U" French, or their equivalents. Admission also requires submission of a student profile and may require an interview. enrollment is limited to 15 students.

For program requirements and course sequence, see "French Studies Program", 4.8.1.

7.3.5 CONCURRENT BACHELOR OF ARTS (OR MUSICAL ARTS OR MATHEMATICS OR SCIENCE)/BACHELOR OF EDUCATION/DIPLOMA IN EARLY CHILDHOOD EDUCATION

The Concurrent Bachelor of Arts (or Musical Arts or Science)/Bachelor of Education/Diploma in Early Childhood Education Program is offered jointly over five years by the Faculty of Arts and Social Sciences, the Faculty of Science and the Faculty of Education, in co-operation with St. Clair College. The program prepares individuals to teach at the pre-school and Primary-Junior levels.

Graduates of this program will receive two degrees and a diploma and will acquire the necessary skills and knowledge to fulfill the requirements for certification by the Ontario College of Teachers.

PROGRAM REQUIREMENTS

All students are required to complete the thirty-course requirement of the University of Windsor General B.A. (or B.M.A. or B.Math. or B.Sc.) degree program, in addition to the Education courses 80-203, 80-204, 80-205, and 80-301, and Practice Teaching (80-499). The St. Clair College Early Childhood Education component will consist of eleven courses, ED 117, ED 120, ED 130, ED 209, ED 210F, ED 310, ED 402F, ED 408, ED 409, and 640 hours of Field Placement. Requirements can also be met for teaching in the Roman Catholic school system. With additional study in the University's Summer Session, students may be able to accelerate the completion of their B.A or B.Math. or B.M.A. or B.Sc. program. With Summer and/or additional Fall/Winter studies, they may pursue four-year B.A. or B.Math. or B.M.A. or B.Sc. programs as well.

COURSE SEQUENCE

FIRST YEAR

Fall Term: five B.A. (or B.M.A. or B.Math or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or. B.Math. or B.Sc.) courses; the B.Ed course 80-301 (Language Arts and Math); and the E.C.E. course ED 210F (Curriculum Methods).

Spring Term: two weeks of E.C.E. Preschool and two weeks of B.Ed. Primary Grades practice teaching (150 hours total).

SECOND YEAR

Fall Term: five B.A. (or B.M.A. or B.Math. or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed course 80-203 (Educational Psychology); and the E.C.E. course ED 120 (Child Behaviour Management).

Spring Term: four weeks of B.Ed. JK/SK practice teaching (150 hours total).

THIRD YEAR

Fall Term: five B.A. (or B.M.A. or B.Math. or B.Sc.) courses.

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed course 80-301(Art/Music/Phys.Ed.); and the E.C.E. course ED 130 (Child Development).

Spring Term: four weeks of B.Ed. Primary Grades practice teaching (150 hours total).

FOURTH YEAR

Fall Term: the E.C.E. courses ED 310 (Infant/Toddler) and ED 402F (Atypical Child); and the B.Ed. course 80-204 (Exceptional Child).

Winter Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed course 80-301 (Social Studies/Science/Computers); and the E.C.E. course ED 117 (Introduction to E.C.E.).

Spring Term: four weeks of E.C.E. Infant/Toddler practice teaching (150 hours total).

FIFTH YEAR

Fall Term: three B.A. (or B.M.A. or B.Math. or B.Sc.) courses; the B.Ed. course 80-205 (Educational Administration); and the E.C.E. course ED 409 (Parent Ed.).

Winter Term: the E.C.E. courses ED 209 (Curriculum Development) and ED 408 (Assessment); the B.Ed. Primary Grades Practice Teaching course 80-499 (45 days/225 hours).

Spring Term: four weeks of E.C.E Infant/Toddler practice teaching (150 hours total).

STANDING REQUIRED FOR CONTINUATION

Students must comply with the general university regulations (see 2.4.19), and with the academic regulations of their particular B.A., B.M.A. or B.Math. or B.Sc. program. In addition, candidates who obtain three or more final Education course grades below C will not be recommended for certification. Candidates who are unsuccessful in practice teaching or obtain a grade of F in any course will not be recommended for either a degree or certification. Students may repeat only one B.Ed. course, excluding 80-499, for upgrading throughout the program.

GRADUATION

Graduates of the program will receive both the Bachelor of Arts (or Musical Arts or Science) and the Bachelor of Education (General) degrees from the University of Windsor, and the Diploma in Early Childhood Education from St. Clair College.

The Faculty of Education does not issue a teaching certificate. The Ontario Certificate of Qualification is issued by the Ontario College of

Teachers upon recommendation of the Dean of the Faculty of Education. Only Canadian citizens or Permanent Residents of Canada qualify for this certificate. Under certain conditions, the Ontario College of Teachers may grant a non-Canadian citizen an Interim Certificate of Qualification.

7.4 Course Descriptions - Pre-Service Program

All Pre-Service courses are two-term courses unless otherwise indicated.

80-200. Religious Education in Roman Catholic Schools
This course is provided for those preparing themselves for the ministry of teaching in the Roman Catholic Schools of Ontario. This course is open to all Education students.This course offers prospective teachers the opportunity: 1) to reflect, in an adult context, upon the significance of their faith and faith growth for themselves and their students; 2) to gain a theological background for an introduction to Religious Education. (1 lecture hour a week.)

80-203. Psychology in Education
Psychology applied to teaching: child growth and development, the learning process, mental health, learning and adjustment problems in the environment. (2 lecture hours a week.)

80-204. Education of Exceptional People
Organization, philosophy and history, development, and structure; special provisions and their significance for exceptional people in our schools today; remedial procedures in care, treatment, education, and rehabilitation. (2 lecture hours a week.)

80-205. Organization and Management in Educational Administration
The focus of the course is on the teacher's administrative and organizational role in education, and on selected professional issues including professional relationships. Consideration will be given to educational organization, provincial and local, and to law and regulations. (2 lecture hours a week.)

80-207. Introduction to Issues in Education
An introduction to critical reflection and analysis of such educational issues as: the reflective teacher, ethnic and religious pluralism in public schooling, and moral and values development. (2 lecture hours a week.)

80-301. General Methodology: Content and Methods-Primary - Junior
The course is concerned with the growth, development, and learning of children from Junior Kindergarten to Grade 6. Opportunities are provided for students to investigate all aspects of the curriculum, with special attention being paid to the aims of elementary education, and its program organization. It also provides detailed study and application of teaching procedures and curriculum planning. Specific applications to art, language arts, mathematics, computers, music, health and physical education, science, and social studies are included. (10 lecture hours a week.)

80-302. General Methodology: Content and Methods - Junior-Intermediate
The course is concerned with the growth, development, and learning of children from Grade 4 to Grade 10. Opportunities are provided for students to investigate all aspects of the curriculum, art, language arts, mathematics, computers, music, health and physical education, science, and social studies, with special attention being paid to the aims of elementary and secondary education and their programs' organization. It also provides detailed study and application of teaching procedures and curriculum planning. (6.5 lecture hours a week.)

80-303. General Methodology: Content and Methods - Intermediate-Senior
The course is concerned primarily with the development and learning of students in the intermediate division (Grades 7 to 10). Opportunities are provided for students to investigate all aspects of the curriculum and its organization with an emphasis on grades 7 and 8. It also provides detailed study and application of teaching procedures and curriculum planning in art, language across the curriculum, mathematics, music, health and physical education, science, and the social sciences. Included are specific applications of the computer in teaching. (5.5 hours a week.)

80-352 to 80-380. Junior - Intermediate, Intermediate - Senior Methods
These courses provide a more detailed study and application of the aims and teaching procedures of specific subjects in the Junior-Intermediate and Intermediate-Senior concentrations. Intermediate-Senior candidates must select two courses from the Table of Options. Junior-Intermediate candidates must select one.

80-499. Practice Teaching
Directed observation and practice teaching is provided through a series of field experiences. Primary-Junior candidates will normally be placed in Grades K to Six inclusive; Junior-Intermediate candidates will normally be placed in Grades Four to Ten inclusive; Intermediate-Senior candidates will be placed in Grades Seven to Twelve inclusive.

7.5 Programs of Study - In-Service Program

7.5.1 BACHELOR OF EDUCATION (HONOURS) DEGREE: IN-SERVICE PROGRAM OF PROFESSIONAL COURSES

PURPOSES OF THE PROGRAM

The Faculty of Education offers courses leading to the Honours Bachelor of Education degree. Not all courses will be offered in each session. The courses are designed for practicing teachers and instruc-

tors who wish to improve their professional skills and knowledge. Some students may wish to complete courses to refresh, to up-date, to qualify in new subject areas or divisions, or to adapt their instruction to changes in curriculum.

ADMISSION REQUIREMENTS

A candidate must hold and show proof of:

1) an approved degree of the University of Windsor or other accredited university; and

2) a valid, current Certificate of Qualification from the Ontario College of Teachers; or,

3) permission of the Dean of the Faculty of Education, for which written applications will be individually considered.

Inquiries about admission criteria, courses, and accreditation should be directed to the Co-ordinator, In-Service Program at the Faculty of Education (519) 253-3000, ext. 3802.

APPLICATION AND REGISTRATION

Students apply for the program and register for specific courses using the Application and Registration Form - Part-Time Undergraduate Studies, which may be obtained from the Office of the Registrar.

DEGREE REQUIREMENTS

To qualify for the degree of Bachelor of Education (Honours), a student must:

1) qualify for an approved degree of the University of Windsor or another accredited university; and

2) successfully complete eight semester course equivalents of the University of Windsor B.Ed. (Honours) program with a B average or better.

Normally, candidates must select six semester course equivalents in an area of specialization. If a candidate wishes to transfer credit for a course taken at another university towards the B. Ed. (Honours) granted by the University of Windsor, approval must be obtained from the Dean prior to taking such a course. All candidates expecting to proceed to the degree should discuss their course selection with the Co-ordinator of the In-Service Program.

Transfer of credit to a B.A. program: See requirements of the appropriate Faculty.

7.5.2 COURSE DESCRIPTIONS - IN-SERVICE PROGRAM

ADDITIONAL BASIC QUALIFICATION COURSES
ADDITIONAL QUALIFICATION COURSES
HONOUR SPECIALIST QUALIFICATION COURSES
PRINCIPAL'S QUALIFICATION PROGRAM

For a complete description of all In-Service courses and registration procedures, consult the In-Service Program Course Calendar, which is available from the Faculty of Education, or refer to www.uwindsor.ca/edfac.

8 FACULTY OF ENGINEERING

Dean

Graham T. Reader; B.Tech. (Hons) (Bradford), B.A. (O.U.), P.S.C. (J.S.D.C.), Ph.D. (Bradford), P.Eng., C.M.E., C.Eng., Eur.Ing., F.IMarEST

Associate Dean (Research and Graduate Studies)

Nihar Biswas; B.E. (Calcutta), M.A.Sc., Ph.D. (Ottawa), P.Eng.

Associate Dean (Academic)

Philip H. Alexander; B.A.Sc. (Assumption), M.A.Sc., (Windsor), P.Eng.

The engineering curriculum leading to the B.A.Sc. degree has been designed to offer students an education that is immediately valuable to them on graduation and which, at the same time, provides a foundation to accommodate their further education in industry or research.

The first year is common in order to give the student an introduction to general engineering principles and to allow investigation of a special field of interest for subsequent years of study.

The Co-operative Education Program is available in Civil Engineering, Electrical Engineering (Microelectronics Option), Electrical Engineering (Communications Engineering Option), Electrical Engineering (Computer Engineering Option), Environmental Engineering, Industrial Engineering, Industrial Engineering (Automotive Manufacturing Systems Engineering Option), Industrial Engineering (Supply Chain Engineering Option), Mechanical Engineering, Mechanical Engineering (Materials Option), and Mechanical Engineering (Automotive Option). See 8.3 and following sections for more information.

While engineers must work within the technologies of the times, they are also responsible for the continual development of these technologies. The flexibility demanded of the engineer must be based upon proficiency in the physical sciences, and a confident ability to apply the sciences to the benefit of humankind. Therefore, our engineering programs are founded upon a substantial content of mathematics, physics, and chemistry; and our engineering subjects are taught with a view to familiarizing the students with contemporary practice, and teaching them those methods of analysis, design, and realization which they will be able to apply to a continually developing discipline.

The aim of the engineer is to apply the latest science and technology for the betterment of society; engineers must, therefore, realize their duties to society and, as a prerequisite, appreciate how civilizations have developed to their present states.

The independent responsibility that we wish to see in practicing engineers is impressed upon our students by emphasis on laboratory work, tutorials, projects, and assignments. Further, the student is assisted in individual studies by counselling and professional development seminars.

These activities encourage a close and profitable student-professor relationship and facilitate the interchange of engineering information and experience to develop the professional maturity and integrity of the student.

8.1 Academic Regulations

Students are directed to become familiar and to comply with the general regulations of the University as described in 2.4 which apply to all students. Additionally, programs within the Faculty of Engineering have particular regulations. Students enrolled in Engineering programs also must comply with these particular requirements.

Students also are directed to read the "Statement of Responsibility" on the inside front cover.

COURSE CHANGES

All course changes subsequent to registration require the written approval of the Associate Dean of the Faculty.

COURSES NOT PART OF THE ENGINEERING PROGRAM

A student may register for courses additional to those in the Engineering program only with the permission of the Head of the department in which the student is enrolled and the Associate Dean.

CALCULATION OF AVERAGES

1) A student's academic evaluation is based on a cumulative average of grades weighted as follows: The weight of a one-term course is equal to the number of lecture hours per week, plus one-half the number of tutorial or laboratory hours per week.

2) All courses taken as part of the Engineering Program, are used to calculate a cumulative average. Similarly, all marks obtained in courses in the major area of study are used to calculate major averages. Provided that the course is available in a subsequent registration period, a student may repeat a course only once for purposes of upgrading a major or cumulative average. Both the original mark and the upgraded mark obtained will remain on the student's official record. However, only the mark received in the second attempt is used in calculating the cumulative and major averages.

SUPPLEMENTAL PRIVILEGES

The Academic Standing Committee may grant a supplemental evaluation privilege for a failed course provided that the student:

(a) has failed only one course in the evaluation period; and
(b) has a grade in the failed course of F; and
(c) has a cumulative average of 5.0 or better.

If a supplemental evaluation privilege is granted and the student decides to exercise this privilege, the student must register for the supplemental and pay the appropriate fee. Once a student has registered for a supplemental evaluation and the required evaluation method has been prescribed, the evaluation will occur at the time and place prescribed by the Faculty of Engineering. Failure to write after registering for the supplemental evaluation will result in a grade of F being assigned. Both the resulting grade and the original grade will be shown on the student's transcript and will be included in the determination of the student's cumulative average.

GRADUATION REQUIREMENTS

In addition to complying with the general university regulations (see 2.4.20) an Engineering student must complete the program within eight years of study from the date of first registration in an Engineering program.

8.2 Co-operative Education Program

The Faculty of Engineering Co-operative Education Program offers students the opportunity to combine their classroom experiences with career-related work experiences. The Co-operative Education Program is based upon the principle that the preparation of undergraduate Engineering students can be enhanced by blending career related work experience with a quality curriculum.

Admission to the Co-operative Education Program is competitive. Students who apply and are accepted into the Program must successfully complete three or four paid work experiences (85-198, 85-298, 85-398, or 85-498), interspersed throughout the four-year honours program, in addition to specified program requirements. The experience gained while participating in these structured and supervised work placements is viewed as an integral component of the student's education program.

8.2.1 APPLICATION PROCEDURE

Students who are granted admission to the Engineering program are offered the option of participating in the Co-operative Education (Co-op) Program at three different times as follow:

1) Applicants to the Engineering program who are offered admission to first-year with a mid-term average of eighty percent or higher will be sent an application to participate in the Co-op Program, along with their acceptance package.

2) All other students who are accepted to first-year of the Engineering program will be given an application to participate in the Co-op Program during their course in Professional Development in September.

Academic criteria for participation will vary depending upon the number of Co-op applicants and the number of co-op jobs expected to be available. Decisions regarding participation in the Co-op Program will be finalized by the Co-operative Education and Career Services Office in the Winter term of the students' first year of study. Actual registration in the Co-op Program and fee assessment will not occur until students obtain their first work assignment in the Summer term after their first Fall and Winter terms of study.

3) During the summer before the second year of the Engineering program, all students who have completed their first year and have achieved the Engineering Co-op academic requirement of a cumulative average of 5.0 or better and no more than one failure may be considered for admission to the Co-op program, but a higher grade point average will usually be required.

Second-year applicants are evaluated on the basis of their first-year academic achievement, paid and volunteer work experience, application and an interview.

Decisions regarding acceptance into the Co-op Program will be finalized by the Co-op Education and Career Services Office in September. Registration in the Co-op Program and fee assessment will also occur at this time.

8.2.2 PLACEMENT

The placement process is competitive. Co-op students will register and apply for work placement positions advertised by the Co-operative Education and Career Services Office using an Internet-Academic software program. Student application documents are forwarded to employers who select the students they wish to interview.

After interviews take place, both the student and the employer will be involved in the ranking and matching process co-ordinated by the Co-op Office.

The Faculty of Engineering or Co-op Education and Career Services do not guarantee placement, but every reasonable effort will be made to ensure that appropriate employment is made available.

8.2.3 SEQUENCE OF WORK AND STUDY TERMS

FIRST YEAR
Fall Term: Study term
Winter Term: Study term
Summer Term: Work term

SECOND YEAR
Fall term: Study term
Winter term: Study term
Summer Term: Work term

THIRD YEAR*
Fall Term: Study term
Winter Term: Work term
Summer Term: Study term

THIRD YEAR* (for Environmental Engineering)
Fall Term: Study term
Winter Term: Study term
Summer Term: Work term

FOURTH YEAR
Fall Term: Work term
Winter Term: Study term
Summer Term: Study term

8.2.4 ACADEMIC STANDING

After each study term, Co-op students' academic records will be reviewed to ensure that they meet the academic requirements necessary to remain in the Co-operative Program. The Co-op academic requirement is a cumulative average of 5.0 or better and no more than one outstanding failure.

8.2.5 WORK TERM EVALUATION

A student's performance in a Work Term will be evaluated as either "Pass" or "Fail". To obtain a "pass" evaluation, a student must successfully complete all the requirements of the Co-operative Program as described in the rules and regulations handout provided to all co-op students and available from the Co-operative Education Office.

8.2.6 CO-OPERATIVE PROGRAM GRADUATION REQUIREMENTS

In addition to the requirements for graduation from the regular B.A.Sc. program, students in the Co-operative Program must satisfactorily complete three work terms, including a final, Fall work term, unless a student is involved in an internship which is approved for different specific conditions.

8.3 Program of Study-Bachelor of Applied Science

8.3.1 OUTLINE OF STUDIES

The course and program requirements for the various fields of engineering are given below.

Note: All students will follow the sequence of study terms shown in their program of study.

FIRST YEAR
(Common to all Engineering programs)

Fall Term

	Lect.	Lab.	Wt.
85-111.(Engrg. Mech. I)	2	2	3
85-118.(Prof. Development)	2	0	2
85-132.(Comp.-Aided Analysis I)	2	2	3
59-110.(Topics in Gen. Chemistry)	3	3	4.5
62-140.(Calculus A)	3	1	3.5
62-126.(Linear Algebra)	3	1	3.5

Winter Term

	Lect.	Lab.	Wt.
85-122.(Engrg. Mech.II)	3	2	4
85-124.(Electric Circuits)	3	2	4
85-130.(Graphical Comm.)	1	3	2.5
85-131.(Comp.-Aided Design)	2	2	3
62-141.(Calculus B)	3	1	3.5
64-141.(Intro Physics II)	3	3	4.5

Summer Term
(Co-op students only)

85-198.(Work Term I)

Course descriptions for non-Engineering subjects are given in the appropriate sections of this Calendar.

The Second, Third, and Fourth Years of Engineering programs may be found as follows:

Civil Engineering: see 8.4.2;
Electrical Engineering: see 8.5.1;
Environmental Engineering: see 8.4.4;
Industrial Engineering: see 8.6.1;
Mechanical Engineering: see 8.7.1;
Mechanical Engineering (Materials Option): see 8.7.1;
Mechanical Engineering (Automotive Option): see 8.7.1.

8.3.2 NON-TECHNICAL ELECTIVES

For complete descriptions of the courses listed below, see the respective area/program sections of this Calendar.

Not all courses will be offered each year. All courses are three hours a week unless otherwise indicated.

Anthropology

49-306. Sociology of Women

General, Arts and Social Sciences

01-212. Science and Technology: Religious Perspectives

Interdisciplinary Studies

07-202. Culture and Ideas II
07-203. Culture and Ideas III
07-227. Christianity: The Modern Age
07-232. Religion in a World of Science
02-100. Introduction to Canadian Studies

Multicultural Studies

08-160. Foundations of Civilization

Classical Civilization

11-160. Land of the Pharaohs

English

26-128. Images of Women in Literature

Philosophy

34-110. Introduction to Western Philosophy
34-112. Philosophy and Human Nature
34-129. Contemporary Moral Issues
34-160. Reasoning Skills
34-221. Introduction to Ethics
34-224. Business Ethics
34-226. Law, Punishment, and Morality
34-227. Environmental Ethics
34-228. Technology and Human Values
34-253. Philosophy of Science

Economics

41-117. Introductory Economics: Theory, Practice and Policy

History

43-347. Cities in North America: Historical Urbanization in Canada

Planning

50-191. History and Evolution of Canadian Planning

Political Science

45-100. Introduction to Canadian Government and Politics
45-130. Comparing Politics in a Changing World
45-160. Issues in World Politics
45-212. Environmental Policy and Politics

Psychology

46-115. Introduction to Psychology as a Behavioural Science
46-116. Introduction to Psychology as a Social Science
46-240. Psychology of Sex and Gender

Sociology

48-101. Principles and Methods of Sociology
48-204. Sociology of the Family
48-205. Sociology of Sex
48-306. Sociology of Women

Women's Studies

53-100. Women in Canadian Society

Administrative Studies

71-140. Principles of Management

8.3.3 COURSE DESCRIPTIONS - GENERAL ENGINEERING

85-111. Engineering Mechanics I
Statics of particles and rigid bodies; trusses, frames, machines; centroids and centres of gravity; friction. (2 lecture, 2 tutorial hours a week.)

85-118. Professional Development
The practice of engineering in various disciplines; career development; administrative processes in the profession; ethical considerations; the relationship of engineering to society. Responsibility of professional engineers for public health and safety in the workplace. Fundamentals of expository writing, including types of exposition, planning, organization, format and style, résumé preparation, engineering reports, and other forms of written communication. Assignments using word processing. (2 lecture hours a week.)

85-122. Engineering Mechanics II
Kinematics of particles; kinetics of particles: Newton's Second Law, work-energy and impulse-momentum methods; moments of inertia of areas and masses; kinematics of rigid bodies, plane motion. (3 lecture, 2 tutorial hours a week.)

85-124. Electric Circuits
Electric charge, electric fields and potentials; conduction, resistivity, circuit variables, ideal sources and components; diodes; simple resistive circuits; techniques of circuit analysis, mesh and node analysis; network theorems, Thevenin and Norton theorems; source transformations; operational amplifiers, circuits, analysis and applications; inductance, capacitance; computer-oriented solution methods using SPICE and MATLAB. (3 lecture, 2.0 laboratory/tutorial hours or equivalent a week.)

85-130. Graphical Communications
A course in the fundamentals of engineering graphic communication, including the following: orthographic projection; isometric drawing and sketching; single and double auxiliary views; sections and conventions; dimensioning; reading engineering drawings and prints; the fundamentals of descriptive geometry; introduction to computer graphics. (1 lecture hour, 3 laboratory hours a week.)

85-131. Computer-Aided Design
Design project organization, design methodology, needs validation, problem identification and definition, modern problem-solving techniques, effective oral and written communication. Design evaluation using criterion functions. Application to major projects. (2 lecture, 2 laboratory hours a week.)

85-132. Computer-Aided Analysis I
Introduction to simple engineering problems and the application of digital computers to analyze these problems; use of MATLAB in engineering computations; introduction to various computer programming languages, with emphasis on C. (2 lecture, 2 tutorial hours a week.)

85-198. Work Term I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course may not be allowed to remain in the co-op program.)

85-211. Computer-Aided Analysis II
Programming; numerical methods; solution of linear algebraic equations with real and complex coefficients; matrix oriented methods; equations in one variable, roots of polynomials; solutions of nonlinear algebraic equations; curve-fitting techniques, numerical integration, solution of ordinary differential equations. (Prerequisite: 85-132.) (3 lecture, 1.5 tutorial hours a week.)

85-212. Thermodynamics I
An introductory thermodynamics course in which fundamental principles are developed. Included are ideal gas relations, properties of pure substances, First Law for closed and steady flow systems, the Second Law with entropy relations, and an introduction to cycles. (3 lecture, 1.5 tutorial hours a week.)

85-214. Circuit Analysis
Inductance, capacitance and mutual inductance; natural response of first-order RL and RC circuits; natural and step response of RLC circuits; state equation formulation, numerical solutions; sinusoidal steady-state analysis; sinusoidal steady state power calculations; balanced three-phase circuits; unbalanced three-phase transient analysis; Fourier series; discrete Fourier transform; frequency domain analysis; network simulations using SPICE and MATLAB. (Prerequisite: 85-124.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

85-217. Engineering Mechanics of Deformable Bodies I
An introduction to stress, strain, and stress-strain relations, and a brief discussion of mechanical properties and types of loads. A study of members subjected to axial load, flexure, and torsion. (Prerequisites: 85-111 and 62-140.) (2 lecture, 2 laboratory/tutorial hours a week.)

85-219. Introduction to Engineering Materials
This course explains how the properties of solid materials are derived and are related to their basic crystallographic and electronic structures: Metals, ceramics, polymers, and electronic materials are covered. (3 lecture, 2 laboratory or tutorial hours a week.)

85-222. Engineering Treatment of Experimental Data
Treatment of engineering data using the concepts of frequency distribution; measures of central tendency and dispersion. Probability; random variables; discrete and continuous distributions. Tests of hypotheses; estimation; goodness-of-fit test; linear regression and correlation. Applications using computers in engineering design problems, quality control, and manufacturing processes. (Prerequisite: 62-140.) (3 lecture hours, 1 tutorial hour a week.)

85-224. Technical Communications
Effective oral communication techniques and approaches, including informative presentations, persuasive presentations, and the use of visual aids (computer projected/slides) for conveying technical/engineering information. Written engineering communication including: abstracts, formal letters, figures, tables, references, proposals and technical reports. Introduction to literature research techniques. The main objective is to introduce consciousness and clarity into all forms of communications. (2 lecture, 1 tutorial hours a week.)

85-233. Fluid Mechanics I
Fluid properties and basic concepts, fluid statics, equations of motion, one dimensional flows, flows in pipes in series, parallel and networks, dimensional analysis and similitude. (3 lecture hours, 1 tutorial hour a week.)

85-298. Work Term II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course may not be allowed to remain in the co-op program.)

85-313. Engineering Economy
Cost estimation, cost accounting, and cost control. Comparison of engineering alternatives by annual cost, present worth, and rate of return methods. Depreciation and taxes. Equipment replacement. (3 lecture, 1.5 tutorial hours a week.)

85-398. Work Term III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course may not be allowed to remain in the co-op program.)

85-421. Engineering and Society
The technology-society relationship in a historical context; the nature of technological change and its consequences; the engineer's role in the control of technology and sustainable development; the responsibility of engineers for health and safety in the workplace, including OHSA, WHMIS. The development of the engineering profession; professional registration and the code of ethics; the duties and responsibilities of engineers; the engineer and the law. (Restricted to fourth-year students.) (3 lecture hours a week.)

85-498. Work Term IV
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course may not be allowed to remain in the co-op program.)

8.4 Civil and Environmental Engineering

OFFICERS OF INSTRUCTION

Professors Emeriti

DeMarco, Frank A.; B.A.Sc., M.A.Sc., Ph.D. (Toronto), F.C.I.C., P.Eng.-1946.

Monforton, Gerard R.; B.A.Sc. (Assumption), M.A.Sc. (Windsor), Ph.D. (Case Inst.), F.C.S.C.E., P.Eng.-1962.

Kennedy, John B.; B.Sc.(Hons.) (Cardiff), Ph.D. (Toronto), D.Sc. (Wales), F.A.S.C.E., F.C.S.C.E., P.Eng.-1963.

MacInnis, Cameron; B.Sc. (Dalhousie), B.E.(Hons) (Nova Scotia Technical College), Ph.D. (Durham), F.C.S.C.E., P.Eng.-1963.

McCorquodale, John Alexander; B.E.Sc. (Western Ontario), M.Sc. (Glasgow), Ph.D. (Windsor), F.C.C.C.E., P.Eng.-1966.

Abdel-Sayed, George; B.Sc., M.Sc. (Cairo), Dr.Ing. (T. U. Karlsruhe), F.C.S.C.E., P.Eng.-1967.

Bewtra, Jatinder K.; B.E. (Roorkee), M.S., Ph.D. (Iowa), P.Eng.-1968.

Madugula, Murty K.S.; B.E.(Hons.), M.Tech., Ph.D. (I.I.T., Kharagpur), P.Eng.-1979.

University Professor

Biswas, Nihar; B.E. (Calcutta), M.A.Sc., Ph.D. (Ottawa), P.Eng.-1981. Associate Dean (Research and Graduate Studies), Faculty of Engineering.

Professors

Asfour, Abdul-Fattah Aly; B.Sc.(Hons.), M.A.Sc. (Alexandria), Ph.D. (Waterloo), P.Eng.-1981.

Budkowska, Bozena Barbara; B.A.Sc., M.A.Sc., Ph.D. (Gdansk), P.Eng.-1989.

Balachandar, Ram; B.E. (Madras), Ph.D. (Concordia), P.Eng.-2003.

Associate Professors

Hearn, Nataliya; B.A.Sc. (Toronto), Ph.D. (Cambridge), P.Eng.-1999.

Henshaw, Paul; B.Sc., B.Eng.Sc. (Western Ontario), Ph.D. (Windsor), P.Eng.-1997.

Assistant Professors

Reitsma, Stanley; B.A.Sc., M.Sc. (Waterloo), Ph.D. (Queen's), P.Eng.-1998.

Ghrib, Faouzi; B.A.Sc. (Tunis), M.Sc., Ph.D. (École Polytech.), P.Eng.-1999.

Tam, Edwin; B.Sc., M.Sc. (Alberta), Ph.D. (Toronto)-2001.

Seth, Rajesh; B.E., M.Tech. (IIT, Kanpur), Ph.D. (Toronto)-2002.

Xu, Xiaohong; B.E. (Beijing), M.Sc., Ph.D. (Connecticut)-2002.

Lalman, Jerald; B.Sc., B.A.Sc., M.Eng., Ph.D. (Toronto), P.Eng.-2003.

Adjunct Professors

Gnyp, Alex William; B.A.Sc., M.A.Sc., Ph.D. (Toronto), P.Eng.-1958.

Becker, Norbert Karl; B.A.Sc., Ph.D. (Windsor), P.Eng.-1981.

Adjunct Associate Professor

Tsui, Stephen H.; B.Sc. (Chu Hai, Hong Kong), M.Eng. (Carleton), C. Eng., M.I.Struct.E., P.Eng.-1982.

Adjunct Assistant Professors

Battacharjee, Sudip; B.Sc., M.Sc. (Dhaka), Ph.D. (McGill), P.Eng.-1998.

8.4.1 PROGRAM OF STUDY - FIRST-YEAR CIVIL AND ENVIRONMENTAL ENGINEERING

FIRST YEAR

The Fall and Winter terms are common to all Engineering programs (see 8.3.1). In the Summer term, Co-op students will also register for 85-198 (Work Term I).

8.4.2 PROGRAM OF STUDY-CIVIL ENGINEERING

Civil engineering comprises the conception, design, operation, and maintenance of buildings, railroads, waterways, bridges, harbours, tunnels, water supply and purification systems, sewage collection and treatment facilities, hydraulic structures, and waterpower developments. The Civil Engineering curriculum provides a diversity of applied course work and aids the student in selecting a major field of endeavour as well as a thorough background in the basic sciences and a broad understanding of the social sciences and humanities.

The Civil Engineering program provides modern and comprehensive laboratory facilities in the following fields: Strength of Materials, Soil Mechanics, Hydraulics, Structures, Concrete, Sanitary Engineering, and Surveying. The Canadian Society for Civil Engineering has an active student section on campus.

Note: The baccalaureate degree program in Civil Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

SECOND YEAR

Fall Term

	Lect.	Lab.	Wt.
85-211.(Comp.-Aided Analysis II)	3	1.5	3.75
85-217.(Mech. of Def. Bod. I)	2	2	3
85-219.(Intro. to Engrg. Materials)	3	2	4
85-222.(Treatment of Expt. Data)	3	1	3.5
87-210.(Surveying)	3	3	4.5
62-215.(Vector Calculus)	3	1	3.5

Winter Term

	Lect.	Lab.	Wt.
85-233.(Fluid Mechanics I)	3	1	3.5
87-227.(Mech. of Def. Bod. II)	2	2	3
93-224.(Intro. Environ. Engrg.)	3	3	4.5
61-141.(Earth Systems II)	2	2	3
62-216.(Differential Equations)	3	1	3.5
Non-Technical Elective (see 7.3.2)			

Summer Term
(Co-op students only)

85-298.(Work Term II)

THIRD YEAR

Fall Term

	Lect.	Lab.	Wt.
85-313.(Engrg. Economy)	3	1.5	3.75
87-310.(Str. Analysis I)	3	2	4
87-311.(Concrete Design I)	3	2	4
87-313.(Fluid Mech. and Hyd.)	3	2	4
87-315.(Soil Mechanics)	3	1.5	3.75
87-325.(Plan. and Constr. Mgmt.)	3	3	4.5

Winter Term
(Co-op students only)

85-398.(Work Term III)

Summer Term

	Lect.	Lab.	Wt.
87-314.(Transp. & Traffic Engrg.)	2	2	3
87-322.(Concrete Design II)	3	2	4
87-324.(Str. Steel Design)	3	2	4
87-326.(Geotechnical Engrg.)	3	2	4
42-200.(Resource Mgmt.)	3	0	3
One (1) Technical Elective			

FOURTH YEAR

Fall Term
(Co-op students only)

85-498.(Work Term IV)

Winter Term

	Lect.	Lab.	Wt.
87-323.(Hydrology I)	3	2	4
87-401.(Capstone Design Project)	2	4	8
87-410.(Str. Anal. and Design II)	3	2	4
87-412.(Hydraulics I)	3	2	4
93-413.(Water/Wastewater Col.)	3	2	4
One (1) Elective*			

Summer Term

	Lect.	Lab.	Wt.
85-421.(Engineering and Society)	3	0	3
87-401.(Capstone Design Project)	2	4	8
87-414.(Hwy. Design & Constr.)	2	2	3
87-428.(Foundation Engrg.)	2	1	2.5
Two (2) Electives*			

* Students take one (1) Non-technical Elective (see 7.3.2) and two (2) Technical Electives in their fourth year.

TECHNICAL ELECTIVES

	Lect.	Lab.	Wt.
87-415.(Hydraulics II)	3	1	3.5
87-421.(Str. Analysis III)	2	2	3
87-422.(Str. Design III)	2	2	3
87-423.(Timber & Masonry)	2	2	3
92-321.(Control Theory I)	3	1	3.5
93-414.(Solid Waste Mgmt.)	3	1	3
93-426.(Water/Wastewater Treat.)	2	2	3
61-436.(Hydrogeology)	2	3	3.5
93-428.(Environmental Assessment)	3	2	4

8.4.3 COURSE DESCRIPTIONS-CIVIL ENGINEERING

87-210. Surveying
A course in plane surveying, which includes the following sections: distance and angular measurement; differential and trigonometric levelling. All aspects of traversing; area determination; stadia work; curves; and earth work will be covered. A complete set of practical field work problems will supplement lectures. (3 lecture, 3 laboratory hours a week.)

87-227. Engineering Mechanics of Deformable Bodies II
A study of flexure and deflection of beams, eccentric loads, connections, experimental determination of principal stresses, buckling of columns, and additional topics. Statically indeterminate problems and inelastic response are also studied. (Prerequisite: 85-217.) (2 lecture, 2 laboratory/tutorial hours a week.)

87-310. Structural Analysis I
Stability and determinacy of trusses and frames; analysis of statistically determinate trusses and frames; influence lines and moving loads. Deflections: conjugate beam method; virtual work; Castigliano's theorems; Maxwell-Betti reciprocal theorem. Cables and suspension bridges. Matrix methods for indeterminate trusses. Approximate methods for indeterminate trusses and frames. (Prerequisite: 87-227.) (3 lecture, 2 laboratory hours a week.)

87-311. Concrete Design I
Components and proportioning of concrete mixes. Mechanics and behaviour of reinforced concrete components. Analysis and ultimate strength design of reinforced concrete beams and one-way slabs. Laboratory work includes design and testing of a concrete beam. (Prerequisite: 87-227.) (3 lecture, 2 laboratory hours a week.)

87-313. Fluid Mechanics and Hydraulics
Continuity, energy, momentum concepts. Boundary layers. Pipe flow including network installations. Rotodynamic pumps, system curves. Irrotational flow, flownets. Open channel flow: specific energy, flow regimes; uniform, gradually and rapidly varied flows; surface profiles. (Prerequisite: 85-233 or consent of the instructor/Department Head.) (3 lecture, 2 laboratory hours a week.)

87-314. Transportation and Traffic Engineering
Characteristics of transportation systems; rail, highway, airway, waterway, and pipeline; evaluation of transportation projects and systems, urban transportation analysis and prediction, traffic studies, highway and intersection capacity, characteristics of traffic flow, traffic control principles. (2 lecture, 2 laboratory hours a week.)

87-315. Soil Mechanics
Index properties of soils. Soil structure and classification of soils. Soil compaction and stabilization. Hydraulic principles of flow through soils, flow nets. Frost action in soils. Effective stresses. Compressibility, consolidation, and settlement analysis. (Prerequisite: 87-227.) (3 lecture, 1.5 laboratory hours a week.)

87-322. Concrete Design II
Analysis and design of columns, two-way slabs, and footings. Analysis and design of components of a building. Introduction to prestressed concrete. (Prerequisite: 87-311.) (3 lecture, 2 laboratory hours a week.)

87-323. Hydrology I
Weather. Precipitation: intensity, frequency, duration; rational methods. Hydrologic abstractions. Runoff: storms, unit graph principles, inflow design hydrograph. Streamflow: gauging, stage-discharge. Reservoir flood routing. Snowmelt. Probability applications and frequency analysis of floods. Subsurface flow: seepage from rivers and canals, water wells. (Prerequisites: 85-222 and 87-313 or consent of the instructor/Department Head.) (3 lecture, 2 laboratory hours a week.)

87-324. Structural Steel Design
Development of loads and specifications using Limit States Design. Design of structural components subjected to axial force, shear force, bending moment, and combined bending and compression. Composite beams are also considered. Design of simple bolted and welded connections. Other steel design topics. (Prerequisite: 87-227.) (3 lecture, 2 tutorial hours a week.)

87-325. Planning and Construction Management
The planning portion of this course will cover the elements of proper urban planning, the Planning Act, official plans, zoning by-laws, and subdivision design guidelines. The construction management portion will cover construction industry characteristics; types of business owner-

ships; organizational structures; drawings and specifications; estimating and bidding; types of construction contracts; insurance, bonding and claims; financial considerations; project cost controls and scheduling; project planning and administration; computer applications in construction industry, quality assurance, and construction safety. (3 lecture, 3 tutorial hours a week.)

87-326. Geotechnical Engineering
Shear strength of soil. Stress distribution in soil and displacements. Stress analysis and stability of slopes. Earth pressure and design of retaining walls. Sheet-pile walls, braced and tie back excavations. Combined pressures. (Prerequisites: 87-227 and 87-315.) (3 lecture, 2 laboratory hours a week.)

87-401. Capstone Design Project
A significant design experience which is based on knowledge and skills acquired in earlier course work. Engineering design integrates mathematics, basic science, engineering sciences and complementary studies in developing elements, systems and processes to meet specific needs while considering economic, health, safety, environmental, social or other pertinent factors. Written and oral reports are required. (Prerequisite: consent of the supervisor and Department Head.) (2 hours lecture and 4 hours lab/week (2 terms).) (A 8.00 credit hour course.)

87-410. Structural Analysis and Design II
Statical determinacy and indeterminacy; structural stability; review of determinate structures; linear and nonlinear behaviour; principle of superposition; statically indeterminate structures; classical methods of structural analysis; consistent deformation and virtual work methods; flexibility method; slope deflection method; stiffness method; computer-aided analysis of structures; influence lines and moving loads; limit state design concepts; load factors and combinations; load specifications for structural design calculations; plastic analysis of steel structures. (Prerequisite: 87-310.) (3 lecture, 2 tutorial hours a week.)

87-412. Hydraulics I
Review of basic concepts. Design of open channels with non-erodible and erodible beds; steady gradually varied flow computations in prismatic and non-prismatic channels; computer methods including HEC2. Design of hydraulic structures including gravity and arch dams, spillways, and outlet structures. (Prerequisite: 87-313.) (3 lecture, 2 laboratory hours a week.)

87-414. Highway Design and Construction
Geometric design of highways; drainage; highway soil engineering including soil stabilization; bituminous materials; rigid and flexible pavement design; construction of pavements. (Prerequisite: 87-227.) (2 lecture, 2 laboratory hours a week.)

87-415. Hydraulics II
Sediment transport in rivers and open channels. River morphology: occurrence of bed forms and practical implications; river plan form. Aspects of river engineering: stabilization of river course, modification of river course, flood protection, aggradation and degradation of river bed. (Prerequisite: 87-313.) (3 lecture hours, 1 laboratory hour a week.)

87-421. Structural Analysis III
Energy methods of structural analysis. Matrix methods of structural analysis. Development of computer programs for the general analysis of frames. Introduction and use of commercial programs of analysis. Cold-formed steel structures. (Prerequisites: 87-322 and 87-324.) (2 lecture, 2 laboratory hours a week.)

87-422. Structural Design III
Review of: Limit States Design in steel; design for tension, compression, and flexural members. Design of: beam-columns; plate girders; composite structures; and connections. Design of an industrial building. (Prerequisite: 87-410.) (2 lecture, 2 laboratory hours a week.)

87-423. Design in Timber and Masonry
A discussion of the properties of timber, wood products, and factors affecting the strength of wood structures. Design for axial, bending and combined loads. Design of wood structures. An introduction to masonry materials and their properties. Design of masonry units for axial, flexural, and combined loads. Selected design topics. (Prerequisites: 87-227 and 87-322.) (2 lecture, 2 laboratory hours a week.)

87-428. Foundation Engineering
Soil bearing capacity. Soil exploration. Load induced pressures and settlements. Footings and eccentrically loaded foundations. Raft and pile foundations. Piles and pile driving, cofferdams and caissons. (Prerequisite: 87-326.) (2 lecture hours, 1 laboratory hour a week.)

8.4.4 PROGRAM OF STUDY - ENVIRONMENTAL ENGINEERING

The program in Environmental Engineering is built upon a broad base of science and mathematics combined with an emphasis on engineering principles and design.

The rapid growth of industrial activities has produced many new problems related to environmental protection, resource conservation, and safety. The public has been aware of the risks involved in handling a wide range of hazardous and toxic materials by major incidents which have occurred in spite of improved design methods and operating techniques to overcome potential problems. Consequently, legislation is being formulated and enacted to control the release of toxic chemicals and pollutants into our environment. Environmental engineers are trained not only to solve problems of immediate concern, but also to develop practices and processes to systematically avoid their occurrence.

Environmental engineers have qualifications which will permit them to focus upon the transport, transformation and removal of contaminants in air, water, and soil, as well as the broader aspects of environmental planning and impact assessment.

Note: The baccalaureate degree program in Environmental Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers. With appropriate selection of electives, students would be qualified to apply to medical schools.

SECOND YEAR

Fall Term

	Lect.	Lab.	Wt.
85-217.(Mech. of Def. Bod. I)	2	2	3
85-222.(Treatment of Expt. Data)	3	1	3.5
55-140.(Biological Diversity)	3	3	3
59-230.(Intro. Organic Chem)	3	3	3
62-215.(Vector Calculus)	3	1	3.5
Elective*			

Winter Term

	Lect.	Lab.	Wt.
85-224.(Technical Communications)	2	1	2.5
93-224.(Intro. Environ. Engrg.)	3	3	4.5
55-141.(Cell Biology)	3	3	4.5
59-261.(Organic Chem. of Bio.)	3	3	4.5
62-216.(Differential Equations)	3	1	3.5
Elective*			

Summer Term

(Co-op students only)

85-298.(Work Term II)

THIRD YEAR

Fall Term

	Lect.	Lab.	Wt.
85-313.(Engrg. Economy)	3	1.5	3.75
87-313.(Fluid Mech. & Hyd.)	3	2	4
87-315.(Soil Mechanics)	3	1.5	3.75
93-312.(Thermodynamics)	3	2	4
93-314.(Environ. Chem. Anal.)	3	2	4
Elective*			

Winter Term

	Lect.	Lab.	Wt.
87-323.(Hydrology I)	3	2	4
93-321.(Transport Phenomena)	3	2	4
93-322.(Occup. Hygiene & Safety)	3	2	4
93-328.(Air Polution control)	2	2	3
99-218.(Environmental Law)	3	0	3
Elective*			

Summer Term

(Co-op students only)

85-398.(Work Term III)

*One elective must be chosen from the list of non-technical electives. The others must be approved by the Department Head.

FOURTH YEAR

Fall Term

(Co-op students only)

85-498.(Work Term IV)

Winter Term

	Lect.	Lab.	Wt.
93-409.(Capstone Design Project)	2	4	8
93-413.(Water/Wastewater Col.)	3	2	4
93-430.(Env. Engrg. Microbiology)	3	0	3
61-436.(Hydrogeology)	2	3	3.5
93-438.(Chemical Reaction Eng'g)	3	2	4
One (1) Technical elective**			

Summer Term

	Lect.	Lab.	Wt.
85-421.(Engineering and Society)	3	0	3
93-409.(Capstone Design Project)	2	4	8
93-414.(Solid Waste Mgmt.)	3	1	3.5
93-426.(Water/Wastewater Treat.)	2	2	3
93-428.(Environ. Assessment)	3	2	4
One (1) Technical Elective*			

** Students take two (2) Technical Electives in their Fourth year.

TECHNICAL ELECTIVES

	Lect.	Lab.	Wt.
87-412.(Hydraulics I)	3	2	4
91-321.(Manuf. Technology & Process)	3	2	4
92-324.(Engineering Measurements)	3	3	4.5
92-455.(Effects & Control/Noise)	2	1.5	2.75

8.4.5 COURSE DESCRIPTIONS - ENVIRONMENTAL ENGINEERING

93-224. Introduction to Environmental Engineering

Pollution and the environment. Environmental quality objectives, standards, and guidelines. Material balance techniques as applied to environmental processes. Introduction to environmental pollution control methods and environmental impact assessment. (3 lecture, 3 laboratory hours a week.)

93-312. Thermodynamics

Real gas behaviour and equations of state. The First and Second Laws of Thermodynamics and their applications. Solution properties and physical equilibria. (Prerequisite: 93-224 or consent of instructor.) (3 lecture hours, 2 tutorial hours a week.)

93-314. Environmental Chemical Analysis

Important characteristics of air, water, wastewater, and solid wastes. Basic concepts in quantitative analysis of physical, chemical, and biological parameters. Instrumental methods of analysis for organic and inorganic contaminants in air, water, and soil. (Prerequisite: consent of the instructor.) (3 lecture, 2 laboratory hours a week.)

93-321. Transport Phenomena
Introduction to the unifying theory of transport phenomena. Estimation of viscosities and diffusivities for gases and liquids. Shell balances and some studies of momentum, energy and mass-transport. Mass transfer applications involving examples relevant to the environment. (3 lecture, 2 tutorial hours a week.)

93-322. Occupational Hygiene and Safety
Provincial and federal regulations, environmental stressors, toxicology of contaminants, surveys of workplaces, measurements of airborne contaminants, design of engineering controls. (3 lecture, 2 laboratory hours a week.)

93-328. Air Pollution Control
Regulations and methods of source testing and monitoring. Dispersion modelling. Air pollution control methods, designs, and their relative effectiveness. (3 lecture, 2 lab/tutorial hours per week.)

93-409. Capstone Design Project
A significant design experience which is based on knowledge and skills acquired in earlier course work. Engineering design integrates mathematics, basic science, engineering sciences and complementary studies in developing elements, systems and processes to meet specific needs while considering economic, health, safety, environmental, social or other pertinent factors. Written and oral reports are required. (Prerequisite: consent of the supervisor and Department Head.) (2 lecture, 4 lab/tutorial hours per week (2 terms).) (A 8.00 credit hour course.)

93-413. Water Distribution and Wastewater Collection Systems
Quantities of water and wastewater; development of surface and groundwater sources; design, construction, and maintenance of water distribution systems; design, construction, and maintenance of wastewater collection systems. (Prerequisite: a course in fluid mechanics or hydraulics.) (3 lecture, 2 laboratory hours a week.)

93-414. Solid Waste Management
The study, characterization, and analysis of municipal and industrial solid waste systems. Waste reduction, reuse, and recycling. Managing, collecting and transporting solid wastes. Waste reclamation and disposal methods, including landfiling, incineration, and composting. Waste management policies, regulations and facility siting issues. Various assignments will be integrated into a comprehensive project. (Prerequisite: 93-224.) (3 lecture hours, 1 lab hour a week.)

93-426. Water and Wastewater Treatment
Wastewater disposal practices and their impacts on ecology. Design of different unit operations and processes in water and wastewater treatment. (Prerequisites: 93-224 and a course in fluid mechanics or hydraulics.) (2 lecture, 2 laboratory hours a week.)

93-428. Environmental Assessment
Environmental impact assessment. Biophysical and socioeconomic impacts from engineering activities, processes, and projects. Human health and environmental risk concepts. Introduction to life cycle analysis, corporate/industrial environmental management, and environmental management systems. Students will undertake various project related and problem-based assignments. (Cross-listed as 92-428.) (3 lecture, 2 tutorial hours a week.)

93-430. Environmental Engineering Microbiology
Nature of inorganic and organic pollutants; biological approaches to environmental pollution problems; microorganisms; nutritional requirements and growth; metabolic pathways; energy generation and utilization in biological systems; response to changes in environment; pathogenic microorganisms and disinfection. (3 lecture hours a week.)

93-438. Chemical Reaction Engineering
Classification of chemical reactions and reactors, the rate equation, ideal reactor concept. Design equations for batch and flow (CSTR and PFR) reactors. Multiple reaction and reactor systems. Reactor design calculations under isothermal and non-isothermal conditions. (3 lecture, 2 tutorial hours a week.)

8.5 Electrical and Computer Engineering

OFFICERS OF INSTRUCTION

Professors Emeriti

Miller, William C.; B.S.E. (Michigan), M.A.Sc., Ph.D. (Waterloo), L.M.I.E.E.E, P.Eng.-1968.

Hackam, Rueben; B.Sc. (Technion, Israel), Ph.D., D.Eng. (Liverpool), F.I.E.E.E., P.Eng.-1978.

Raju, G.R. Govinda; B.E. (Mysore), Ph.D. (Liverpool), F.I.E., P.Eng.-1980.

University Professor

Ahmadi, Majid; B.Sc. (Tehran, Iran), D.I.C., Ph.D. (Imperial College), F.I.E.E.E., F.I.E.E., C.Eng.-1981.

Professors

Sid-Ahmed, Maher A.; B.Sc. (Alexandria), M.A.Sc., Ph.D. (Windsor), P. Eng.-1978. (Acting Head of the Department)

Kwan, H.K. Peter; B.Sc. (London), M.Phil. (C.U.H.K.), D.I.C., Ph.D., (London), F.I.E.E., C. Eng., P. Eng., - 1988.

Erfani, Shervin; B.S., M.S. (Tehran, Iran), M.S., Ph.D., (Southern Methodist University, USA), S.M.I.E.E.E.-2002.

Associate Professors

Alexander, Philip H.; B.A.Sc. (Assumption), M.A.Sc., (Windsor), P.Eng.-1964. (Associate Dean (Academic), Faculty of Engineering)

Chen, Xiang; B.Sc., M.Sc., (Huazhong China), M.Sc., Ph.D. (Louisiana State)-2000. (Cross-Appointment with Mechanical, Automotive and Materials Engineering)

Abdel-Raheem, Esam; B.Sc., M.Sc. (Ain Shams, Egypt), Ph.D. (Victoria, BC), S.M.I.E.E.E. -2003.

Assistant Professor

Chen, Chunhong; B.Sc., M.Sc. (Tianjin, China); Ph.D. (Fudan, China)-2001.

Shahrrava, Benham; B.Sc., M.Sc. (Amirkabir, Iran), Ph.D. (Waterloo)-2002.

Wu, Huapeng; B.S., M.Sc. (U.S.T.C., China), Ph.D. (Waterloo)-2002.

Tepe, Kemal; B.Sc. (Hacettepe, Turkey), M.S., Ph.D. (Rensselaer Polytechnic Insititute, NY)-2000.

Chowdhury, Sazzaduri; B.Sc. (B.U.E.T., Bangladesh), M.A.Sc., Ph.D. (Windsor)-2003.

Khalid, Mohammed; B.Sc. (Osmania), M.Sc. (LSU), Ph.D. (Toronto)-2003.

Adjunct Professor

Jullien, Graham, A.; B.Tech. (Loughborough), M.Sc. (Birmingham), Ph.D. (Aston), P.Eng.-1969. (Professor and Icore Chair, ECE, University of Calgary).

Jayaram, Sesha; M.A.Sc.(Indian Institute of Science, Bangalor), Ph.D. (Waterloo), P.Eng.-2002.

8.5.1 PROGRAM OF STUDY - ELECTRICAL ENGINEERING

Electrical Engineering encompasses a large number of exciting and diverse areas of study. Areas such as: electronics, computer systems and networks; communications; energy systems; computer-aided design; control systems, robotics and multimedia are only a few of the directions that Electrical Engineering students can choose after graduation. The program of study includes co-operative work terms for qualified students that are designed to enhance the knowledge and professionalism of the student.

The program of study encompasses courses outside Electrical Engineering and provides a professional education sufficiently fundamental in nature so as to allow the student to choose his or her specific area of professional specialization after graduation. This philosophy of education recognizes that the professional responsibilities of graduate engineers evolve throughout their careers. Student may select the Computer Option, Communications Option, Electronics Option or the General Option during the fourth year so as to meet their needs more effectively.

Graduates of this program are able to engage, from the outset of their career, in decision making with a much broader perspective than is possible when excessive specialization at the undergraduate level is permitted. The program of study also provides excellent preparation for those students who may wish to continue their formal education with graduate study and research.

Students must participate in a fourth-year team-based capstone design project that develops leadership skills and professionally maturity. Students are encouraged to participate in seminars and in other professional development activities as organized by the Department, as well as off-campus professional activities. The Institute of Electrical and Electronics Engineers (IEEE) has a student chapter on campus.

Note: The baccalaureate degree program in Electrical Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

8.5 ELECTRICAL AND COMPUTER ENGINEERING (06-)

FIRST YEAR

Common to all Engineering programs (see 8.3.1). In the Summer term, Co-op students will also register in 85-198 (Work Term I).

SECOND YEAR

Fall Term

	Lect.	Lab.	Wt.
85-211.(Comp.-Aided Analysis II)	3	1.5	3.75
85-214.(Circuit Analysis II)	3	1.5	3.75
85-222.(Treatment of Expt. Data)	3	1	3.5
88-217.(Digital Logic Design I)	3	1.5	3.75
62-215.(Vector Calculus)	3	1	3.5
64-220.(EM Fields & Photons)	3	1.5	3.75

Winter Term

	Lect.	Lab.	Wt.
88-224.(Signals and Systems)	3	1.5	3.75
88-225.(Physical Electronics)	3	1.5	3.75
88-226.(Electronics I)	3	1.5	3.75
88-228.(EM Waves & Rad. Syst.)	3	1.5	3.75
62-216.(Differential Equations)	3	1	3.5
Non-Technical Elective (see 7.3.2)*			

Summer Term
(Co-op students only)

85-298. (Work Term II)

THIRD YEAR

Fall Term

	Lect.	Lab.	Wt.
85-313.(Engrg. Economy)	3	1.5	3.75
88-313.(Electromech. Sys. I)	3	1.5	3.75
88-316.(Electronics II)	3	1.5	3.75
88-330.(Dig. Logic Design II)	3	1.5	3.75
Technical or Non-Technical Elective (see 7.3.2)*			

Winter Term
(Co-op students only)

85-398. (Work Term III)

Summer Term

	Lect.	Lab.	Wt.
88-324.(Control Syst. I)	3	1.5	3.75
88-327 (Microprocessors)	3	1.5	3.75
88-329.(Analog Comm.)	3	1.5	3.75
42-200.(Resource Mgmt.)	3	0	3
Technical or Non-Technical Elective (see 7.3.2)			

*Students must select a total of one technical and one non-technical elective during the third year from the approved list available in the Department.

FOURTH YEAR

Fall Term
(Co-op students only)

85-498. (Work Term IV)

Winter Term

Core Subjects - All Students	Lect.	Lab.	Wt.
88-400.(Capstone Design Project)	0	6	3
88-431.(Control Sys. II)	3	1.5	3.75
88-457.(Dig. Sig. Processing)	3	1.5	3.75

Computer Option

	Lect.	Lab.	Wt.
88-437.(Intelligent Computing)	3	1.5	3.75
88-441.(Software Engineering)	3	1.5	3.75

Communications Option

	Lect.	Lab.	Wt.
88-419.(Dig. Communications)	3	1.5	3.75
88-436.(Computer Comm.)	3	1.5	3.75

Electronics Option

	Lect.	Lab.	Wt.
88-444.(Analog Int. Circuits)	3	1.5	3.75
88-445.(Power Electronics)	3	1.5	3.75

General Option

Any two courses selected from two different options from among the Computer Option, Communications Option and Electronics Option.

Summer Term

Core Subjects - All Students	Lect.	Lab.	Wt.
85-421.(Engrg. & Society)	3	0	3
88-400.(Capstone Design Project)	0	6	3
88-432.(EM waves & Rad. Sys. II)	3	1.5	3.75

Computer Option

	Lect.	Lab.	Wt.
88-446.(Adv. Comp. Soft. Sys.)	3	1.5	3.75
88-447.(Comp. Net. & Security)	3	1.5	3.75
88-448.(Digital Comp. Arch.)	3	1.5	3.75

Communications Option

	Lect.	Lab.	Wt.
88-438.(Coding & Info. Theory)	3	1.5	3.75
88-439.(Multimedia Sys.)	3	1.5	3.75
88-440.(Wireless Comm.)	3	3	3.75

Electronics Option

	Lect.	Lab.	Wt.
88-433.(Dig. Int. Circuits)	3	1.5	3.75
88-434.(Automotive Electronics)	3	1.5	3.75
88-435.(Microelectromech. Sys.)	3	1.5	3.75

General Option

Three courses selected from at least two different options, from among the Computer Option, Communications Option and Electronics Option.

Special Directed Study

The additional directed study courses listed below are available only to fourth-year students with a GPA of 11.0 or better in their third year and with the permission of the Department Head. Each may be used to satisfy one (1) course requirement in the General Engineering Option.

88-410.(Directed Study I) Wt. 3.0
88-420.(Directed Study II) Wt. 3.0

8.5.2 COURSE DESCRIPTIONS - ELECTRICAL ENGINEERING

88-217. Digital Logic Design I
Boolean algebra and logic gates; simplification of Boolean functions; arithmetic operations; analysis and design of combinatorial logic circuits with SSI, MSI, and LSI; sequential logic components; registers; counters and memory units; analysis and synthesis of sequential synchronous and asynchronous networks. (Prerequisite: 85-124 or 64-141, or equivalent.) (3 lecture, 1.5 laboratory hours a week.)

88-224. Signals and Systems
Discrete and Continuous-Time Signals and Systems, Discrete and Continuous-Time Linear Time-Invariant Systems, System Analysis in Time Domain, System Analysis in Frequency Domain, Convolution, Differential Equation Models, Fourier series, the Fourier Transform, the Laplace Transform and it's Applications, Sampling of Systems. (Prerequisite: 85-214.) (3 lecture, 1.5 laboratory hours a week.)

88-225. Physical Electronics
Free electron theory of metals; Fermi level, work function; resistivity; band theory of solids, Fermi-Dirac distribution, density of states; semiconductors, donor and acceptor states; Hall effect; semiconductor devices, field-effect transistors; dielectric materials and devices; magnetic materials; energy storage; Lasers; superconductivity. (Prerequisites: 85-214 and 64-220.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-226. Electronics I
Operational amplifiers; basic properties of nonlinear elements; transfer characteristics; clipping and limiting circuits; diodes, three-terminal devices, field-effect and bipolar-junction transistors; basic circuits containing three-terminal devices. (Corequisite: 88-225.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-228. EM Waves and Radiating Systems I
Electricity and magnetism; time varying fields and Maxwell's equations; introduction to electromagnetic waves; analysis techniques for distributed parameter electrodynamic systems; traveling waves and reflections; transmission line modeling; matching network design and "Smith Chart" techniques; waveguides; propagation; radiating systems. (Prerequisite: 64-220.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-313. Electromechanical Systems
Machinery principles; transformers; AC machinery fundamentals; synchronous generators; synchronous and induction motors; DC machinery fundamentals; DC motors; electromechanical energy conversion; three-phase concepts; special-purpose motors. (Prerequisites: 85-214 and 88-225.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-316. Electronics II
Analog amplification; small-signal modeling of analog circuits; differential-amplifier topology; BJT, MOSFET and JFET differential amplifiers; frequency response and time-dependent circuit behavior; feedback and stability; multistage and power amplifiers; active filters and oscillators; use of CAD in modern transistor circuit design. (Prerequisite: 88-226.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-324. Control Systems I
State variable description of linear systems; controllability and observability; time and frequency domain control techniques; nonlinear control systems; discrete-time systems; introduction to optimal control; the use of analog and digital devices and computers in control theory and practice. (Prerequisite: 88-313.) (3 lecture, 1.5 laboratory hours or equivalent a week.)

88-327. Microprocessors
Microprocessor systems and architecture; pipelining; arithmetic units; memory structures; addressing modes; typical instruction sets; accumulator and memory reference instructions; stacks, subroutines, and other instructions; interrupts and timing; interfacing I/O devices; interfacing data converters; software development systems and assemblers; microcontrollers. (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-329. Analog Communications
Analog communication systems; information measure; signals and noise; Fourier transform and spectra; bandwidth of signals; analog modulation and demodulation systems; AM, FM, TV transmitters and receivers, detector circuits. (Prerequisite: 85-214.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-330. Digital Logic Design II
Combinational logic circuits; combinational logic design; sequential circuits and design; registers and counters; hardware description languages; memory and programmable logic devices; register transfers and datapaths; sequencing and control; central processing unit designs; memory systems; reconfigurable computing. (Prerequisite: 88-217.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-400. Capstone Design Project
Team based design project satisfying the "CAPSTONE DESIGN PROJECT REQUIREMENTS", available from the Department of Electrical and Computer Engineering. Gives the student significant design experience and builds on the knowledge and skills acquired in earlier course work. Provides an exposure to teamwork so as to emulate a typical professional design environment. Computers are to be used both in the execution of the design methodology and the management of the design project. (Prerequisite: fourth-year standing.) (6 laboratory hours per

week; that must be completed over two consecutive winter and summer terms - 6 credit-hour course.)

88-410. Directed Study I
The objective of this course is to provide an opportunity for the exceptional fourth-year student with a demonstrated record of scholarship to work in close accord with a faculty member on a project of mutual interest. A written report and oral presentation are required for evaluation by the Department. A Directed Study course may be taken by an eligible student in place of a fourth-year general option course. (Prerequisite: an 11.0 GPA or better in the third year and permission of the Department Head.) (For the purposes of assigning grades and determining averages, 3 lecture hours per week have been allocated to the course.)

88-419. Digital Communications
Digital communication systems; discrete Fourier transform; sampling theory; A/D converters; digital modulation; time-division multiplexing; packet transmission; spread spectrum systems; random processes and spectral analysis for digital systems; error probabilities; noise; wire and wireless digital communication systems. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-420. Directed Study II
The objective of this course is to provide an opportunity for the exceptional fourth-year student with a demonstrated record of scholarship to work in close accord with a faculty member on a project of mutual interest. A written report and oral presentation are required for evaluation. A Directed Study course may be taken by an eligible student in place of a fourth-year general option course. (Prerequisite: an 11.0 GPA or better in the third year and permission of the Department Head.) (For the purposes of assigning grades and determining averages, 3 lecture hours per week have been allocated to the course.)

88-431. Control Systems II
Discrete-time control systems; Z-transform; Z-plane analysis of discrete-time systems; design of discrete-time control systems by conventional methods; state space analysis; pole placement and observer design; digital control system design; implementation of digital control systems using microcontroller/DSP systems; introduction to optimal and robust control design; nonlinear system analysis. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-432. EM Waves and Radiating Systems
Fundamentals of electromagnetic radiation, antenna impedance dipoles, arrays, and long wire antennas; aperture antennas, receiving system considerations. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 tutorial hours a week.)

88-433. Digital Integrated Circuit Design
Physics and modelling of MOSFETs; fabrication and layout of CMOS integrated circuits; the CMOS inverter: analysis and design; switching properties of MOSFETs; static logic gates; transmission gate logic circuits; dynamic logic circuit concepts; CMOS dynamic logic families; CMOS differential logic families; design methodologies and CAD tools; deep-submicron implementations. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-434. Automotive Electronics
Electrical energy generation and distribution; ignition systems; motor drive controllers; sensors; signal conditioners; power-train management; electromagnetic interference; automatic control; embedded real-time controllers; diagnostics; automotive DSP; telematics; automotive computing. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-435. Microelectromechanical Systems
Microelectromechanical structures; materials; microactuators and microsensors including micro-motors; grippers, accelerometers and pressure sensors; microlithography, micromachining, microfabrication processes; mechanical and electrical design issues; input/output structures; integration of MEMS and microelectronics; design project; CAD tools. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-436. Computer Communications
Protocols and architecture; data transmission; data encoding; interfacing; data link control; multiplexing, ISO reference model; wide-area networks; circuit switching; packet switching; ATM and frame relay; LAN technology and systems; internet protocols; inter-network operation; transport protocols; network security. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-437. Intelligent Computing
Fuzzy set theory; fuzzy inference systems ; regression and optimization; derivative-based optimization; neural networks; supervised learning, unsupervised learning; neuro-fuzzy modelling; adaptive-networks-based fuzzy inference systems; advanced neuro-fuzzy data clustering algorithms; neuro-fuzzy control; fuzzy theory and genetic algorithms in game playing. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-438. Coding and Information Theory
Abstract algebra, number theory and complexity theory; simple cryptosystems; Shannon's theory; entropy and information theory; data encryption standard, RSA system and factoring; public-key cryptosystems; signature schemes; hash functions; key distribution and key agreement; identification schemes; authentication codes; access structures and general secret sharing; pseudo-random number generation; zero-knowledge proofs (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-439. Multimedia Systems
Multimedia data stream characteristics; audio information; image and graphics; video and animations; data compression; architectures and storage; multimedia operating systems; networking systems; communications; data base systems; hypermedia; programming languages; interfacing. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-440. Wireless Communications
Introduction to wireless communications; cellular system design fundamentals; propagation path loss; fading and multi-path propagation; modulation techniques; diversity; coding and equalization; speech coding for

wireless communications; multiple access networking, wireless communications protocols; satellite communication systems. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-441. Software Engineering
Introduction to software engineering, modeling the process and lifecycle; planning and managing the project; capturing the requirements; designing the system; writing robust programs; diagnostic testing; delivering and maintaining the system; evaluation products, processes, and resources; improving predictions, processes, and resources; documentation, specifications. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory hours a week.)

88-444. Analog Integrated Circuit Design
Bipolar and CMOS technology; CMOS analog circuit modelling; CMOS device characterization; current sinks and sources; current mirrors, current amplifiers; amplifiers; differential amplifiers; comparators; operational amplifiers; A/D converters; multipliers; wave-shaping; low voltage and power; CAD tools. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-445. Power Electronics
Power diodes; thyristors; power MOSFETs; controlled rectifiers; DC-DC converters; inverters; AC-AC converters; DC/DC conversion; gate drive circuits; motor drives; direct-torque-controlled drives; fuzzy logic in electric drives; computer simulation of power electronics and motor Drives. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-446. Advanced Computer Software Systems
Operating systems; batch systems; multi-programmed batched systems; time-sharing systems; parallel systems; distributed systems; virtual machines; real-time systems; designing real-time systems; concurrent programming; exceptions and exceptions handling; message-based synchronization and communication; memory management; system threats; threat monitoring; encryption. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

88-447. Computer Networks and Security
Introduction to computer networking and security; packet switching; networking protocols; local area networks, fiber channel protocols; transport protocol and security, encryption; application on running on various transport protocols, inter-working protocols and security; frame relaying and asynchronous transfer modes; digital switching; emerging computer networking and security technology. (Prerequisite: fourth-year standing.) (3 lecture, 3 laboratory/tutorial hours or equivalent a week.)

88-448. Digital Computer Architecture
Computer Organization and architecture; number, character and instruction representations; addressing methods and machine program sequencing; central processing unit; input-output organization; memory; arithmetic; pipelining, computer peripherals; advanced computer systems; assembly language programming. (Prerequisite: 88-330.) (3 lecture, 1.5 laboratory/tutorial hours a week.)

88-457. Digital Signal Processing
Discrete time signals and systems; difference equations; Z-transform; system functions; state equations; discrete Fourier transform; FFT algorithms; FIR digital filters; FIR filter design; IIR digital filters; IIR filter design; word length and quantization error; hardware and software implementations; digital signal processing applications. (Prerequisite: fourth-year standing.) (3 lecture, 1.5 laboratory/tutorial hours or equivalent a week.)

8.6 Industrial and Manufacturing Systems Engineering

OFFICERS OF INSTRUCTION

Professors

Lashkari, Reza S.; B.Sc. (Tehran), M.S.I.E., Ph.D. (Kansas State), P.Eng.-1977.

Wang, Hunglin (Michael); B.S. (National Tsing-Hua U.), M.S. (SUNY, Buffalo), Ph.D. (Iowa), P.Eng.-1991.

El Maraghy, Hoda A.; B.Eng. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.-1994.

El Maraghy, Waguih; B.Eng. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng.-1994.

Associate Professor

Oriet, Leo; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng., CCPE,-2003. (Head of the Department)

Assistant Professors

Zhang, Guoqing (Michael); B.Eng., M.Eng. (Southeast U.), Ph.D. (City U. of Hong Kong)-2000.

Adjunct Professor

Alfa, Attahiru S.; B.Eng. (Ahmadu Bello U.), M.Sc. (Manitoba), Ph.D. (New South Wales), P.Eng.-2000.

Cross-Appointment

Potvin, James R.; B.H.K. (Windsor), M.Sc., Ph.D. (Waterloo)-1999.

8.6.1 PROGRAM OF STUDY - INDUSTRIAL ENGINEERING

The Industrial and Manufacturing Systems Engineering (IMSE) program is unique and innovative. It provides students with a broad based curriculum of practical real world material that develops engineering skill for which demand exceeds supply in industry, manufacturing and business organizations world wide. Examples of manufacturing assignments held by our IMSE alumni include the areas of Product Engineering, Process Engineering, Plant / Facility Engineering, Tool Engineering, Industrial Engineering and Human Factors. Business organizations such as banks, railroads, petroleum, airlines, insurance companies, and hospitals are also employing our graduates to manage and improve performance of their operations. Our graduates are employed all over the world, in all levels of management and responsibilities. The department has a tradition of highly successful co-op internship education programs with local business and industry in Canada, the United States and the European Union. These activities expose students to applied aspects of their studies and help them establish strong contacts with potential employers in relevant fields that include design and manufacturing at several local corporate headquarters such as Ford, General Motors, DaimlerChrysler, Toyota, Honda, VW Audi, and Henry Ford Hospital. The combination of real industry experience, cutting edge research and a curriculum that delivers the skill needed by employers provides exceptional value and our degree is valued by others. enrollment in IMSE is competitive and the department welcomes new student applicants who have a drive to succeed and are prepared to be challenged to top performance.

Students may enroll in a regular program in Industrial Engineering, or they may specialize in the Supply Chain Engineering Option, a Minor in Business Administration or the Automotive Manufacturing Systems Option. The first and second years are common for all students registered in the Industrial Engineering program. The baccalaureate degree program in Industrial Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

Industrial Engineering Program

Students in the regular program may specialize by selecting seven elective courses. Three of these courses are non-technical electives which may be selected from the Faculty of Engineering non technical electives course listing. Four of these courses are technical electives which the student may select from those offered in the IMSE areas of supply chain engineering or automotive manufacturing systems engineering.

FIRST YEAR: the Fall and Winter terms are common to all Engineering programs.

SECOND YEAR - Industrial Engineering

Fall Term

	Lec	Lab	Wt
85-211.(Comp. Aided Analysis II)	3	1.5	3.75
85-212.(Thermodynamics)	3	1.5	3.75
85-214.(Circuit Analysis II)	3	1.5	3.75
85-217.(Mech. of Def. Bodies)	3	2	4
85-219.(Intro to Engrg. Materials)	3	2	4
62-215.(Vector Calculus)	3	1	3.5

Winter Term

	Lec	Lab	Wt
85-222.(Treatment of Expt. Data)	3	1	3.5
85-233.(Fluid Mechanics I)	3	1	3.5
62-216.(Differential Equations)	3	1	3.5
71-140.(Principles of Mgmt.)	3	0	3
Two Non-Technical Electives			

THIRD YEAR - Industrial Engineering

The following program schedule will begin in the 2005/2006 year. Current year 3 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-312.(Operations Research I)	3	2	4
85-313.(Engineering Economy)	3	1.5	3.75
91-327.(Product Quality & Reliability)	3	2	4
91-301.(Human Factors in Engrg.Systems)	3	2	4
91-317.(Systems Analysis & Design)	3	2	4
One IE Technical Elective			

Winter Term

	Lec	Lab	Wt
91-333.(Industrial Health and Safety)	3	2	4
91-321.(Automotive Mfg Process)	3	2	4
91-332.(Stat Methods and DOE for Mfg.)	3	2	4
91-315.(Mfg. Driven Product Design)	3	0	3
One Technical Elective			
One Non-Technical Elective			

FOURTH YEAR - Industrial Engineering

The following program schedule will begin in the 2005/2006 year. Current year 4 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
91-422.(Simulation of Industrial Sys)	2	3	3.5
91-413.(Automotive Prod Analysis)	3	1	4
91-428.(Facilities & Material Hand)	3	2	4
92-321.(Control Theory I)	3	1	3.5
One IE Technical Elective			

Winter Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
91-421.(Engineering & Society)	3	0	3
91-429.(Decision Support System)	3	1	3.5
91-412.(Operations Research II)	3	2	4
One IE Technical Elective			

Industrial Engineering (Supply Chain Engineering Option)

Students interested in the Supply Chain Engineering option are able to begin their specialized studies in the Fall term of the third year. This option includes a series of specialized curriculum in operations research. This option includes three technical electives that allow students to select electives that complement their supply chain engineering specialization.

FIRST YEAR: the Fall and Winter terms are common to all Engineering programs.

SECOND YEAR - Industrial Engineering (Supply Chain Engineering Option)

Fall Term

	Lec	Lab	Wt
85-211.(Comp. Aided Analysis II)	3	1.5	3.75
85-212.(Thermodynamics)	3	1.5	3.75
85-214.(Circuit Analysis II)	3	1.5	3.75
85-217.(Mech. of Def. Bodies)	3	2	4
85-219.(Intro to Engrg. Materials)	3	2	4
62-215.(Vector Calculus)	3	1	3.5

Winter Term

	Lec	Lab	Wt
85-222.(Treatment of Expt. Data)	3	1	3.5
85-233.(Fluid Mechanics I)	3	1	3.5
62-216.(Differential Equations)	3	1	3.5
71-140.(Principles of Mgmt.)	3	0	3
Two Non-Technical Electives			

THIRD YEAR - Industrial Engineering (Supply Chain Engineering Option)

The following program schedule will begin in the 2005/2006 year. Current year 3 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-312.(Operations Research I)	3	2	4
85-313.(Engineering Economy)	3	1.5	3.75
91-327.(Product Quality & Reliability)	3	2	4
91-301.(Human Factors in Engrg. Systems)	3	2	4
91-317.(Systems Analysis & Design)	3	2	4
One Supply Chain Technical Elective			

Winter Term

	Lec	Lab	Wt
91-333.(Industrial Health and Safety)	3	2	4
91-390.(Intro to Supply Chain: Logistics)	3	2	4
91-332.(Stat Methods and DOE for Mfg.)	3	2	4
91-315.(Mfg. Driven Product Design)	3	0	3
One Supply Chain Technical Elective			
One Non-Technical Elective			

FOURTH YEAR - Industrial Engineering (Supply Chain Engineering Option)

The following program schedule will begin in the 2005/2006 year. Current year 4 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
91-422.(Simulation of Industrial Sys)	2	3	3.5

91-413.(Automotive Prod Analysis)	3	1	3.5
91-428.(Facilities & Material Hand)	3	2	4
92-321.(Control Theory I)	3	1	3.5
One Supply Chain Technical Elective			

Winter Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
85-421.(Engineering & Society)	3	0	3
91-429.(Decision Support System)	3	1	3.5
91-412.(Operations Research II)	3	2	4
91-492.(Logistics and Distribution)	3	2	4

Industrial Engineering (Minor in Business Administration)

Students interested in a Minor in Business Administration are able to begin their specialized studies in the Fall term of the third year. This option includes a series of specialized curriculum that was specially prepared by the Odette School of Business for Industrial and Manufacturing Systems Engineering undergraduate students. This option includes four required technical electives and one additional course. The Minor in Business Administration is administered by the Odette School of Business.

FIRST YEAR: the Fall and Winter terms are common to all Engineering programs.

SECOND YEAR - Industrial Engineering (Minor in Business Administration)

Fall Term

	Lec	Lab	Wt
85-211.(Comp. Aided Analysis II)	3	1.5	3.75
85-212.(Thermodynamics)	3	1.5	3.75
85-214.(Circuit Analysis II)	3	1.5	3.75
85-217.(Mech. of Def. Bodies)	3	2	4
85-219.(Intro to Engrg. Materials)	3	2	4
62-215.(Vector Calculus)	3	1	3.5

Winter Term

	Lec	Lab	Wt
85-222.(Treatment of Expt. Data)	3	1	3.5
85-233.(Fluid Mechanics I)	3	1	3.5
62-216.(Differential Equations)	3	1	3.5
71-140.(Principles of Management)	3	0	3
Two Non-Technical Electives			

THIRD YEAR - Industrial Engineering (Minor in Business Administration)

The following program schedule will begin in the 2005/2006 year. Current year 3 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-312.(Operations Research I)	3	2	4
85-313.(Engineering Economy)	3	1.5	3.75
91-327.(Product Quality & Reliability)	3	2	4
91-301.(Human Factors)	3	2	4
91-317.(Systems Analysis & Design)	3	2	4
70-151.(Financial Accounting I)	3	0	3

Winter Term

	Lec	Lab	Wt
91-333.(Industrial Health and Safety)	3	2	4
91-390.(Intro to Supply Chain Eng)	3	2	4
91-332.(Stat Methods, and DOE for Mfg.)	3	2	4
91-315.(Mfg. Driven Product Design)	3	0	3
70-152.(Financial Accounting II)	3	0	3
One Non-Technical Elective			

FOURTH YEAR - Industrial Engineering (Minor in Business Administration)

The following program schedule will begin in the 2005/2006 year. Current year 4 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

70-256.(Managerial Cost Accounting)*	3	0	3

**Additional course not credited towards the B.A.Sc.*

Fall Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
91-422.(Simulation of Industrial Sys)	2	3	3.5
91-413.(Automotive Prod Analysis)	3	1	4
91-428.(Facilities & Material Hand)	3	2	4
92-321.(Control Theory I)	3	1	3.5
71-243.(Human Resource Mgt)	3	0	3

Winter Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
85-421.(Engineering & Society)	3	0	3
91-429.(Decision Support System)	3	1	4
91-412 (Operations Research II)	3	2	4
74-231.(Principles of Marketing)	3	0	3

Industrial Engineering (Automotive Manufacturing Systems Engineering Option)

Students interested in the Automotive Manufacturing Systems Engineering option are able to begin their specialized studies in the Fall term of the third year. This option includes a series of specialized curriculum in automotive design and manufacturing. This option includes three technical electives that allow students to select electives that complement their automotive manufacturing systems engineering specialization.

FIRST YEAR: the Fall and Winter terms are common to all Engineering programs.

SECOND YEAR - Industrial Engineering (Automotive Manufacturing Systems Engineering Option)

Fall Term

	Lec	Lab	Wt
85-211.(Comp. Aided Analysis II)	3	1.5	3.75
85-212.(Thermodynamics)	3	1.5	3.75
85-214.(Circuit Analysis II)	3	1.5	3.75
85-217.(Mech. of Def. Bodies)	3	2	4
85-219.(Intro to Engrg. Materials)	3	2	4
62-215.(Vector Calculus)	3	1	3.5

Winter Term

	Lec	Lab	Wt
85-222.(Treatment of Expt. Data)	3	1	3.5
85-233.(Fluid Mechanics I)	3	1	3.5
62-216.(Differential Equations)	3	1	3.5
71-140.(Principles of Mgmt.)	3	0	3
Two Non-Technical Electives			

THIRD YEAR - Industrial Engineering (Automotive Manufacturing Systems Engineering Option)

The following program schedule will begin in the 2005/2006 year. Current year 3 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-312.(Operations Research I)	3	2	4
85-313.(Engineering Economy)	3	1.5	3.75
91-327.(Product Quality & Reliability)	3	2	4
91-301.(Human Factors in Engrg. Systems)	3	2	4
91-317.(Systems Analysis & Design)	3	2	4
One Automotive Mfg Technical Elective			

Winter Term

	Lec	Lab	Wt
91-333.(Industrial Health and Safety)	3	2	4
91-321.(Auto Manufacturing Process)	3	2	4
91-332.(Stat Methods and DOE for Mfg.)	3	2	4
91-315.(Mfg. Driven Product Design)	3	0	3
91-311.(Comp Aided Design & Mfg)	3	2	4
One Non-Technical Elective			

FOURTH YEAR - Industrial Engineering (Automotive Manufacturing Systems Engineering Option)

The following program schedule will begin in the 2005/2006 year. Current year 4 students are to consult the 2003/2004 Undergraduate Calendar or the Department of Industrial and Manufacturing Systems Engineering for their current schedule.

Fall Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
91-422.(Simulation of Industrial Sys)	2	3	3.5
91-413.(Automotive Prod Analysis)	3	1	3.5
91-428.(Facilities & Material Hand)	2	2	4
92-321.(Control Theory I)	3	1	3.5
One Automotive Mfg Technical Elective			

Winter Term

	Lec	Lab	Wt
91-400.(Capstone Design Project)	1	6	4
85-421.(Engineering & Society)	3	0	3
91-431.(Flexible Mfg Systems)	3	2	4
91-424.(CAM & Measurement)	3	3	4.5
One Automotive Mfg Technical Elective			

I.E. technical electives can be selected from the following two Technical Elective categories:

Supply Chain Technical Electives

70-151.Financial Accounting I
70-152.Financial Accounting II
70-256.Management Cost Accounting
71-344.Labour Management Relations
87-314.Transportation & Traffic Engineering
65-456.Regression
91-430.Directed Studies
74-339.Logistics and Supply Chain Management
73-331.Operations Management I

Automotive Manufacturing Technical Electives

94-441.Topics in Automotive Engineering
91-430.Directed Studies in Mfg Systems Eng
95-465.Ergonomics and Injury Prevention
70-256.Management Cost Accounting
71-344.Labour Management Relations
70-151.Financial Accounting I

Non-Technical Electives

Non-technical electives must be selected from the Faculty of Engineering's approved list in the Undergraduate Calendar. (Section 8.3.2.)

8.6.2 COURSE DESCRIPTIONS - INDUSTRIAL ENGINEERING

91-301. Human Factors in Engineering Systems
Implementing human factors in systems design; human capabilities and limitations; design of the industrial workplace; design of the environment-lighting, temperature, noise, atmosphere; design of display and control systems; human factors in expanding technology-data processing and consumer products. (Prerequisite: 91-315.) (3 lecture, 2 laboratory hours a week.)

91-311. Computer-Aided Design and Manufacturing
CAD/CAM from theory to practice, and important integration issues and approaches. Primary focus on computer-aided design methods and

applications. Basic and generic principles and tools, significant hands on practice and engineering applications. Special topics, e.g.: part modelling, assembly modelling, mechanism analysis, etc., are studied and practiced using a high-end integrated solid modelling CAD system. Topics include: Geometric Modelling Systems, Geometric Modelling Systems, Parametric Representations, Solid Modelling and Applications, Digital Mockup & Rapid Prototyping, and special topics. (3 lecture hours and 2 laboratory/tutorial hours a week.)

91-312. Operations Research I
Deterministic O. R. models. Linear programming-graphical and simplex methods, duality theory. Transportation, assignment and network models. Sensitivity analysis. Integer programming, branch-and-bound and cutting plane methods, mixed IP algorithms, 0/1 programming. Use of LP and IP computer software programs. Dynamic programming-principle of optimality, stagecoach problems, recursive relationship. (Prerequisite: 62-126.) (3 lecture, 2 laboratory hours a week.)

91-315. Manufacturing Driven Automotive Design
Engineering design and work measurement principals are studied and applied to quantify and reduce the base engineered assembly content of automotive product designs. Non traditional methods for designing and building products for profit are studied with a goal of minimizing total assembly costs, manual labour and associated ergonomic injuries. Recent advances in manufacturing driven product designs in the automotive industry are presented to educate students on the contributions of product designs to the minimization of assembly costs, assembly labour content and the risk of injuries. (Prerequisite: 91-301 and 91-327.) (3 lecture hours a week.)

91-317. Systems Analysis and Design
Fundamental concepts, philosophies, and trends that provide the context of systems analysis and design methods. Information systems in terms of common building blocks: Data, Processes, and Interfaces. Basic concept of systems and systems engineering; system representation; system life cycle; system design process; and system design methods. All businesses and organizations develop information systems. Systems analysis and design is about business problem solving and computer applications. Methods in systems analysis and design are applied to a wide variety of problem domains. (3 lecture hours and 2 laboratory/tutorial hours a week.)

91-321. Automotive Manufacturing Process
An introduction to manufacturing processes, including foundry, fabrication, forming and cutting. Selection of materials. Manufacturing processes-machining processes, tool-life, cutting data bank. Metal forming-forging, presswork, die-design. Selection and justification of robotization, adhesives. Finishing operations-honing. Emphasis on the economics, capabilities, and productivity of various processes in Manufacturing. Applications of these techniques using the Technical Support Centre. (3 lecture hours and 2 laboratory/tutorial hours a week.)

91-327. Product Quality and Reliability
Impact of quality on manufacturing processes and product design. Methods and theories of statistical process control. Control charts for attributes and for variables. Process capability analysis and six-sigma method. Acceptance sampling and sampling standards. Reliability engineering and various failure models. Failure modes and effects analysis (FMEA). Taguchi method. Product design and quality function deployment (QFD). ISO 9000/ QS 9000 standards. Total Quality Management (TQM) method. (Prerequisite: 85-222.) (3 lecture, 2 tutorial hours a week.)

91-332. Statistical Methods and DOE for Manufacturing
Use of designed experiments (DOE) in engineering product and process design processes. Experiments involving one factor; ANOVA; fixed, random, and mixed models; randomized blocks, Latin squares, and incomplete block designs. Factorial designs. Fractional designs. The Taguchi method and robust product/process design. Emphasis is put on industrial applications of various designs. (Prerequisite: 91-327.) (3 lecture, 2 laboratory hours a week.)

91-333. Industrial Health and Safety
Fundamentals of manufacturing safety and health are studied to provide manufacturing engineers with the knowledge they need to incorporate some of the most notable safety considerations into the manufacturing infrastructure. Topics to be examined include: machine guarding, confined spaces and accident prevention, accident losses, liabilities, workers' compensation, Ontario Occupational Safety and Health Act, standards, codes, engineers and safety, management and it's responsibilities, hazards and their control, work-related musculoskeletal disorders, heat and temperature, pressure hazards, electrical hazards, vibration and noise. (3 lecture/2 laboratory hours a week.)

91-390. Introduction to Supply Chain: Logistics
This course explores the basic concepts of managing the flow of materials in a typical enterprise supply chain. Students will examine a complete overview of material and information flow, from internal and external suppliers, to and from the enterprise. Topics covered include: basic elements of the supply chain; just-in-time; enterprise resource planning; demand and aggregate planning; the analysis of logistics capabilities; and interrelationships among customer service. The impact of e-commerce on supply chain management is also included. The students have the opportunity to explore and use SAP and other software packages. (Prerequisite: 91-312.) (3 lecture, 2 laboratory hours a week.)

91-400. Capstone Industrial Projects
Students working in teams, and supervised by Faculty, will undertake an industrial design project. The project will focus on design of: product, process, and systems, including the Human aspects (*e.g.* man-machine interface). The project will be assigned, or if a group of students would like to bring in such a project, it would have to be approved by the course Instructor. The Faculty advisor and industrial preceptor will advise the students and evaluate the progress and results of the project. Students are expected to participate in regular course instruction and group meetings. Oral presentation and written reports (interim and final) are required. Each student will be evaluated individually in addition to the evaluation of the Team. (1 lecture, 4 laboratory/tutorial hours a week.) (A 6.00 credit hour, 2 semester course.)

8.6 INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING (06-)

91-412. Operations Research II
Probabilistic O.R. models. Markov chains and their properties; continuous-time Markov chains. Queuing theory; the role of Exponential and Poisson distributions. Applications of queuing theory in production systems. Markovian decision processes. Reliability. Renewal Theory. Use of computer software programs to solve optimization problems in queues and Markov Processes. (Prerequisite: 85-222.) (3 lecture, 2 laboratory hours a week.)

91-413. Automotive Production Analysis
Analysis and control of production systems. Demand forecasting. Deterministic and stochastic inventory systems. Aggregate planning and master scheduling. Material requirement planning. Operations sequencing and balancing. Job shop scheduling and control systems. Introduction to group technology and flexible manufacturing systems. (Prerequisite: 91-312.) (3 lecture hours, 1 tutorial hour a week.)

91-422. Simulation of Industrial Systems
Introduction to Simulation-Random number and variate generation. Applications to queues, inventories and related models. Special purpose simulation languages-SIMAN/ARENA. Input data analysis and model validation. Simulation output analysis, design of experiments. Use of computer software. (Prerequisite: 85-222.) (2 lecture, 3 laboratory hours a week.)

91-424. Computer-Aided Manufacturing and Measurement
Manufacturing processes including traditional transfer machines, advanced CNC processes such as multi-axis multi-turret systems, multi-axis machining centers, and non-traditional manufacturing processes such as grinding (abrasive machining), electrical discharge machining (EDM), electrochemical machining and plasma torch/laser cutting. Modules include: basic machining principles, generating CNC code, tool path optimization, and process planning (machine set-up and task sequence.). The measurement module will review GD&T, tolerance stack ups, principles of automated measurement, sources of error, scan path optimization, and CAD to part comparisons (reverse engineering). (Prerequisite: 91-321.) (3 lecture hours and 2 laboratory/tutorial hours a week.)

91-428. Facilities and Material Handling Engineering
Approaches to establishing location and layout of space, equipment and services for industrial facilities. Criteria and data for generating & comparing alternatives. Computerized layout planning models, storage systems, AS/RS, Material handling, scope, definitions, and principles, unit load design, types of equipment, flow of material and line balancing. Environmental, human and cost considerations. Electrical and lighting systems and atmospheric systems. (3 lecture and 2 laboratory hours per week.)

91-429. Management Decision Support Systems
Formulation of decision problems in engineering and management. Decision criteria. Strategies. Utility theory and decision functions. Information requirements of decision-making systems. Design of information systems to support decision-making systems. Economic considerations. Use of computer software packages. (Prerequisite: 91-317.) (3 lecture hours, 1 laboratory hour a week.)

91-430. Directed Study
The student will undertake a literature survey and/or a laboratory project in consultation with the Department Head. A written report is mandatory and participation in the Industrial Engineering Program seminars may be part of the requirement. (Prerequisite: fourth-year standing with at least an 8.0 average.)

91-431. Flexible Manufacturing Systems
Production Systems, Flexible Automation, Computer-Integrated Manufacturing, Group Technology And Cellular Manufacturing, Flexible Manufacturing Systems, Assembly Systems, Materials and tools handling, Robotics In Manufacturing, Principles Of Design For Manufacture, Process Planning And Concurrent Engineering, New Trends-Lean, Agile And Re-Configurable Manufacturing Systems. (Prerequisite: 91-413 or equivalent.) (3 lecture, 2 tutorial/laboratory hours a week.)

91-492. Logistics and Distribution
Design and operation of manufacturing and warehousing facilities. Warehousing issues in supply chains. Planning and managing inventories in supply chains. Sourcing decisions in supply chains. Transportation issues in supply chains. SAP and other software packages will be used. (Prerequisite: 91-390; Corequisite: 91-412.) (3 lecture hours, 2 labratory hours a week.)

8.7 Mechanical, Automotive, and Materials Engineering

OFFICERS OF INSTRUCTION

Professors Emeriti

Sridhar, Krishnaswamy; B.Sc. (Madras U.) D.M.I.T. (Madras Inst. of Technology), M.A.Sc., Ph.D. (Toronto), P.Eng.-1963.

Youdelis, William V.; B.Sc. (Alberta), M.Eng., Ph.D. (McGill), P.Eng.-1965.

Watt, Daniel Frank; B.Sc. (Alberta), Ph.D. (McMaster), P.Eng.-1969.

Professors

Barron, Ronald Michael; B.A., M.Sc. (Windsor), M.S. (Stanford), Ph.D. (Carleton)-1975. (Cross-appointment with Mathematics and Statistics)

Northwood, Derek Owen; B.Sc. (Eng.), A.R.S.M. (London), M.Sc. (Part I), Ph.D. (Surrey), F.I.M., F.A.S.M., F.I.M.M.A., F.I.E. (Aust.), C.P.Eng. (Aust.), P.Eng.-1976.

Rankin, Gary W.; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1980.

Zamani, Nader G.; B.Sc. (Case Western), M.Sc., Ph.D. (Brown), P.Eng.-1986.

Alpas, Ahmet T.; B.Sc., M.Sc. (Middle East Tech.), Ph.D. (Open Univ. U.K.), P.Eng-1989. (NSERC/GM Industirial Research Chair in Tribology)

Sokolowski, Jerzy Hieronim; M.M.E., Ph.D. (Tech. U. of Silesia)-1993. (NSERC Industrial Chair in Light Metals Casting)

Frise, Peter R.; B.Sc., M.Sc. (Queen's), Ph.D. (Carleton), P.Eng.-1997. (Chrysler-NSERC Industrial Chair in Mechanical Design)

Reader, Graham T.; B.Tech.(Hons) (Bradford), B.A. (O.U.), P.S.C. (J.S.D.C.), Ph.D. (Bradford), P.Eng., C.M.E., C.Eng., Eur.Ing., F.IMarEST-1999. (Dean, Faculty of Engineering)

Associate Professors

Gaspar, Robert George Stephen; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1983. (Head of the Department)

Ting, David Sing-Khing; B.Sc. (Manitoba), M.Sc., Ph.D. (Alberta)-1997.

Sobiesiak, Andrzej; M.Sc., Ph.D. (Warsaw Technical University), P.Eng.-1998. (Chrysler-NSERC Industrial Chair in Alternate Fuels)

Chen, Xiang; B.Sc., M.Sc. (Huazhong Univ. of Science and Tech.), M.Sc., Ph.D. (Louisiana State)-2000. (Cross-appointment with Electrical and Computer Engineering)

Hu, Henry; B.A.Sc. (Shanghai University), M.A.Sc. (Windsor), Ph.D. (Toronto)-2000.

Zheng, Ming; M.Sc. (Tsinghua), Ph.D. (Calgary)-2002. (Canada Research Chair in Clean Diesel Engine Technology)

Assistant Professors

Altenhof, William; B.A.Sc., M.A.Sc., Ph.D. (Windsor), P.Eng.-1999.

Bowers, Randy; S.M. (M.I.T.), B.S., Ph.D. (Rensselaer)-2000.

Fartaj, Amir; B.S., M.S., Ph.D. (Kansas)-2001.

Minaker, Bruce; B.A.Sc. (Waterloo), M.Sc., Ph.D. (Queen's)-2001.

Rohrauer, Gregor; B.Eng. (Concordia)-2001.

Zhou, Biao; B.Eng., M.Eng. (Nanjing U. of Aeronautics and Astronautics), Ph.D. (Tsinghua)-2002.

Kar, Narayan Chandra; B.Sc. (Bangladesh), M.Sc., Ph.D. (Kitami Institute of Technology, Japan)-2003. (Cross-appointment with Electrical and Computer Engineering).

Nie, Xueyuan; B.A.Sc., M.Sc. (Nanjing), Ph.D. (Hull, UK)-2003.

Pusca, Daniela; M.Sc. (Lucian Blaga, Romania), Ph.D. (Cluj, Romania)-2003.

Stoilov, Vesselin; M.Sc. (Sofia, Bulgaria), M.Sc. (Sofia, Bulgaria/ Erlangen, Germany), Ph.D. (Alberta)-2003.

Tam, Edwin; B.Sc., M.Sc. (Alberta), Ph.D. (Toronto), P.Eng.-2001. (Cross-appointment with Civil and Environmental Engineering).

Edrisy, Afsaneh; B.Sc. (Isfahan U. of Technology)-2004.

Lecturer

Novak, Colin; B.A.Sc., M.A.Sc. (Windsor), P.Eng.-2003.

Adjunct Professors

Mallick, P. K.; B.E. (Calcutta), M.S. (Illinois), Ph.D. (Illinois) -2002.

Seth, Brij; B.S. (Missouri), M.S., Ph.D. (Illinois), M.B.A. (Michigan)-2002.

Cheng, Yang-Tse; B.S., M.S., Ph.D. (Caltech)-2003.

Evans, Walter; B.S. (Case Institute of Technology), M.S., Ph.D. (Case Western Reserve)-2003.

Perry, Thomas; B.S. (Michigan), M.S. (Wisconsin), Ph.D. (Michigan)-2002.

Adjunct Associate Professor

Damodaran, Vijay; B.E.-Hons (Birla), M.A.Sc. (Windsor), Ph.D. (Windsor)-2003.

Ramakrishnan, Ramani; B.Tech. (IIT, Madras), M.S., Ph.D. (George Washington), P.Eng.-2003.

Adjunct Assistant Professor

Tjong, Jimi S-Y.; B.A.Sc., M.A.Sc., Ph.D. (Windsor)-1993.

8.7.1 PROGRAMS OF STUDY - MECHANICAL ENGINEERING

Students may take a regular program in Mechanical Engineering, or they may specialize in the Engineering Materials Option or the Automotive Option as described below.

Mechanical engineers are responsible for the design, construction, maintenance, and operation of machines and systems of machines. They create, plan, research, supervise, analyze, and generally act as the professionals of mechanical technology.

The mechanical engineer's knowledge and skills are needed in many industries, such as: heating, ventilating, and air conditioning; transportation; power generation and distribution; metal production and processing; manufacturing; and chemical and electrical equipment. Mechanical engineers commonly go beyond the limits of purely mechanical work. They are found at all levels of management in private industry and the public sector.

Students in the regular program specialize by selecting six elective courses. These courses may be selected from those offered in the areas of: air conditioning; dynamics and stress analysis; vibrations and noise; and gas dynamics and turbomachinery.

Students interested in the Engineering Materials Option begin their specialized studies in the Summer term of their third year. The Option includes a series of four required and two elective courses. Engineering Materials courses include modern developments in such areas as steels, casting, polymers, environmental degradation and novel processing techniques.

Students interested in the Automotive Option begin their specialization in the Summer term of their third year. The Option includes four required courses and two technical electives. Note: The baccalaureate degree program in Mechanical Engineering is accredited by the Canadian Engineering Accreditation Board of the Canadian Council of Professional Engineers.

FIRST YEAR

The Fall and Winter terms are common to all Engineering programs (see 8.3.1). In the Summer term, Co-op students also will register in 85-198 (Work Term I).

SECOND YEAR

Fall Term

	Lect.	Lab.	Wt.
85-212.(Thermodynamics I)	3	1.5	3.75
92-210.(Dynamics)	3	2	4
62-215.(Vector Calculus)	3	1	3.5
92-229.(Electric Motors)	3	2	4
85-217.(Mech. of Def. Bodies I)	2	2	3
85-219. (Intro to Engrg. Materials)	3	2	4

Winter Term

	Lect.	Lab.	Wt.
62-216.(Differential Equations)	3	1	3.5
85-222.(Treatment of Expt. Data)	3	1	3.5
85-233.(Fluid Mechanics I)	3	1	3.5
92-222.(Analysis of Mechanical Systems)	3	2	4
87-227.(Mech. of Def. Bod. II)	2	2	3

Summer Term
(Co-op students only)

85-298.(Work Term II)

THIRD YEAR

Fall Term

	Lect.	Lab.	Wt.
85-313.(Engrg. Economy)	3	1.5	3.75
92-323.(Machine Dynamics)	3	2	4
92-315.(Mechanical Vibrations)	3	2	4
92-317.(Applied Thermodyn.)	3	2	4
92-320.(Fluid Mechanics II)	3	2	4
Non-Technical Elective (see 7.3.2)			

Winter Term
(Co-op students only)

85-398.(Work Term III)

Summer Term-Mechanical Program

	Lect.	Lab.	Wt.
92-311.(Stress Analysis I)	3	2	4
92-321.(Control Theory I)	3	1	3.5
92-324.(Engrg. Measurements)	3	3	4.5
92-328.(Heat Transfer)	3	2	4
Technical Elective			
Technical Elective			

Summer Term-Materials Option

	Lect.	Lab.	Wt.
92-311.(Stress Analysis I)	3	2	4
92-321.(Control Theory I)	3	1	3.5
92-328.(Heat Transfer)	3	2	4
89-330.(Materials & Properties)	3	2	4
89-331.(Thermo. & Kinetics)	3	2	4
Technical Elective			

Summer Term-Automotive Program

	Lect.	Lab.	Wt.
92-311.(Stress Analysis I)	3	2	4
92-321.(Control Theory I)	3	1	3.5
92-324.(Engrg. Measurements)	3	3	4.5
92-328.(Heat Transfer)	3	2	4
94-330.(Auto.Engrg Fundamentals)	2	4	4
Technical Elective			

FOURTH YEAR

Fall Term
(Co-op students only)

85-498.(Work Term IV)

Winter Term-Mechanical Program

	Lect.	Lab.	Wt.
92-410.(Capstone Design 1)	2	4	4
92-411.(Machine Design I)	3	3	4.5
42-200.(Resource Mgmt.) *or*	3	0	3
99-218.(Environmental Law)	3	0	3
Technical Elective			
Technical Elective			
Non-technical Elective (see 8.3.2)			

Winter Term-Materials Option

	Lect.	Lab.	Wt.
92-410.(Capstone Design 1)	2	4	4
92-411.(Machine Design I)	3	3	4.5
42-200.(Resource Mgmt.) *or*	3	0	3
99-218.(Environmental Law)	3	0	3
89-420.(Ceramic Materials)	3	1	3.5
89-421.(Deformation & Fracture)	3	2	4
Non-technical Elective (see 8.3.2)			

Winter Term-Automotive Option

	Lect.	Lab.	Wt.
92-410.(Capstone Design 1)	2	4	4
92-411.(Machine Design I)	3	3	4.5
42-200.(Resource Mgmt.) *or*	3	0	3
99-218.(Environmental Law)	3	0	3
94-463.(Vehicle Dynamics)	3	1	3.5
94-465.(Internal Comb. Engines)	3	1	3.5
Non-technical Elective (see 8.3.2)			

Summer Term-Mechanical Program

	Lect.	Lab.	Wt.
85-421.(Engrg. and Society)	3	0	3
92-421.(Machine Design II)	3	3	4.5
92-459.(Computational Methods in Solids)	2	3	3.5
92-420.(Capstone Design II)	2	4	4
Technical Elective			
Technical Elective			

Summer Term-Materials Option

	Lect.	Lab.	Wt.
85-421.(Engrg. and Society)	3	0	3
92-324.(Engrg. Measurements)	3	3	4.5
92-421.(Machine Design II)	3	3	4.5
92-420.(Capstone Design 2)	2	4	4
92-459.(Computational Methods in Solids)	2	3	3.5
Technical Elective			

Summer Term- Automotive Option

	Lect.	Lab.	Wt.
92-420.(Capstone Design 2)	2	4	4
85-421.(Engrg. and Society)	3	0	3
92-421.(Machine Design II)	3	3	4.5
92-459.(Computational Methods in Solids)	2	3	3.5
94-467.(Vehicle Thermal Mgmt.))	3	1	3.5
Technical Elective			

MECHANICAL TECHNICAL ELECTIVES

1. All technical electives must be engineering courses at or above the 300 level; maximum of 2 at the 300 level.
2. Minimum of 4 courses numbered 92-XXX.
3. Maximum of 2 courses numbered 89-XXX or 94-XXX.
4. Maximum 1 course in a different engineering program.

MATERIALS TECHNICAL ELECTIVES

1. All technical electives must be engineering courses at or above the 300 level; at least one must be at the 400 level;
2. Technical Electives are to be selected from courses numbered 89-XXX
3. Written approval from the Department Head is required to select a maximum of 1 technical elective outside of 89-XXX courses.

AUTOMOTIVE TECHNICAL ELECTIVES

1. All technical electives must be engineering courses at or above the 300 level; maximum of 1 at the 300 level.
2. Technical Electives are to be selected from courses within the department.
3. Written approval from the Department Head is required to select a maximum of 1 technical elective outside of department.

NON-TECHNICAL ELECTIVES

Non-technical electives must be selected from the approved list in the Undergraduate Calendar. (see 8.3.2)

8.7.2 COURSE DESCRIPTIONS - MECHANICAL ENGINEERING

92-210. Dynamics
Topics in dynamics of rigid bodies. Forces and accelerations, energy and momentum methods for rigid bodies in plane motion. Motion of rigid bodies in three dimensions. (Prerequisite: 85-122.) (3 lecture, 2 tutorial hours a week.)

92-222. Analysis of Mechanical Systems
Simulation and analysis of lumped parameter systems; parameter optimization in a design study using numerical solutions to the governing equations; introduction to computer-aided design packages. (Prerequisite: 85-132.) (3 lecture, 2 laboratory or tutorial hours a week.)

92-229. Electric Motors
Review of DC inductive, capacitive, and resistive circuits. AC circuits; three-phase power. DC, synchronous, and induction motors. Special purpose motors. Introduction to motor control. (Prerequisite: 85-124.) (3 lecture, 2 laboratory hours a week.)

92-311. Stress Analysis I
Combined loading, stress and strain transformations, Mohr's circle in 3-D, stress concentration, theory of failure, energy methods, shear flow in bending, composite beams. (Prerequisite: 87-227.) (3 lecture, 2 laboratory/tutorial hours a week.)

92-315. Mechanical Vibrations
Free, damped, and forced vibration of single and multi-degree of freedom systems with discrete masses. Exact and approximate methods of solution. Vibration isolation, vibration transducers, use of computers in vibration analysis. (Prerequisite: 92-210.) (3 lecture, 2 tutorial hours a week.)

92-317. Applied Thermodynamics
Ideal gas mixtures and psychrometrics. Reacting mixtures and combustion. Power cycles, refrigeration and heat pump cycles. (Prerequisite: 85-212.) (3 lecture, 2 laboratory/tutorial hours a week.)

92-320. Fluid Mechanics II
Navier-Stokes equations and some exact solutions, external flows boundary layer over a flat plate, drag forces; turbulent flows in pipes and mixing length theory, flow measurement, compressible flows and introduction to potential flows. (Prerequisite: 85-233.) (3 lecture, 2 laboratory/tutorial hours a week.)

92-321. Control Theory I
Control system concepts, linear modelling and analysis of response and stability of physical systems, complex variables and Laplace transforms, frequency, and transient response analysis and performance specifications. (Prerequisites: 62-215 and 62-216.) (3 lecture hours, 1 tutorial hour a week.)

92-323. Machine Dynamics
Linkages of flexible connectors, cams, toothed gearing, intermittent motion mechanisms, trains of mechanisms, static and dynamic analysis of mechanical flywheels, balancing of rotating and reciprocating masses. (Prerequisite: 92-210.) (3 lecture, 2 tutorial hours a week.)

92-324. Engineering Measurements
Basic concepts in instrumentation; error analysis; instrumentation and measurement systems including sensors, transducer, signal conditioning and display; microcomputer-based data acquisition and analysis. (Prerequisite: 85-222.) (3 lecture, 3 laboratory/tutorial hours a week.)

92-328. Heat Transfer
Introduction to the three heat transfer modes: conduction, convection, and radiation. Application of heat exchange equipment. (3 lecture, 2 laboratory hours a week.)

92-410. Capstone Design 1
Calendar description: Student design teams, operating within a "company" environment, utilize the broad range of their undergraduate experience in interdisciplinary projects selected to promote interaction between the mechanical, automotive, and materials programs. Design methodologies and team interaction simulate future professional practice. Project milestones include: a design proposal with cost analysis and scheduling, construction and commissioning of the designed apparatus, and a final report and presentation having both global and detail completeness. (Prerequisite: 4th-year standing; Corequisite: 92-411.) (2 lecture, 4 laboratory hours a week.)

92-411. Machine Design I
Static and fatigue loading failures. Threaded fasteners, pins and keys. Welded, brazed, and adhesive joints. Springs. Anti-friction bearings, hydrodynamic lubrication. Student-designed experiments will analyze component failures. (Prerequisites: 92-323, 92-311, and fourth-year standing.) (3 lecture, 3 laboratory hours a week.)

92-420. Capstone Design 2
Continuation of 92-410. (Prerequisite: 92-410; Corequisite: 92-421.) (2 lecture, 4 laboratory hours a week.)

92-421. Machine Design II
Gearing and gear trains: spur, helical, worm, and bevel gears. Clutches, brakes, couplings, flywheels. Chain and belt drives. Design of shafting. Student-developed software to support mechanical design. (Prerequisite: 92-411.) (3 lecture, 3 laboratory hours a week.)

92-459. Computational Methods in Solids
Three-dimensional graphics; fundamentals of finite element methods for problem solving in heat transfer, solids, and trusses using finite element computer programs. (Prerequisite: 92-222.) (2 lecture, 3 laboratory/tutorial hours a week.)

MECHANICAL TECHNICAL ELECTIVES

Some of these courses may not be offered in any given year.

92-322. Optimization of Thermal Systems
Computer based and classical optimization techniques including Lagrange multipliers, search methods and geometric, linear and dynamic programming with application to the analysis and design of thermo-fluid systems. (Prerequisites: 92-222 and 92-317.) (2 lecture, 3 laboratory/tutorial hours a week.)

92-412. Control Theory II
Design of compensators, non-linear control systems, describing function, phase plane, analogue and digital simulation, limit cycles, digital control, D-A converters, z-transforms, sequential control. (Prerequisite: 92-321.) (2 lecture, 3 laboratory/tutorial hours a week.)

92-428. Environmental Assessment
Environmental impact assessment. Biophysical and socioeconomic impacts from engineering activities, processes, and projects. Human health and environmental risk concepts. Introduction to life cycle analysis, corporate/industrial environmental management, and environmental management systems. Students will undertake various project related and problem-based assignments. (Cross-listed as 93-428.) (3 lecture, 2 tutorial hours a week.)

92-440. Topics in Mechanical Engineering
Selected topics of current interest in Mechanical Engineering. (Prerequisite: 4th-year standing or permission of instructor.) (3 lecture, 1 laboratory hour a week.)

92-441. Directed Studies in Mechanical Engineering
A special course of studies in Mechanical Engineering with content and direction approved by the Department Head. Although the course may not include formal lectures, it will carry the weight of three lecture hours and 1 laboratory hour per week. (Prerequisite: 4th-year standing with a (B) average or better.)

92-450. Gas Dynamics
Basic concepts and flow equations, one dimensional flows, isentropic flows in variable area ducts, constant area duct flows, Fanno and Rayleigh lines, normal shock, nozzles and diffusers, oblique shock, measurements. (Prerequisite: 92-320.) (3 lecture, 1 laboratory/tutorial hours a week.)

92-451. Turbomachines
Dimensional analysis and similitude; definitions of efficiency, two dimensional analysis of axial flow turbines and compressors, three dimensional flow, centrifugal pumps and compressors. (Prerequisite: 92-450.) (3 lecture, 1 laboratory/tutorial hours a week.)

92-452. Computational Thermo-Fluids
Analysis of thermo-fluid systems using computational packages. Relation of software to fundamental concepts. Application to transient flow, branched networks, flow with and without heat transfer and phase change, multi-dimensional conductive heat transfer. Importance of experimental validation and model assumptions. (Prerequisites: 92-317, 92-320.) (3 lecture, 1 laboratory/tutorial hours a week.)

92-453. Air Conditioning
Principles of environmental comfort control, applied psychrometrics, load calculations, air distribution system design. (Prerequisite: 92-317.) (3 lecture, 1 laboratory/tutorial hours a week.)

92-455. Environmental Effects and Control of Noise
Physical properties of sound and noise, measurement of noise, noise control, hearing characteristics and environmental effects of noise. (3 lecture, 1 tutorial/laboratory hours a week.)

92-456. Mechanical Vibrations II
Vibration of bodies with distributed mass. Exact and approximate methods of solution. Whirling of shafts. Vibration maintenance engineering. Introduction to non-linear vibration. (Prerequisite: 92-315.) (3 lecture, 1 tutorial/laboratory hours a week.)

92-457. Advanced Dynamics
Kinematics of particles and rigid bodies. Dynamics of particles, systems of particles and rigid bodies, with applications to engineering problems. The gyroscopic effect. Introduction to variational methods. Lagrange's equations, Hamilton's principle. (Prerequisite: 92-210.) (3 lecture, 1 laboratory/tutorial hours a week.)

8.7.3 COURSE DESCRIPTIONS - AUTOMOTIVE ENGINEERING

94-330. Automotive Engineering Fundamentals
Overview of primary automotive systems. Engine types and configurations, combustion, emission control, vehicle performance. Powertrain, suspension, frame and chassis. Materials and fabrication issues. Engine and vehicle dissection laboratory. Identification of industry issues and trends. (2 lecture, 4 laboratory hours a week.)

94-440. Topics in Automotive Engineering
Selected topics of current interest in Automotive Engineering. (Prerequisite: 4th-year standing or permission of instructor.) (3 lecture, 1 laboratory hours a week.)

94-441. Directed Studies in Automotive Engineering
A special course of studies in Automotive Engineering with content and direction approved by the Department Head. Although the course may not include formal lectures, it will carry the weight of three lecture hours and 1 laboratory hour per week. (Prerequisite: 4th-year standing with a (B) average or better.)

94-461. Elements of Mechanical Design
Expansion of engineering graphics to include statistical tolerance design, geometric dimensioning and tolerancing (GD & T), schematics for standard components, design for manufacture and assembly (DFMA), reverse engineering, quality methods, and design morphology. (Prerequisite: 92-311.) (3 lecture, 1 laboratory hours a week.)

94-463. Vehicle Dynamics
Classification and analysis of suspension types and geometry, powertrain layout, and ride quality. Tire modeling, stability, and numerical simulation of vehicle dynamics, including longitudinal and lateral vehicle response to driver inputs. Selected topics from industry experts. (Prerequisite: 92-315.) (3 lecture, 1 tutorial hours a week.)

94-465. Internal Combustion Engines
Mechanical design of vehicular internal combustion engines for different applications. Covers basic engine types and their operation from an energy conversion systems viewpoint, where the system needs to satisfy a number of requirements. These performance and operational requirements are derived from basic thermodynamics, operation of heat engine cycles, ignition and combustion processes, fuel system design, heat transfer, emissions formulation, available instrumentation and testing procedures. Environmental impact of vehicular designs on global pollution and government standards. Recent developments in energy-efficient and alternate fuel engines. (Prerequisites: 92-317, 92-320.) (3 lecture, 1 tutorial hours a week.)

94-467. Vehicle Thermal Management
A study of controlled passenger compartment environment, and automotive thermal management hardware: radiator, heater core, air-conditioning components. Topics include the thermal comfort model of occupants in a vehicle, determination of heating and cooling loads, the practical application of refrigeration in automotive air-conditioning followed by design of equipment and HVAC system, description and design of engine cooling system. (Prerequisites: 92-317, 85-233.) (3 lecture, 1 laboratory hours a week.)

8.7.4 COURSE DESCRIPTIONS - ENGINEERING MATERIALS

89-330. Materials and Their Properties
The relationship of the engineering properties of materials to their atomic structure, bonding, crystal structure, imperfections and microstructure. The processing of materials to produce required structure and properties. Includes consideration of crystal structure determination, phase diagrams, diffusion, phase transformations, solidification, heat treatment and deformation. The laboratory is a term-long project designed to familiarize students with the use of materials-related equipment commonly found in industrial and research laboratories. (Prerequisite: 85-219.) (3 lecture, 2 laboratory hours a week.)

89-331. Thermodynamics and Kinetics of Materials
Thermodynamics: review of First and Second Laws, gas laws, humidity, thermochemistry, entropy, reversible and irreversible processes, equilibrium criteria, Gibbs free energy, activity and activity coefficient, solution thermodynamics, Raoult's and Henry's Laws, Gibbs-Duhem equation, alloy phase equilibria, free energy-composition diagrams, Ellingham diagrams.
Kinetics: empirical treatment for homogeneous reaction rates, reaction order and specific rate constant, activation energy, Arrhenius' Law, energy distribution in reacting systems, heterogeneous reactions. Selected problems in materials processing to illustrate theory. (3 lecture, 2 laboratory hours a week.)

89-420. Ceramic Materials
Uses of traditional and advanced ceramics. Monolithic and composite ceramics. Comparison of ceramics with metals and alloys. Processing: raw material preparation, forming techniques, theory and practice of sintering, quality control. Properties: modulus of rupture, creep, corrosion, erosion, and electrical, magnetic and optical properties. (3 lecture hours, 1 laboratory hours a week.)

89-421. Deformation and Fracture
Introduction to basic plasticity theory and its application to common metal forming and metal cutting processes. Fracture mechanics and its applications in brittle and ductile fracture, creep and fatigue, for purposes of design and of analysis. (3 lecture, 2 laboratory hours a week.)

MATERIALS OPTION TECHNICAL ELECTIVES

89-432. Modern Steels
An overview of developments in materials, manufacturing processes and applications for modern steels. Classes and classifications of steels, effects of alloy additions and control of microstructure. In-depth studies of high strength low alloy (HSLA), dual-phase, ultra-high strength, stainless and tool steels. The laboratory is an individual assignment on one type of steel. (3 lecture hours, 1 laboratory hour a week.)

89-433. Physical Metallurgical Processes
Application of diffusion theory to diffusion-controlled processes; solidification principles and application to foundry problems-segregation in castings; heat transfer processes. Selected problems to illustrate theory. (2 lecture, 2 tutorial hours a week.)

89-434. Polymers
The structure, properties, and processing of polymers (plastics) with emphasis on polymer forming processes, including extrusion, injection molding, blowmolding, and thermoforming, including tours of local industry. Fabrication and properties of composites with a polymer base. (3 lecture hours, 1 laboratory hour a week.)

89-440. Topics in Materials Engineering
Selected topics of current interest in Materials Engineering. (Prerequisites: 4th-year standing or permission of instructor.) (3 lecture, 1 laboratory hours a week.)

89-441. Directed Studies in Materials Engineering
A special course of studies in Materials Engineering with content and direction approved by the Department Hhair. Although the course may not include formal lectures, it will carry the weight of three lecture hours and 1 laboratory hour per week. (Prerequisites: 4th-year standing with a (B) average or better.) (3 lecture, 1 lab hrs/wk.)

89-450. Welding Engineering
Arc welding processes, filler metal selection, welding procedure specification and qualification per ASME, CSA, and AWS codes. Weld and joint types, calculation of weld size and stress, design for fatigue prevention, weld discontinuities, non-destructive test methods, mechanical property evaluation. Solidification and welding metallurgy, base metal classification, hydrogen-assisted cracking and its control, use of preheat and postweld heat treatments, weldability, fabrication issues. (3 lecture, 1 laboratory hours a week.)

9 FACULTY OF HUMAN KINETICS

(Ext. 2429)

OFFICERS OF INSTRUCTION

DEPARTMENT OF KINESIOLOGY

Professors Emeriti

Moriarty, Richard J.; B.A., M.A. (Assumption), M.Ed. (Wayne State), Ph.D. (Ohio State)-1956.

Metcalfe, Alan; D.L.C. (Loughborough), B.P.E. (British Columbia), M.S., M.A., Ph.D. (Wisconsin)-1969.

Professors

Salter, Michael A.; D.P.E. (Sydney), B.P.E., M.A., Ph.D. (Alberta)-1972. (Associate Vice-President, Academic Affairs)

Boucher, Robert L.; B.Sc. (Mankato State), M.Sc. (Illinois State), Ph.D. (Ohio State)-1974. (Head of the Department of Kinesiology)

Marino, G. Wayne; B.A., B.P.E. (McMaster), M.P.E. (Windsor), Ph.D. (Illinois)-1977.

Associate Professors

Kimmerle, Marliese; B.A., B.P.H.E. (Queen's), M.A., Ph.D. (Michigan)-1969.

Holman, Margery J.; B.A., B.P.H.E., (Windsor), M.Ed. (Wayne State), Ph.D. (Michigan State)-1970.

Kenno, Kenji A.; B.P.H.E. (Lakehead), M.H.K., (Windsor), Ph.D. (Toledo)-1984.

Paraschak, Victoria A.; B.P.E. (McMaster), M.H.K. (Windsor), Ph.D. (Alberta)-1984.

Weir, Patricia L.; B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)-1991.

Potvin, James R.; B.H.K. (Windsor), M.Sc., Ph.D. (Waterloo)-1997.

Andrews, David M.; B.P.E., M.Sc. (McMaster), Ph.D. (Waterloo)-2000.

Martyn, Scott G.; B.A., M.A., Ph.D. (Western Ontario)-2000.

Munroe, Krista J.; B.A. (Prince Edward Island), M.A. (Queen's), Ph.D. (Western Ontario)-2001.

Taks, Marijke; B.Sc., M.Sc., Ph.D. (Leuven)-2001.

Assistant Professors

Jakobi, Jennifer; B.H.K. (Windsor), M.Sc. (York), Ph.D. (Western Ontario)-2003.

Adjunct Professor

Hoshizaki, Blaine; B.P.E. (Calgary), M.A. (South Alabama), Ph.D. (Illinois)-1996.

Adjunct Assistant Professor

Mainwaring, Linda T.; B.H.K., M.H.K. (Windsor), Ph.D. (York)-1997.

DIVISION OF ATHLETICS AND RECREATIONAL SERVICES

Ancillary Academic Staff IV

Fairall, Dennis; B.A., B.Ed. (Western Ontario), M.H.K. (Windsor)-1985.

Ancillary Academic Staff III

Havey, J. Michael; B.P.E., M.P.E. (Ottawa)-1991.

Ancillary Academic Staff II

Morencie, Michael; B.A. (Windsor)-1998.

Risnita, Georgia; B.A. (Windsor), M.Ed. (Victoria)-1999.

Ancillary Academic Staff I

Douglas, Marilyn; B.P.A.S. (Regina)-2000.

9.1 Programs of Study

The emphasis in the Bachelor of Human Kinetics degree is on providing students with an understanding of human physical activity in its broadest sense, rather than upon the details of professional practice and teaching methodologies.

A Bachelor of Human Kinetics degree may be earned either through a regular, eight-term program of study, or through the twelve-term Co-operative Education Program, which combines classroom and related work term experiences. In both programs, students follow a common core of Kinesiology and other courses and then specialize in one of two honours Majors: Movement Science or Leisure and Sport Management.

Areas of Study

Requirements for degree programs in Kinesiology make reference to the following groups of courses:

Bachelor of Human Kinetics "Core" Courses: 95-210, 95-211, 95-220, 95-230, 95-240, 95-250, 95-260, 95-265, 95-269, 95-270, 95-280, 95-285, and 55-204.

Movement Science Major Courses: 95-301, 95-302, 95-310, 95-333, 95-360, 95-362, 95-370, 95-374, 95-380, 95-400, 95-410, 95-453, 95-460, 95-463, 95-465, 95-471, and 95-480.

Leisure and Sport Management Major Courses: 95-311, 95-320, 95-340, 95-345, 95-350, 95-351, 95-355, 95-405, 95-440, 95-450, 95-451, 95-452, 95-454, 95-473, 95-476, and 95-498.

Practice, Theory, and Analysis Courses: 95-381 through 95-398.

Any remaining courses numbered 95- not included in the groups above are available to students in any Kinesiology major, subject to individual course requirements.

Upon completion of the Human Kinetics "Core" requirements, students will select a major from Movement Science or Leisure and Sport Management. This selection must be done through the Office of the Registrar prior to registration for the fifth semester, or at the end of the fourth semester.

Kinesiology courses at the 300 and 400 levels are restricted to students who have declared their major in either Movement Science or Leisure and Sport Management. Students from other Faculties(3rd year or above) may take these courses with permission of instructor.

The usual sequence of "Core" courses through the first four academic semesters is:

FIRST YEAR

95-210, 95-211, 95-230, 95-240, 95-265, 95-280, and 55-204, and three non-Kinesiology options, at least one of which should be a Science.

SECOND YEAR

95-220, 95-250, 95-260, 95-269, 95-270, 95-285, and four non-Kinesiology options, at least one of which should be a Science.

9.1.1 BACHELOR OF HUMAN KINETICS (HONOURS KINESIOLOGY) MOVEMENT SCIENCE MAJOR

Students selecting this major will be interested in entering the general field of science as it relates to human activity as teachers, exercise consultants, sport therapists, athletic trainers, ergonomic specialists in the biomechanics of movement, and human performance specialists in motor development and memory. This program is recognized by the Ontario Kinesiology Association. Those interested in graduate studies in Movement Science should select this major. Graduates are also qualified to enter a Faculty of Education.

Total courses: forty.

Major requirements: twenty courses, consisting of the Human Kinetics "Core" and seven non-Kinesiology options, at least two of which must be Sciences. In addition, twelve Movement Science Major courses are required. Eight more courses are to be chosen as follow:

(a) four courses from Science, Engineering, Nursing, or Psychology;
(b) four courses from Science, Engineering, Psychology, Nursing, or Human Kinetics (95-).

Of the eight courses in (a) and (b) above, at least six must be at the 200 level or above, and only one of Psychology 46-223, 46-224, 46-225, or 46-323 is permitted.

9.1.2 BACHELOR OF HUMAN KINETICS (HONOURS KINESIOLOGY) LEISURE AND SPORT MANAGEMENT MAJOR

Students completing this major will be interested in examining leisure from a social science perspective and/or preparing for employment opportunities related to the administration of leisure, sport and physical activity programs. Graduates typically assume positions with government agencies, municipal recreation, units, public and private recreation units, public and private recreation centres, and amateur or professional sports organizations. Graduates also are prepared to enter graduate school or a faculty of education.

Total courses: forty.

Major requirements: twenty courses, consisting of the Human Kinetics "Core", and seven non-Kinesiology options. In addition, twelve additional Leisure and Sport Management Major courses are required. Eight more courses are to be chosen as follow:

(a) four courses from any area of study, including Human Kinetics (95-);
(b) four courses from any area of study, excluding Human Kinetics (95-).

Of the eight courses in (a) and (b) above, at least six must be at the 200 level or above,

9.1.3 CO-OPERATIVE EDUCATION PROGRAM IN KINESIOLOGY

The Co-operative Education Program is designed for highly motivated students who wish to develop their skills, increase their knowledge, and gain career-related experience. Students must first be admitted to Kinesiology and are eligible to apply then for the twenty-five available co-op openings in the Fall of their first term of study.

The following criteria have been established to evaluate such applications:

1) academic achievement based on fall term marks;
2) previous volunteer and paid work experience;
3) an application form and resume;
4) an interview with the student.

Admission decisions will be made in the Winter term of the student's first year of study.

Co-operative Program students must complete the course requirements for one of the two Kinesiology majors and also register during their work terms in courses 95-299, 95-399, and 95-499 successively. Each work term will be graded on a Pass/Fail basis as the result of a work experience and the work term report which is submitted to and graded by a Faculty member.

A Co-operative Program fee is charged in each term beginning with the Winter term of Year 2. The fee is not a job-placement fee, but is levied to help defer the administrative costs associated with the program.

WORK/STUDY SEQUENCE

Option One

FIRST YEAR
Fall Term: Study term.
Winter Term: Study term.
Summer Term: Off.

SECOND YEAR
Fall Term: Study term.
Winter Term: Work term.
Summer Term: Study term.

THIRD YEAR
Fall Term: Work experience.
Winter Term: Study term.
Summer Term: Work term or optional term.*

FOURTH YEAR
Fall Term: Study term.
Winter Term: Study term.
Summer Term: Work term or optional term.*

FIFTH YEAR
Fall Term: Study term.

*The requirement of a third work term may be fulfilled in the Summer of either the third or fourth year.

Option Two: Fast-Track

Students wishing to complete their co-op degree in Kinesiology may do so in four years. This requires careful planning and scheduling. Students wishing to "fast-track" through their co-op degree are advised to meet with the faculty contact for co-op in Human Kinetics to discuss a strategy.

9.2 Course Descriptions

Not all courses (200 level) listed will necessarily be offered each year.

Kinesiology "Core" courses (200 level) are restricted to students registered as Kinesiology majors.

For Kinesiology major courses (300 & 400 level) non-Kinesiology majors may be admitted only with the permission of instructor.

All courses are three hours a week (3.00 credit hours) unless otherwise indicated.

95-103. Introduction to Kinesiology
This course will present an overview of the sociocultural and biophysical sub-disciplines that comprise Kinesiology. Treatment of each sub-discipline will highlight the history of the area, the current state of research and the practical application of principles in Kinesiology to sport, the workplace and activities of daily living. (Open only to non-Kinesiology majors.)

95-210. Human Performance
An examination of the role perception and cognition play in our ability to sense, attend to, process, and transmit information during the performance of any motor skill. The course will focus on an information processing approach to examine the processes that underlie our ability to perform motor skills.

95-211. Principles of Mental Skills Training
This course surveys the psychological principles underlying cognitive techniques that can be used to improve performance and enjoyment in physical activity environments such as sport and exercise. Among the topics to be explored will be goal setting, anxiety control, and attentional focus.

95-220. Philosophy of Sport and Physical Activity
An examination of the philosophical basis of sport and physical activity. Students will begin to formulate a personal philosophy of sport and physical activity.

95-230. Sociology of Sport and Physical Activities
An examination of the relationship between sport and society from a variety of perspectives. This examination will include the interaction of sport with other societal institutions and with various social determinants.

95-240. Historical Perspectives on Physical Activity and Sport in Western Civilization
This introductory course presents an overview of the significance of physical activity and sport in Western Civilization from ancient Greece to the present by specific reference to selected topics in different eras through which the particular society may be examined. Within this framework, the relationship of physical activity and sport to such factors as economics, politics, and religion will be emphasized, as will its contribution to the culture.

95-250. Principles of Sport Management
An introduction and analysis of the effective approaches governing the organization and administration of physical activity and sports programs. Areas of study involve management and programming of physical education and sports programs; finances and budgets; equipment and supplies; planning of indoor and outdoor facilities; time management; and public and human relations.

95-260. Physiology of Fitness
An introduction to the physiological systems and the adjustments seen as a result of exercise and exercise training. General topics areas include examination of how aerobic and anaerobic metabolism operate and respond to exercise energy demands, cardio-respiratory responses and adaptations, body composition, and training principles.

95-265. Functional Anatomy
An in-depth study of the human musculoskeletal system. Emphasis will be placed on the components of skeletal, muscular, and nervous systems. Joint articulations will be covered in detail. (2 lecture, 2 laboratory hours a week.)

95-269. Measurement and Evaluation
An introduction to descriptive and basic inferential statistical techniques with special emphasis on evaluation of data in the various Kinesiology sub-disciplines. (2 lecture, 2 laboratory hours a week.)

95-270. Research Design
A preliminary course to acquaint the student with proper experimental designs and research paper writing. Statistical interpretation and application are included. Current research topics will be included. (2 lecture, 2 laboratory hours a week.)

95-280. Fundamental Mechanics of Human Motion
Presents the quantitative fundamentals of mechanics as they apply to movements of the human body and the sport implements it handles.

95-285. Human Growth and Development
A general analysis of the physical, physiological, and psycho-motor development of the individual from conception to adolescence. Special emphasis will be placed on identifying age-appropriate physical activities for children.

95-299. Co-op Work Experience I
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course cannot continue in the co-op program.)

95-301. The Use and Abuse of Drugs
A concentrated study of the actions and effects of drugs, with special emphasis on the use, abuse, and/or involvement of drugs in today's sporting world.

95-302. Exercise and Fitness Psychology
An examination of the psychological processes by which healthy and unhealthy behaviours related to physical activity develop and the methods by which behavioural change can be encouraged. Emphasis will be placed on exercise, nutrition, and injury as factors in health-related physical fitness.

95-310. Motor Learning and Control
An examination of the processes which underlie the acquisition and control of goal directed human movement. Emphasis will be placed: 1) the factors that affect learning (feedback, attention, memory) and, 2) the simultaneous integration and coordination of body parts involved in movement execution and control. Laboratory experiences will focus on the application of theoretical premises to activities of daily living. (2 lecture, 2 laboratory hours a week.)

95-311. Psychology of Leisure
This course examines the psychological aspects of decisions to begin, persist at, and withdraw from leisure activities of interest to physically active people. Among the topics to be discussed will be fitness and nutritional behaviours, recreational sport, traditional forms of movement such as dance and the martial arts, travel and tourism, and the relationships of all of these to the world of work.

95-320. Ethics in Sport and Physical Activity
A philosophical analysis of sport and physical activity with emphasis on ethical aspects. Ethical theories will be studied as a basis for assessing and understanding decisions and actions of coaches, athletes, officials, and executive members. Case studies covering problem areas will be utilized to enable the student to analyze these decisions and actions.

95-333. Applied Sport Psychology
An examination of the processes by which individual and team athletic performance can be enhanced using mental training techniques based on applications of cognitive and social psychology. Emphasis will focus on individual attentional, anxiety and affect management, and team dynamics.

95-340. History of the Modern Olympic Movement
An examination of the historical development of the Modern Olympic Movement. Areas covered include politics, nationalism, gender, commercialism, marketing, and amateurism. The contributions of various athletes and administrators who have helped to shape Olympic history will also be assessed.

95-345. Sport Marketing
An application of marketing concepts and activities to the sports domain. Topics include product development, promotions, advertising, publicity, pricing, licensing, market segmentation, and research, as well as the development of a marketing plan for a sport/recreation organization.

95-350. Organizational Behaviour
An introduction to the social psychological parameters of sport administration. This course will focus upon the integration of decision-making, communication, administrative behaviour, motivation, satisfaction, authority, conflict, etc., as each interacts and contributes to improve the effectiveness of the administrative process.

95-351. Strategic Planning of Sport Events
A study of the strategies and techniques involved in planning and running various intramural-recreational, extramural, and sport events for different environments in the community. Special emphasis will be given to scheduling; pre-event preparation; management of events; program of activities; personnel involved; and structuring tournaments and competitions.

95-355. Socio-Economic Aspects of Sport and Leisure
An introduction to the interaction of sport and economics. A socio-eco-

nomic approach is taken to examine such topics as the demand for sport and leisure activities, and sport consumer behaviour.

95-360. Physiology of Exercise
To examine the biochemical/physiological systems of the body responsible for maintaining optimal utilization/biosynthesis of metabolic intermediates during rest, acute exercise, prolonged exercise, and altitude. Also to examine the interaction of metabolism, ventilation, and kidney function during rest/exercise challenges in particular acid-base balance at sea level and altitude. (2 lecture, 2 laboratory hours a week.)

95-362. Human Factors and Work Performance
This course will introduce students to the effects of human factors on performance in the workplace. Human performance at work will be explored as a function of: information processing; memory and attention; anthropometry and human variability; health and safety; shift scheduling; the design of displays and controls; and environmental factors including lighting, sound, vibration, and temperature.

95-370. Scientific Basis of Conditioning
A study of current concepts in conditioning theories and physiological evaluation. Included in this course are assessment techniques, program design, and other factors affecting physical performance. (2 lecture, 2 laboratory hours a week.)

95-374. Movement for Young Children
Designed to introduce students to movement theories and their application to gymnastics, dance, and games for young children. (2 lecture, 2 laboratory hours a week.)

95-380. Biomechanics of Human Locomotion
An applied biomechanics course focusing on various aspects of human gait. Particular emphasis will be placed on gait patterns in sport and leisure activities, in the work place, and in activities of daily living. In addition, the course will cover selected topics associated with abnormal gait. (2 lecture, 2 laboratory hours a week.)

Enrollment in Practice, Theory, and Analysis courses (95-381 through 96-398) is restricted to third- and fourth-year Kinesiology majors, with Semester 7 and 8 majors being given preference up to any enrollment limit. Space permitting, non-Kinesiology students may take these courses with permission of the instructor.

95-381. Practice, Theory, and Analysis of Urban Outdoor Recreation
Utilizing sociological, historical, and philosophical viewpoints this course examines the concept of wilderness, specifically within an urban setting. Using Essex County as the "urban setting," students will explore the breadth of possible recreation activities available and consider their relevance to a broader understanding of recreation, wilderness, and ourselves. (2 lecture, 2 laboratory hours a week.)

95-382. Practice, Theory, and Analysis of Golf
Combining physical and analytical techniques this course will assist students to understand and execute golf skills, enhance their abilities in error detection and correction, understand strategy and course management, and be aware and appreciative of golf rules and etiquette. (Additional fee applies.) (2 lecture, 2 laboratory hours a week.)

95-383. Practice, Theory, and Analysis of Hockey
Combining physical and analytical techniques this course will assist students to understand and execute hockey skills, enhance their abilities in error detection and correction, and understand and apply the strategies to the offensive, neutral, and defensive zones. (Additional fee applies.) (2 lecture, 2 laboratory hours a week.)

95-388. Practice, Theory, and Analysis in Football
The performance of selected football skills with a special emphasis on an applied mechanical analysis. Also involved will be an indepth study of modern offensive and defensive teams and the kicking game. Other areas of study will concentrate on scouting practices and practice planning principles. (2 lecture, 2 laboratory hours a week.)

95-391. Practice, Theory, and Analysis of Dance: Sociocultural Study of Dance
A study of the origins, historical development, and function of dance in Western society. Practical laboratory experience will be given in folk, ballroom, and contemporary dance material. (2 lecture, 2 laboratory hours a week.)

95-392. Practice, Theory, and Analysis of Basketball
This course combines improvement of individual offensive and defensive skills, application of mental and physical training principles by which basketball performance can be enhanced, rules of the game, and awareness of strategic concepts by which individuals and teams compete. (2 lecture, 2 laboratory hours a week.)

95-394. Practice, Theory, and Analysis of Volleyball
Combining physical performance and analytical techniques, this course will assist students in the understanding of skill execution for each of the components of volleyball, enhance their ability to identify and correct errors in execution of skills, and apply the skills to the offensive and defensive strategies of the game. (2 lecture, 2 laboratory hours a week.)

95-395. Practice, Theory, and Analysis of Aquatics
This course introduces students to the main components of aquatics. It will assist them in understanding the basic execution of the various swimming stroke. Students will develop their ability to identify and correct errors in the execution of swimming skills, plus be introduced to the basic aspects of water safety and lifesaving skills. (2 lecture, 2 laboratory hours a week.)

95-397. Practice, Theory, and Analysis of Track and Field
This course introduces students to the science of track and field. They will be introduced to all track and field events and the progressions associated with each event. Students will be expected to illustrate basic movements for each event and analyze skill movements for all track and field events. (2 lecture, 2 laboratory hours a week.)

95-398. Practice, Theory, and Analysis of Physical Fitness
This course introduces students to the main components of fitness instruction. Anatomy, exercise physiology, program design, leadership,

and safety will be reviewed with direct application to fitness instruction. Students will have the opportunity to develop the ability to apply theoretical information to practical exercise experiences. (2 lecture, 2 laboratory hours a week.)

95-399. Co-op Work Experience II
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course cannot continue in the co-op program.)

95-400. Human Movement and Aging
An examination of the physiological, sensory, muscular, and cardiorespiratory mechanisms underlying age-related changes in human movement and motor control. These issues will be explored from cellular to whole-body perspectives incorporating current theoretical approaches to aging. Emphasis will be placed on integrating the role of physical activity into explaining age-related changes in cognition and activities of daily living.

95-405. Gender Issues in Sport
A comprehensive overview of the status of women in sport with a view towards understanding the influence of gender upon women and men as consumers of sport in North American culture.

95-410. Physical Activity for Special Populations
An examination of populations that have special needs in the area of physical activity (sensory, cognitive, musculo-skeletal impairment). Emphasis will be placed on defining the characteristics of the population, the needs and strengths of each population, and matching the strengths with the appropriate physical activities. Issues of integration, programming, and environmental adaptation will also be considered. Laboratory experiences will focus on the application of the theoretical information. (2 lecture, 2 laboratory hours a week.)

95-440. History of Sport in Canada
An examination of the issues and topics related to the historical evolution of sport in Canada. Areas of study include methodology, social class, geography, immigration, native sport, urbanization, industrialization, religion, gender, economics, and government involvement.

95-450. Human Resources in Sport Management
An introduction to the tools and systems available for effective decision-making in sport organizations. Topics include sport planning, employee selection and evaluation, time management, compensation, benefits, labour relations, career planning, and problem solving.

95-451. Sport and the Law
Introduces students to the principles of law as they relate to Human Kinetics. The principles of law will be related to sport or athletic administration, and to instruction and supervision as it relates to physical and health education and field activities, interscholastic and intercollegiate programs, as well as, other recreational and leisure pursuits.

95-452. Sport and Government
An analysis of national and international sport in the context of government involvement at the provincial and national levels.

95-453. Perceptual-Motor Development
This course examines perceptual-motor development of infants and children, bringing together theoretical perspectives from psychology, biology, neuroscience, biomechanics, and ethnology. An interdisciplinary perspective is used to study the interaction of developmental processes. The emergence, normal development, and assessment of selected perceptual-motor skills will be examined in detail. (2 lecture, 2 laboratory hours a week.)

95-454. Co-operation and Conflict in Sport
Group interactions in athletics tend toward conflict. An investigation of sport and athletic organizations, their goals, methods of attaining these goals, and obstacles to such achievement. Special emphasis on individual and group interactions.

95-460. Cardiovascular Physiology
The study of the cardiovascular system, anatomy, electrophysiology, mechanics, and responses to stressors. (2 lecture, 2 laboratory hours a week.)

95-463. Applied Neurophysiology
Mechanisms underlying human movement in healthy, diseased, aged and trained states will be examined by studying the integrated actions of the neural, somatosensory and motor systems. Emphasis will be placed upon sensory transduction, reflexes and the descending motor system.

95-465. Ergonomics and Injury-Prevention
Examination of topics in applied ergonomics as they pertain to reducing the risk of musculoskeletal injuries in the workplace. Students will gain practical experience in applying quantitative and qualitative ergonomic assessment tools. Topics include: the mechanisms of upper limb and low back injuries, the principles of redesigning operations to reduce injury risk, and techniques for optimizing the feasibility that ergonomic changes will be implemented. Includes experience in an occupational setting. (2 lecture, 2 laboratory hours a week.)

95-471. Physiological Basis of Sports Therapy
A physiological examination of athletic injuries and their therapy. Topics to include the prevention of and pathology of injuries, as well as the care of injuries and rehabilitation techniques. (Additional laboratory fee applies.) (2 lecture, 2 laboratory hours a week.)

95-473. The Social Construction of Leisure
An examination of leisure as a social activity which is shaped by various societal institutions and social relations.

95-475. Individual Studies
The student will select an approved topic and under direction investigate and report on it. (Prerequisite: consent of the instructor is required at

least three weeks prior to the end of the Fall or Winter term preceding the term in which enrollment is anticipated.) (Hours to be arranged.)

95-476. Principles of Coaching
A critical study of various issues that confront the modern-day coach. Areas of study involve effective coaching techniques; person attributes; motivation and discipline approaches; dealing with problem athletes; and coach-player communication. Stress will be placed upon developing a sound beginning philosophy of coaching, along with looking at the coach as a professional person.

95-477. Outdoor Recreation
Through guided discovery and experiential learning, this course provides knowledge about the outdoors as an alternative recreational medium that fosters deeper awareness of nature, wilderness, and ourselves. Offered in the Fall term before the start of classes. (Prerequisite: demonstrated swimming competence.) (Additional fee applies.)

95-480. Advanced Biomechanics
Introduces students to advanced concepts and techniques required in quantitative biomechanical analysis. (2 lecture, 2 laboratory hours a week.)

95-490. Special Topics
Courses in which current topics associated with Kinesiology are examined.

95-498. Internship
A supervised, project-driven work experience in an approved setting. The experience will be expected to provide students with an enriched learning opportunity to integrate theory and practice. Internships are open to 4th year Kinesiology students from either major. (Offered on a Pass/Non-Pass basis.) (Prerequisite: consent of the instructor is required at least three weeks prior to the end of the Fall or Winter term preceding the term in which enrollment is anticipated.) (9 hours a week.)

95-499. Co-op Work Experience III
Supervised experience in an approved career-related setting with a focus on the application of theory and the development of transferable skills. The co-op work experience is designed to provide students with an enriched learning opportunity to integrate academic theory and concepts in an applied setting. (Prerequisite: Student must be enrolled in a co-operative education program. Offered on a Pass/non-Pass basis. Supervised practicum requires the successful completion of a minimum of 420 hours. Students who do not pass the course cannot continue in the co-op program.)

10 FACULTY OF LAW

(Ext. 2925)

Dean

Bruce P. Elman; B.Sc.(McGill), LL.B. (Dalhousie), LL.M. (Harvard).

Associate Dean

Gold, Mary; B.A., M.A. (Windsor), M.A. (Wayne State), J.D. (Detroit).

OFFICERS OF INSTRUCTION

Honorary Professors

Zuber, Thomas; B.A. (Assumption), D.C.L. (Honoris Causa) (Windsor). The Honourable Thomas Zuber served as a member of Faculty prior to entering his judicial career.

Professors Emeriti

Whiteside, John W.; Q.C., L.S.M. D.C.L. (Honoris Causa) (Windsor), B.A. (Assumption), LL.B., (Osgoode) of Osgoode Hall, Barrister-at-Law-1970.

Manzig, John G.W.; LL.B., LL.M. (Dalhousie), Lic. Jur., Dr. jur. (Cologne), of Osgoode Hall, Barrister-at-Law, also of the Bar of Nova Scotia-1970.

Marasinghe, M. Lakshman; LL.B., LL.M. (University College, London), Ph.D. (The School of Oriental and African Studies, London), LL.D. (Honoris Causa) (University of Columbo), of the Inner Temple, England, Barrister-at-Law, and Attorney-at-Law of the Supreme Court of Sri Lanka. Professor Marasinghe is also an Adjunct Professor of Law, University of New South Wales, Sydney, Australia-1970.

Professors

Stewart, George R.; B.A. (Carleton), LL.B. (Ottawa), LL.M. (L.S.E., London), of Osgoode Hall, Barrister-at-Law-1970.

Menezes, Julio R.; LL.B. (Tanzania), LL.M. (Yale), of Osgoode Hall, Barrister-at-Law-1973.

Wydrzynski, Christopher J.; B.A., LL.B. (Windsor), LL.M. (Osgoode), of Osgoode Hall, Barrister-at-Law-1975.

Wilson, Larry C.; LL.B. (Saskatchewan), LL.M. (Manitoba), of Osgoode Hall, Barrister-at-Law-1976.

Murphy, Paul T.; B.A., LL.B. (Windsor), M.Sc.L.S., M.Ur.Pl. (Wayne State), of Osgoode Hall, Barrister-at-Law-1976. (Law Librarian)

Conklin, William E.; B.A. (Hons.) (Toronto), M.Sc. (L.S.E., London), LL.B. (Toronto), LL.M. (Columbia), Ph.D. (York), of Osgoode Hall, Barrister-at-Law-1977.

Mazer, Brian M.; B.A., LL.B. (Saskatchewan), LL.M. (Alberta), of Osgoode Hall, Barrister-at-Law-1977.

Bogart, William A.; B.A., LL.B. (Toronto), LL.M. (Harvard), of Osgoode Hall, Barrister-at-Law-1980.

Carasco, Emily F.; LL.B. (Makerere University), LL.M., S.J.D. (Harvard), of Osgoode Hall, Barrister-at-Law-1980.

Irish, Maureen F.; B.A., LL.B. (Toronto), LL.M., D.C.L. (McGill), of Osgoode Hall, Barrister-at-Law-1980.

Berryman, Jeffrey; LL.B. (Hons.), M.Jur. (Auckland, N.Z.), LL.M. (Dalhousie), of Osgoode Hall, Barrister-at-Law. Also Barrister and Solicitor of the High Court of New Zealand-1981.

Gold, Neil; B.A. (York), LL.B. (Toronto), LL.M. (York), of Osgoode Hall, Barrister-at-Law, also of the Bar of British Columbia-1985. (Provost and Vice-President, Academic of the University)

West, J. Leigh; L.S.M., B.A. (Queen's), LL.B. (McGill), M.Sc. (Iowa State), LL.M. (Wayne State), of Osgoode Hall, Barrister-at-Law-1986.

Etherington, Brian D.; B.A. (Hons.) (McMaster), B.Ed. (Queen's), LL.B. (Queen's), LL.M. (Yale), of Osgoode Hall, Barrister-at-Law-1987.

Moon, Richard J.; B.A. (Trent), LL.B. (Queen's), B.C.L. (Oxford), of Osgoode Hall, Barrister-at-Law-1987.

Tawfik, Myra J.; B.A., LL.B., B.C.L. (McGill), LL.M. (Queen Mary College, University of London), of Osgoode Hall, Barrister-at-Law, Member of the Bar of Quebec-1991.

Valiante, Marcia A.; B.Sc., B.A. (New Hampshire), LL.B. (Osgoode), LL.M. (Queen's), of Osgoode Hall, Barrister-at-Law-1992.

Macfarlane, Julie; B.A., LL.M. (London), Ph.D. (C.N.N.A.)-1996.

Rotman, Leonard I.;B.A. (Toronto), LL.B. (Queen's), LL.M. (York), S.J.D. (Toronto), of Osgoode Hall, Barrister-at-Law-1998.

Elman, Bruce P.; B.Sc. (McGill), LL.B. (Dalhousie), LL.M. (Harvard) - 2000. (Dean of the Faculty of Law)

Associate Professors

James, D. Charles; B.A. (Law) (Hons) (Southampton), LL.B. (Hons) (Cambridge), of Osgoode Hall, Barrister-at-Law-1977. (Secretary and General Counsel to the University)

Weir, John P.; B.Comm. (Hons.) (McMaster), LL.B. (Queen's), LL.M. (York), of Osgoode Hall, Barrister-at-Law-1983.

Eansor, Donna M.; LL.B. (Windsor), LL.M. (Wayne State), of Osgoode Hall, Barrister-at-Law-1989.

Voyvodic, Rose; LL.B. (Windsor), LL.M. (Ottawa), of Osgoode Hall, Barrister-at-Law-2002. (Academic Director of the Clinical Law Programs)

Assistant Professors

Tanovich, David; B.A., M.A. (Toronto), LL.B. (Queen's), LL.M. (N.Y.U.), Barrister-at-Law-1995.

Kuras, Ruth O.; B.Sc. (McMaster), B.A., LL.B. (Windsor), LL.M. (Wayne State), of Osgoode Hall, Barrister-at-Law-1999.

Ocheje, Paul D.; LL.B. (Ahmado Bello), LL.M. (Benin), LL.M. (Osgoode), D.Jur. (Osgoode). Barrister and Solicitor of the Supreme Court of Nigeria-2000.

Wiseman, David; LL.M. (Toronto), B.Ed./LL.B. (Monash University), Barrister and Solicitor of the Supreme Court of Victoria-2001.

Bahdi, Reem: B.A., M.A. (Western), LL.B, LL.M. (Toronto)-2002.

Pillay, Sukanya; B.A., LL.B. (Windsor), LL.M. (New York University), of Osgoode Hall, Barrister-at-Law-2002.

Legal Research and Writing Lecturers

Denholm, Thomas J.; ons. B.B.A. (Wilfrid Laurier), LL.B. (Queen's), LL.M. (Michigan) of Osgoode Hall, Barrister-at-Law.

Harper, Merry; Hons. B.A. (Western), M.L.I.S. (Western), LL.B. (Manitoba), M.A. (Windsor) of Osgoode Hall, Barrister-at-Law, also of the Bar of Manitoba.

McCarney, Moira; B.A. (Carleton), M.Ed. (Queen's), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law.

Law Library Staff

Murphy, Paul T.; B.A., LL.B. (Windsor), M.S.L.S., M.U.P. (Wayne State), of Osgoode Hall, Barrister-at-Law. (Law Librarian)

Willmott, Kenneth B.; B.A. (University of Alberta), B.Ed. (Ottawa), M.A. (Dalhousie), M.L.I.S. (Western Ontario). (Reference Librarian)

Adjunct Professors

Nosanchuk, Justice Saul, Ontario Court of Justice; B.A. (Assumption), LL.B (Osgoode). (Special Lecturer in Criminal Procedure and Criminal Sanctions)

Phillips, Justice Douglas, W., Ontario Court of Justice; B.A. (Western Ontario), LL.B. (Windsor). (Special Lecturer in Family Law, Child Protection, Custody and Adoption, and Civil Trial Advocacy)

Law Foundation of Ontario Access to Justice Fellow

George, Ron; B.A., LL.B. (Western Ontario), LL.M. (Ottawa), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Aboriginal Law)

Access to Justice Fellow

Hecht, Mark; B.A. (McGill), B.I.A. (Concordia), LL.B. (Windsor) of Osgoode Hall, Barrister-at-Law.

Special Lecturers

Bondy, Christopher; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in International Business Transactions)

Brode, Patrick; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Legal History)

Campbell, Gregory; LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy)

Campigotto, Mary Jane; B.Sc.N., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Administrative Law)

Colautti, Raymond G.; LL.B. (Windsor), Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy)

Cross, Victoria; B.A., LL.B. (Windsor), LL.M. (King's College), Barrister-at-Law-2002. (Special Lecturer in Environmental Law)

DeMarco, Justice Guy; Ontario Court of Justice, B.A. (Western Ontario), LL.B. (Windsor). (Special Lecturer in Criminal Law)

Ducharme, Patrick; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at Law. (Special Lecturer in Criminal Advocacy and Criminal Procedure)

Foulds, David S.; B.A., B.P.H.E. (Queen's), LL.B., M.B.A. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Criminal Law)

Gold, Marlene; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Legal Profession)

Goldstein, William; B.A., LL.B. (Windsor) of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy)

Guttman, Daniel; B.S.C. Eng (Queen's), J.D./LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Constitutional Litigation)

Harrison, Denis; B.A. (Western Ontario), LL.B (Toronto), Barrister-at-Law. (Special Lecturer in Criminal Law)

Hecht, Mark; B.A. (McGill), D.I.A. (Concordia), LL.B. (Windsor) of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Child and the Law)

Henshaw, Cheryl; B.Sc. (Toronto), LL.B. (Western Ontario), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy).

Hewitt, Jeff; B.A., M.A., LL.B. (Windsor), Barrister-at-Law-1995. (Special Lecturer in Civil Procedure)

Howard, J. Paul R.; B.A., LL.B. (Toronto), LL.M. (York), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Education Law)

Istl, Danielle; B.A., B.Ed, LL.B. (Windsor). (Special Lecturer in Applied Legal Theory and Analysis - J.D./LL.B. program)

Lessard, Wayne; B.A., LL.B. (Windsor), Barrister-at-Law-1982. (Special Lecturer in Environmental Law)

Libman, Justice Rick, Ontario Court of Justice; B.A. (York), LL.B. (Windsor), LL.M. (Ogsoode Hall),of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Advanced Criminal Law)

MacOdrum, Donald H.; B.A. (Queen's), LL.B. (Toronto), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Patent Law)

Manoochehri, David; B.A. (Waterloo), LL.B., M.B.A. (Windsor), LL.M. (Toronto), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Advanced Taxation)

McNevin, David; B.A., LL.B. (Windsor), Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy)

Munroe, Kirk W.; B.A. (University of Florida), J.D. (Boston University School of Law), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in International Criminal Law)

Nolan, Master Mary Jo; B.A. (Toronto), M.S.W. (Ottawa), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law, Master of the Ontario Superior Court of Justice. (Special Lecturer in Civil Trial Advocacy)

Pawley, Howard; P.C., O.C, O.M., Q.C.; B.A. (Winnipeg), LL.B. (Manitoba), LL.D. (Windsor). (Special Lecturer in Canadian Federalism)

Posliff, Edward J.; B.A. (Windsor), LL.B. (York), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy)

Riley, Christine; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Real Estate)

Robins, David L.; B.A. (Hons) (McGill), M.A. (Concordia University), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Class Action Suits)

Rose, Stephen; B.Comm. (Dalhousie), LL.B. (York), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Corporate Finance)

Sasso, William; B.A., LL.B. (Western), Barrister-at-Law-1970. (Special Lecturer in Torts)

Sterling, Lori; B.A. (Hons) (Queen's), LL.B. (Toronto), LL.M. (Cambridge), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Constitutional Litigation)

Strosberg, Harvey T.; B.Sc. (Windsor), LL.B. (Osgoode Hall), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Class Action Suits)

Stitt, Allan; B.Comm. (Toronto), LL.B. (Windsor), J.D. (Detroit-Mercy), LL.M. (Harvard), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Alternative Dispute Resolution)

Swan, Georgia; B.A. (Toronto), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Income Taxation)

Vale, Marcy; H.B.Sc. (Toronto), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law-1995. (Special Lecturer in Civil Trial Advocacy)

Van Wees, Aïda M.; B.A. (York), M.B.A./LL.B. (Windsor), LL.M. (Osgoode Hall), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Alternative Dispute Resolution)

Wells, Peter; B.Sc., LL.B.(Queen's), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Patent Law)

Whitmore, Elinore; B.A. (Queen's), LL.B., LL.M. (York), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Alternate Dispute Resolution)

Wilkki, George A.; B.A.Sc., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Real Estate Transactions)

Wong, Gerri; B.A. (McGill), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law. (Special Lecturer in Civil Trial Advocacy).

Executive Director of Legal Assistance of Windsor and Community Legal Aid

Rodenhurst, Brian; Hons. B.A. (Guelph), LL.B. (Windsor), Barrister-at-Law-1978.

Legal Assistance of Windsor

McDermott, Carol A.; B.A. (Waterloo), M.L.S. (Western), LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law, staff lawyer.

Overholt, Marion; B.A., LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law, staff lawyer

Gilbert, Shelley; B.S.W. (Windsor), Coordinator of Programs.

Ware, Joy; B.S.W., B.Ed. (Windsor), staff social worker.

Community Legal Aid

Faddoul, Rose; Hons. B.A., LL.B.(Windsor), Barrister-at-Law-1999.

Yaworsky, James; B.A., LL.B. (Toronto), of Osgoode Hall, Barrister-at-Law. Review Counsel. (Special Lecturer in Landlord/Tenant)

Director of University of Windsor Mediation Service

Smythe, Gemma; Hons. B.A. (Western), LL.B. (Windsor), LL.M. (Osgoode).

Career Development Officer

Herlehy, Francine; LL.B. (Windsor), of Osgoode Hall, Barrister-at-Law.

Alumni and Fund Advancement Officer

Momotiuk, Karen; Hons. B.A, LL.B. (Windsor), Barrister-at-Law-1998.

J.D./LL.B. Program Director

Shea, Virginia J.; B.Comm. (Memorial), LL.B. (Windsor), Barrister-at-Law-2004.

Administrative Staff

Pilutti, Michelle; Assistant to the Dean, Director of Admissions
Obierski, Virginia; Academic Coordinator
Wilson, Helen; Secretary to the Dean
Sollazzo, Lynda; General Office Secretary
Squillaro, Debbie; CADO Secretary
Stein, Sandra; Secretary to the Associate Dean
Willis, Cathy; General Office Secretary
Pratt, Annette; Faculty Secretary
Mitchell, Mary; Faculty Secretary
Brogan, Tanya; Faculty Secretary/Special Projects

10.1 General Information

The Faculty of Law of the University of Windsor was established in 1967, and the first entering class was admitted in September, 1968. Mark R. MacGuigan was its first dean, succeeded by Walter Tarnopolsky, John McLaren, Ron Ianni, Julio Menezes, Neil Gold, Jeff Berryman, Juanita Westmoreland-Traoré and Brian Mazer, each of whom left their personal mark on the Faculty , contributing to the development of a responsive curriculum and meaningful scholarship. On the 1st of July, 2000, Bruce P. Elman was appointed Dean of Law. The Faculty's commitment to community service has created a unique, socially responsive, and responsible institution dedicated to learning. The Faculty has adopted two institutional themes: Access to Justice and Canada-US Legal Issues.

The Ron W. Ianni Faculty of Law building at Sunset Avenue and University Avenue, was opened by then Governor General Roland Michener in 1970, and contains lecture theatres, class and seminar rooms, faculty offices, and facilities which house the 313,565 volumes of The Paul Martin Law Library, The Windsor Yearbook of Access to Justice,a variety of student organizations, the Legal Profession Research Program, the Canadian-American Research Centre for Law and Policy, the University of Windsor Mediation Services and the student-run *Windsor Review of Legal and Social Issues.*

The student body has grown from thirty to approximately 500 since 1968, with a Faculty of 31 to 35 scholar-teachers.

At Windsor, law is viewed as a process aimed at the achievement of social ends and justice. Education in the law assists students to under-

stand how legally educated and trained persons may gainfully contribute to the creation and maintenance of the best possible social order.

The Law Faculty has developed a varied, yet purposive program of study in which law is seen as part of complex and dynamic social processes: law touches all aspects of human endeavour and is, in turn, fashioned by it. Law's connection with the humanities and social sciences is inescapable both in study and in action. Critical theory, social science research methods, and sound intellectual analysis combine to inform the student of law about underlying, fundamental values and beliefs. The resources and insights of the humanities and social sciences permit our students an opportunity to understand that law study is inextricably related to social, political, practical, and theoretical issues. In large measure, law is about getting things done; it is practical in its orientation. At Windsor, theory and practice are not polar extremes along a continuum which separate the practitioner from the academic; practice is seen as the implementation of theory and theory as the positing of, among other things, action.

Recognizing that the discipline of law is complex, our aim is to assist students to acquire intellectual skills and habits of mind suited to law practice and a myriad other careers. They are asked to reflect critically upon the legal system, the legal profession, and the law itself. In doing so, they challenge the assumptions which underlie the status quo and propose options which might better serve the public interest. Since law is tied to all aspects of human relations, law study can and must focus beyond legal doctrine.

Because the environment of the law is rich, supported by community projects, scholarly endeavour, and personal interests, those who participate in its program may pursue a directed, yet personally oriented path for personal and professional development.

The Faculty recognizes the need to be responsive to the challenges of the future and remains flexible about scholarly and curricular endeavour. Its commitment to serve the public need is firm. We at Windsor are proud of our accomplishments in our first thirty years. But we will never rest on our achievements, rather we will build upon them.

The Paul Martin Law Library

The Paul Martin Law Library, with its collection of over 330,000 volumes (including a large microform collection and an audio and video-tape collection), satisfies all student research needs encountered in the study of Canadian law. A rich source of materials is also available for historical and comparative law purposes, dealing with the law of other common law countries, as well as some aspects of select civilian and socialist legal systems.

In addition to exhaustive coverage of Canadian primary legal materials, the library includes good collections of material from Great Britain, certain Commonwealth countries, and the United States. The library's collection of secondary materials, which is drawn largely from the legal literature of the same countries, is also very good.

Use of the Q/L Canadian legal database system is taught by Law Library staff. In addition, training in other computer systems is available: Lexis/Nexis, Westlaw, eCarswell, and other smaller systems, as well as a collection of legal CD-ROM resources.

A well-qualified library staff maintains a program to develop and assist in utilizing this strong, well-balanced collection.

In addition to the facilities of the Paul Martin Law Library, students and faculty have easy access to the Leddy Library of the University of Windsor, with its collection of approximately one and a half million volumes and, in connection with certain courses of study, to other more specialized libraries both in Windsor and Detroit.

10.2 Admissions Policy

For information concerning the current admissions policy and procedures of the Faculty of Law, contact:

Applicant Services (Law Division)
University of Windsor
Windsor, Ontario
N9B 3P4
Phone: 519-253-3000 Ext 6459, 6460, 6461 or 6462
Fax: 519-971-3653
Email: lawadmit@uwindsor.ca

10.3 Programs of Study

10.3.1 BACHELOR OF LAWS (LL.B)

The program leading to the degree of Bachelor of Laws (LL.B.) requires full-time attendance for three years, or half-time attendance for six years.

The first year consists of a core of mandatory courses in all of the fundamental areas, problems, and principles of the law, with somewhat more stress upon public law and perspective courses than upon the traditional, first-year law curriculum.

The second and third years allow some variation in course work and research, while including certain common program requirements.

Details of the program, its regulations, and course descriptions are outlined in the separate Faculty of Law Calendar, which may be obtained from the Law Admissions Office.

10.3.2 M.B.A./LL.B PROGRAM

This program is designed to enable a student to obtain both an M.B.A. and an LL.B. within four years. Successful applicants will pursue first-year studies separately in the Odette School of Business and the Faculty of Law. Years III and IV of the Integrated Program will involve work in both faculties.

Prospective Integrated program students must gain admission independently to both Faculties; the GMAT and LSAT are both required. To facilitate program planning, interested students are urged to seek admission to both faculties simultaneously. Those admitted are granted a Deferred Admission to the faculty whose first-year studies are to be pursued in the second year of the program.

Applicants seeking to enter the Integrated Program should so signify in the space designated on the application for admission, and return the Application Form for Law before November 1st and the Application Form for the M.B.A. before May 1st. Such students should also make simultaneous application to the Odette School of Business.

10.3.3 J.D./LL.B. PROGRAM

The J.D./LL.B. Program is a demanding program of study designed to: educate students to understand the legal doctrines and cultures of both Canada and the United States; help students successfully pass the bar examinations in either country; enable its graduates to practice law in a manner consonant with the highest standards of competence, professional ethics, and concerns for justice as exemplified by the traditions of the legal profession in both countries.

The program requires a student to successfully complete 60 credit hours of course work at the University of Detroit Mercy and 44 credit hours of course work at the University of Windsor. Most mandatory courses require the student to study both U.S. and Canadian law relevant to the subject area.

This program is designed to enable a student to obtain an American Bar Association-approved Doctor of Jurisprudence (J.D.) Degree from the University of Detroit Mercy and the nationally recognized Bachelor of Laws (LL.B.) Degree from the University of Windsor within three calendar years.

10.3.4 INTELLECTUAL PROPERTY LAW PROGRAM

The Intellectual Property Law Institute (I.P.L.I.) was created in 1987 through the efforts of the State Bar of Michigan and the law faculties of The University of Detroit Mercy, Wayne State University, and the University of Windsor.

Intellectual property is one of the most innovative, exciting, challenging, and rewarding areas of the law. The I.P.L.I. is dedicated to providing basic and advanced legal education and furthering knowledge, scholarship, and research in the law governing the richly diverse fields of intellectual property: patents, copyrights, trademarks, trade secrets and know-how, computers and related technology, communications and media entertainment, technology transfer, trade regulation, and the arts. The primary purpose of the I.P.L.I. is to offer an exceptional and rich curriculum for students and lawyers in the field of intellectual property. I.P.L.I. courses have the advantage of sharing the resources of three law schools, as well as the experience and expertise of practicing members of the Michigan Bar Association. In particular, each course deals with appropriate American and Canadian jurisprudence.

10.4 Law Awards and Financial Aid

Numerous awards are available to students entering the Faculty of Law and in-course. The Faculty of Law awards program is administered by the Office of Student Awards under the guidance of the Senate Committee on Student Awards.

For complete details regarding procedures and regulations, as well as descriptions of individual awards, see "Awards and Financial Aid," section 7 below.

10.5 Special Lectures

The Access to Justice Lecture Series
Each year a leading scholar is invited to deliver an original lecture on the theme of "Access to Justice". The lecturer then reworks his or her paper for the purpose of publication in *The Windsor Yearbook of Access to Justice.*

The George M. Duck Lecture Series
A trust fund was established by a donation in memory of George M. Duck in order to institute an annual series of public lectures on the theme "Law in a Changing Society". Annually an eminent scholar will be invited to present the Lecture.

Bernard Cohn Memorial Lecture in Criminal Law
A trust has been established by the friends and family of Bernard Cohn, Q.C. to institute an annual series of public lectures on the theme of Criminal Law and Procedure. Each year an eminent judge, practitioner or scholar will be invited to present the lectures.

Windsor/Wayne Law Forum
The Faculties of Law from the University of Windsor and Wayne State University in Michigan hold an annual lecture series known as the Windsor/Wayne Law Forum. Two professors, one from each institution, examine a given topic from a Canadian and an American perspective. The public is invited to attend these forums. Some of the topics in the series have been "The Role of the Judiciary in a Democratic Society," "Unions, Employees and the Concept of Fair Representation", and "An Introduction to and a Few Perspectives on the Canadian Charter of Rights and Freedoms".

Paul Martin Professorship in International Law
The Paul Martin Endowed Professorship was named for the Hon. Paul Martin, who represented the Windsor area for over thirty-three years, earning distinction in international affairs. The professorship was funded by corporate, private, and government contributions to a campaign launched at the University of Windsor in 1982. The inaugural professor was Secretary-General of the Commonwealth, Sir Shridath Ramphal, followed by Professor Edward McWhinney, then of Simon Fraser University. The 1990 holder was The Hon. Gough Whitlam, former Prime Minister of Australia. In July, 1993, the Hon. Howard Pawley, P.C., Q.C., LL.D., former Premier of Manitoba, began a five-year term as holder of

the Chair. Dr. Alice Erh-Soon Tay, Challis Professor of Jurisprudence at the University of Sydney, Australia, and President, Human Rights and Equal Opportunity Commission, was the Paul Martin Professor in 1999.

10.6 Law Service Courses

The Law Faculty offers a number of courses which are available for credit toward university degrees and diplomas other than the full-time LL.B. degree. These courses cannot presently be counted as credit for the LL.B. degree because of Law Society Regulations governing qualification for call to the Ontario Bar.

99-218. Environmental Law
This course is intended to provide non-law students with a background in environmental law with an emphasis on Ontario environmental legislation. Topics include: introduction to common law, public participation, jurisdictional issues, environmental assessment, Ontario regulations covering air, water and waste management, enforcement, compliance and alternatives to regulations.

11 FACULTY OF NURSING

(Ext. 2258 and 2259)

Dean

Elaine Duffy; Reg.N., B.A.Sc., M.N. (Melbourne), Ph.D. (Monash).

OFFICERS OF INSTRUCTION

Professors Emeritae

Gupta, Anna; Reg.N., B.Sc.N., M.Sc.N. (Wayne State)-1968.

Thomas, Barbara Campbell; Reg.N., Dip.P.H.N., B.N.Sc. (Queen's), M.Ed. (Windsor), Ed.D. (Wayne State)-1969.

Purushotham, Devamma; Reg.N., B.N.Sc. (Queen's), M.Sc. (McGill), Ed.D. (Wayne State)-1974.

Rosenbaum, Janet N.; Reg.N., B.Sc.N., M.Sc.N., Ph.D., (Wayne State)-1975.

University Professor

Cameron, W. Sheila; Reg.N., R.S.C.N. (Scotland), B.A. (McMaster), M.A. Nurs. Educ. (Detroit), Ed.D. (Wayne State), F.A.A.M.R.-1976.

Professors

Carty, Laurie; Reg.N., B.Sc.N., B.A., M.Ed. (Windsor), Ph.D. (Wayne State)-1980.

Duffy, Elaine; Reg.N., B.A.Sc., M.N. (Melbourne), Ph.D. (Monash)-2003. (Dean)

Associate Professors

Temple, Anna; Reg.N., B.Sc.N. (Windsor), M.Sc.N., Ph.D. (Wayne State)-1971.

Foley, Donna M.; Reg.N., Dip.N.Educ., B.Sc.N., B.A., M.A. (Windsor), Ph.D. (Ottawa)-1972.

McMahon, Sharon; Reg.N., B.Sc.N., B.A., M.Ed. (Windsor), Ed.D. (Wayne State)-1973.

Rajacich, Dale; Reg.N., B.Sc.N. (Windsor), M.Sc.N. (Western Ontario)-1987.

Yiu, Lucia; Reg.N., B.Sc. (Toronto), B.Sc.N., B.A. (Windsor), M.Sc.N. (Western Ontario)-1987.

Snowdon, Anne; Reg.N., B.Sc.N. (Western Ontario), M.Sc. (McGill), Ph.D. (Michigan)-1988.

Kane, Deborah; Reg.N., B.Sc.N. (Windsor), M.Sc.N. (Western Ontario), Ph.D. (Michigan)-1989.

Hernandez, Cheri; Reg.N., B.Sc.N., B.A., M.Ed. (Windsor), Ph.D. (Toronto), Ph.D. (Case Western Reserve)-1997.

England, Margaret; R.N., B.S.N. (Illinois), M.A. (Roosevelt), M.S.N. (St. Xavier), Ph.D. (Case Western Reserve)-2002.

Bartfay, Wally; Reg.N., B.A. (McGill), B.Sc.N. (Brandon), M.N. (Manitoba), Ph.D. (Toronto), D.E.C. (Dawson College)-2003.

Assistant Professors

Fox, Susan M.; Reg.N., B.N. (Memorial), M.Sc.N. (Western Ontario)-2000.

Patrick, Linda; Reg.N., B.Sc.N., M.A. (Central Michigan), M.Sc. (Nursing) (Windsor)-2001.

Thrasher, Christine; Reg.N., B.Sc.N., B.A. (Windsor), M.Sc.N. (D'Youville), Primary Care Nurse Practitioner Certificate (Ryerson)-2001.

Williamson, Karen; Reg.N., B.Sc.N (Toronto), M.Sc.N (Toronto)-2001.

El-Masri, Maher M.; Reg.N., B.S.N. (Alquds), M.S.N.Ed., Ph.D. (Maryland)-2002.

Edmunds, Kathryn A.; Reg.N., B.A. (Windsor), B.N. (Manitoba), M.S.N. (Wayne State)-2003.

Lecturer

Krohn, Heather; Reg.N., B.Sc.N. (Western Ontario), M.Ed. (Windsor)-2003.

Adjunct Professors

Horsburgh, M. Elizabeth; Reg.N., B.Sc.N., B.A., M.Ed. (Windsor), M.Sc.N., Ph.D. (Wayne State)-1984.

Adjunct Associate Professors

Drake, Mary Louise; Reg.N., Dip.P.H.N., B.Sc.N., B.A. (Windsor), Dip. in Midwifery (Great Britain), M.A. Nurs. Educ. (Detroit), Ed.D. (Wayne State)-1975.

Stamler, Lynnette; Reg.N., B.Sc.N. (St. Olafs College), M.Ed. (Manitoba), Ph.D. (Cincinatti)-2004.

Adjunct Assistant Professors

Allison, E. Merilyn; Reg.N., D.P.H.N. (Western Ontario), B.A., B.Sc.N. (Windsor), M.Sc.N (Western Ontario)-1989.

Davies, Shirley; Reg.N., B.Sc.N., M.Sc.N. (Toronto)-1989.

Pickard, Jane; Reg.N., B.A., M.Ed. (Western Ontario), M.N. (Alberta)-1990.

Wiseman, Lee Ann; Reg.N., B.Sc.N. (Toronto), M.Sc.N. (Wayne State)-1990.

Haugh, Elizabeth B.; Reg.N., B.A., B.Sc.N. (Windsor), M.Sc.N. (Western Ontario)-1996.

Morency, Susan; Reg.N., B.Sc.N. (Windsor), M.Sc.N. (Wayne State)-1996.

Warkentin, Tammy; Reg.N., B.Sc.N., M.Sc.N. (Western Ontario)-1996.

Choudhry, Ushi; Reg.N., B.Sc.N. (Delhi), M.Sc.N. (Western Ontario), M.Ed. (Queen's), Ph.D. (Toronto)-1998.

Kozell, Kathryn M.; Reg.N., B.A. (Western Ontario), B.Sc.N. (Windsor), M.Sc.N. (Western Ontario), N.P. (Toronto), Certificate in Enterstomal Therapy-1999.

Groh, Eleanor; Reg.N., B.Sc.N. (Windsor), M.Sc.A. Public Admin. (Central Michigan)-2000.

Simpson, Mary Anne; Reg.N., B.Sc.N, M.Sc. (Windsor)-2000.

Kocela, Susan; Reg.N., Hons. B.A., B.Sc.N., M.Sc. (Windsor)-2002.

Sessional Lecturers

M. Chick, Reg.N., B.Sc.N., M.Sc. (Nursing)
M. Cole, Reg.N., D.P.H.N., B.A., B.Sc.N., M.Sc. (Nursing)
D. Dayus, Reg.N., B.Sc.N., B.A., M.Sc. (Nursing)
K. Foley, Reg.N., B.Sc.N., M.Sc. (Nursing)
P. McKay, Reg.N., B.Sc.N., M.Sc. (Nursing)

Major Clinical Resources

Nursing is a profession of diverse opportunity. Clinical experiences are found in a variety of settings.

Examples of the diversity of placements for nursing students are hospitals, public health agencies, visiting nurse organizations, family support services, doctors offices and clinics, day care centres and preschools, elementary and high schools, new Canadian multi cultural programs, First Nations groups, seniors residences and services, and caring for challenged populations. On campus, practice is done in independent learning laboratories and simulated situations. These experiences and more, lay the foundation for professional nursing.

Awards and Scholarships

Nursing Entrance Awards and Scholarships are offered to students enrolled at the University of Windsor, Faculty of Nursing.

11.1 Foreword

Mission Statement

The mission of the University of Windsor baccalaureate nursing programs, in collaboration with its partners, St. Clair College and Lambton College, is to prepare graduates who will practice in partnership with clients, families, communities, groups, and service providers to facilitate the promotion, achievement, and maintenance of optimal levels of health.

The scope of the program includes teaching scientifically-based nursing practice using theory, clinical skills, and research findings in the care of individuals, families, groups, and communities. In recognition of the evolving nature of the global community and changing health care systems, critical thinking and creative problem solving are emphasized through the use of professional skills such as: communication, caring, problem solving, decision making, teaching, learning, management, and change.

Students have opportunities to provide leadership within nursing while practicing in a variety of Canadian and international health care facilities and community settings, both traditional and non-traditional. The Faculty fosters personal and professional development and ethical accountability, preparing nurses for changing and expanding roles.

Philosophy

The philosophy of the Faculty of Nursing at the University of Windsor is outlined in the following statements about our beliefs relative to health, individuals, nursing, learning, teaching, and environments:

HEALTH

Health is a dynamic process whereby the individual, family, or group is able to realize aspirations, satisfy needs, and change or cope with the environment. Health is a resource for everyday life. It is a positive concept emphasizing social and personal resources as well as physical capacity. Health is the goal of all nursing behaviours.

INDIVIDUALS

Individuals are unique holistic persons with inherent dignity and are worthy of respect and care. Individuals have freedom of choice and are accountable for these choices. Individuals are capable of entering reciprocal caring relationships which foster health, growth, and self-actualization.

NURSING

Nursing is a humanistic, caring process, the goal of which is to help individuals, families, groups, and communities achieve and maintain an optimal level of health consistent with their abilities and desires. Nurses, in collaboration with members of the health team and other service providers build on strengths and address health variations to facilitate client maturation and adaptation.

LEARNING/TEACHING

Learning is an individualized activity and involves learners' personal goals, perceptions and unique learning style. Learning is goal oriented and an active life-long process of change and development. Teaching is a facilitative process through which learners are guided and supported. It involves communication, clearly defined goals, appropriate learning activities and a climate conducive to growth. The curriculum is multi-disciplinary and aims to provide the learners with opportunities for intellectual and professional development.

ENVIRONMENTS

Environments are milieus within which individuals, families, groups, and communities strive to achieve optimal health. As human beings attempt to mature and adapt within their environments, there are dynamic interactions which can serve as a source of growth. Environments encompass psycho-social, cultural, religious, political, economic, and physical contexts which impact upon the efforts of all.

Program Outcomes

By the end of the program, graduating students will be able to:

1. Implement behaviours to promote personal and professional self-development.

2. Integrate the ethical, legal, professional and regulatory parameters into Nursing practice.

3. Formulate clinical judgements that are based on critical inquiry and analytical reasoning.

4. Integrate nursing and multi-disciplinary knowledge into nursing practice.

5. Integrate research findings into clinical practice, education and management.

6. Implement the nursing process to promote, maintain and restore the health of individuals, families, groups and communities.

7. Use the teaching/learning process to promote the health of individuals, families, groups and communities.

8. Collaborate with clients, their families, communities, members of the health team and other organizations for the promotion, achievement and restoration of optimal health.

9. Integrate leadership and management roles into the delivery of health care.

10. Engage in activities to promote the development of the profession of nursing.

11.2 Admission Requirements

11.2.1 GENERAL REGULATIONS AND PROCEDURES

The considerations listed below apply to admission to all Nursing programs.

Degrees in Other Disciplines

Special consideration may be given to applicants holding degrees in other disciplines.

Admission by Transfer

A student who wishes to transfer from another university's Faculty of Nursing is required to submit an official transcript of records, descriptions of courses taken and a statement of reason for transfer. This statement of reason is subject to verification.

A minimum grade of C- must have been obtained in each course for it to be considered. Official transcripts and course descriptions should be submitted no later than two months prior to the first day of classes.

Prior Nursing Courses

University courses taken within seven years prior to admission or readmission to any nursing program may be considered for credit.

Selection for Admission

Preference will be given to applicants with the best qualifications. Selection of candidates for admission to the various programs will be based on criteria determined by the Faculty of Nursing Admissions Committee.

Advanced Standing Examinations

Registered Nurse students who wish to write advanced standing examinations in Psychology 46-115, Sociology 48-101, and Nursing 63-230, must petition the academic unit concerned for permission to write any or all of the above examinations within the first two terms of the program. The application for 63-230 must be submitted by June 30.

Registered Nurse students may also be permitted to write advanced standing examinations in 63-331, 63-333, and 63-433. These examinations are available only to those registered nurses who can demonstrate via a portfolio prior knowledge of the course content. Portfolios for 63-433 must be submitted by June 30 for evaluation. Portfolios for 63-331 and 63-333 must be submitted by November 15 for evaluation. A non-refundable fee will be applied for each portfolio evaluated.

Advanced standing examinations for 63-230 and 63-433 will be offered within two weeks after the beginning of Fall classes. Advanced standing exams for 63-331 and 63-333 will be offered within two weeks after the beginning of Winter classes. Students who pass these examinations will have the notation "Advanced Standing by Examination" entered on their transcripts. The normal charge for advanced standing examinations will be applied. Students who are unsuccessful are not permitted a second challenge attempt and must take the course.

Post-Diploma students who have Canadian Nurses Association (C.N.A.) Specialty Certification may use it in lieu of the Nursing elective.

Health Requirements

Students in the first year of all nursing programs must submit to the Dean of the Faculty of Nursing during the first week of classes a Faculty of Nursing Student Health Record. This record which includes a physical examination, immunization for health care workers, and tuberculosis screening, must be certified by a nurse practitioner or a physician. In subsequent years, all students, prior to each clinical experience, must submit documentation of tuberculosis status and update of immunizations, as appropriate.

Other Requirements

1) Students must submit a birth certificate to the Dean of the Faculty of Nursing during the first week of class. This does not apply to Registered Nurse students.

2) Students are responsible for their own travel and living expenses incurred in clinical nursing experiences, including the consolidation experiences. Additional costs may be required by some clinical agencies.

3) Students are responsible for supplying their own uniforms and accessories. Details pertaining to uniforms and accessories will be sent to those admitted to the program.

4) Applicants who accept admission into all nursing programs are required to possess a valid first aid certificate and a basic rescuer (level C) course certificate in Cardio Pulmonary Resuscitation. Yearly CPR recertification is required. A copy of these forms are to be submitted to the Faculty of Nursing.

5) An extended Police Clearance is mandatory on entry and renewed as required by agencies. A letter of request is available in the Nursing Office. This is the financial responsibility of the student.

11.2.2 COLLABORATIVE HONOURS B.Sc.N. PROGRAM

1) Six Grade 12 "U" or "M" courses including Grade 12"U" English, Chemistry, and Biology, or their equivalents. One Grade 12"U" Mathematics or equivalent is recommended.

2) An interview with the Faculty of Nursing Admissions Committee may be required.

One-year Pre-Health Science Nursing Program

Students at Lambton College who successfully complete the one-year Pre-Health Science-Nursing Program with a minimum grade point average of 2.7 (B) and a minimum average of a 2.3 (C-) in BIO 100-5, BIO 220-5, CHM 110-6 and CHM 210-6, will be considered for admission to the Collaborative B.Sc.N Program.

Students at St. Clair College who successfully complete the one-year Pre-Health Science-Nursing Program with a minimum overall grade point average of 2.7 (B) and a minimum science subject average of (2.3) C- in GAS 11, GAS 21, GAS 11A and GAS 21A, will be considered for admission to the Collaborative B.Sc.N Program.

11.2.3 POST-DIPLOMA B.Sc.N. PROGRAM

1) Graduation from an approved basic Diploma program with a minimum GPA of 2.7.

2) Nurse registration in Canada for the current year, pending Ontario registration.

3) University entrance-level English, Mathematics, Biology and Chemistry are recommended.

4) A currently valid certificate in C.P.R. at the Basic Rescuer level.

5) A letter of reference from current or most recent employer.

6) An interview with the Faculty of Nursing Admissions Committee may be required.

7) An extended Police Clearance is mandatory and financial responsibility of the student. Letters of request are available in the Nursing Office.

11.2.4 TWELVE-MONTH, PRIMARY HEALTH CARE NURSE PRACTITIONER CERTIFICATE PROGRAM FOR DEGREE-PREPARED NURSES

1) The applicant must have a Bachelor of Science in Nursing which includes physical assessment, statistics, and a research methods course. An interview with the Faculty of Nursing Admissions Committee may be required. A letter of reference from current or most recent employer is required and a minimum overall nursing average of 70%.

2) Applicants must hold or be eligible for a current certificate of registration as a registered nurse with the College of Nurses of Ontario.

3) Preference will be given to Ontario residents whose work experience in nursing has been continuous and who have clinical experience in one or more of the following areas: primary health care, ambulatory care, public health, community health, long-term care, emergency care, or outpost nursing.

4) Applicants must have the equivalent of two years full-time relevant nursing practice within the past five years.

Note: This is a limited enrollment program. Therefore, possession of minimum published requirements does not guarantee admission.

Information must also be obtained on the internet at http://np-education.ca.

11.3 Program Requirements

Students are directed to become familiar and to comply with the general regulations of the University as described in 2.4 which apply to all students. Additionally, students must comply with the regulations particular to Nursing programs.

1) For promotion and graduation the following are required: A minimum grade of a C- in each nursing theory course; a pass in each clinical experience; a pass in each laboratory component of each clinical experience; an overall 5.0 average.

2) A minimum grade of B- is required in each Primary Care Nurse Practitioner course. Furthermore, not more than one course may be repeated once.

3) Students failing a clinical course may be required to complete make-up prior to re-taking the course.

4) No student may repeat a required nursing course more than once. No more than two required nursing courses may be repeated.

5) The program of studies for the four-year basic degree or the program for Registered Nurses must be completed within seven years from the first Nursing course (63-).

6) Students must attend all clinical nursing experiences and laboratories unless they have permission from the professor and/or a medical certificate to account for absence.

7) In the clinical courses, students must achieve all course outcomes and critical elements.

8) The consolidation experience for Years 2 and 3 will commence on the first day of Intersession. Clinical Nursing experiences may be arranged during day or evening shifts as well as weekends, and consolidated as necessary. Nights may be arranged at senior level and/or consolidation where deemed educationally appropriate and necessary by the Faculty of Nursing.

9) While taking 63-278 and 63-378 students may not take any other course.

10) No more than sixteen courses may be taken at the 100 level.

11) Students who are required to upgrade or who wish to maintain their clinical skills must repeat the appropriate clinical course for credit, effective September 1999.

12) Students who are required to repeat a nursing course must notify the Undergraduate Program Co-ordinator, in writing, of their desire to return, by June 30. If a student fails to do so, a clinical placement cannot be guaranteed.

13) Students who intend to register for 63-432 must notify the

Undergraduate Program Co-ordinator by June 30 so that clinical placements can be arranged for the Fall term.

14) The Faculty of Nursing reserves the right to remove a nursing student from the clinical area at any time, in instances where the instructor has reason to believe that the student is rendering unsafe and/or unethical nursing care. Post-Diploma students must be in good standing with the College of Nurses of Ontario in order to remain in the program.

15) Students of the Faculty of Nursing are required to demonstrate behaviours consistent with the University of Windsor standards of acceptable behaviour (see Senate Bylaw 31) and the Professional Standards for Registered Nurses and Registered Practical Nurses; the Standards for the Therapeutic Nurse-Client Relationship; the Ethical Framework for Nurses in Ontario; and the Explanation of Professional Misconduct of the College of Nurses of Ontario; and of the academic policies of the University of Windsor.

Failure of any Nursing student to conform to the principles of these documents may result in dismissal from any of the Faculty of Nursing programs.

Note: The College of Nurses of Ontario requires that in order to obtain permission to write Nurse Registration Examinations and/or apply for Nurse Registration in Ontario, a person must provide a declaration of one's status regarding:

(a) any conviction of a criminal offense under the Narcotic Control Act and the Food and Drugs Act;
(b) being a subject of proceedings with respect to professional misconduct, incompetence, or incapacity in Ontario in another health profession or in another jurisdiction in nursing or in another health profession;
(c) any mental or physical disorder which makes it desirable in the public interest that the person not practice.

Further Information

Applicants wishing to discuss the program or visit the Faculty of Nursing should contact the campus (519-253-3000, Ext. 2258). Information may also be obtained from the Internet: http://www.uwindsor.ca/nursing.

11.4 Programs of Study

11.4.1 COLLABORATIVE FOUR-YEAR B.Sc.N PROGRAM

This program is four years in length and is designed for individuals who are seeking to prepare for a career in nursing at the baccalaureate level.

The curriculum is designed on the premise that professional nursing is multidisciplinary in nature, applying nursing, biological and social sciences, as well as the arts, to the care of individuals, families and communities. As inquiring, caring, competent practitioners, nurses serve the needs of society through health promotion, health maintenance, prevention of disease and care of the sick and dying.

The Faculty of Nursing programs are approved and accredited. National Accreditation was granted in 1998 by the Board of Accreditation, Canadian Association of Schools of Nursing (CASN). The collaborative program was granted candidacy status by the Board of Accreditation of CASN in 2004.

Upon successful completion of the program, students are eligible to write nurse registration examinations and pursue graduate studies.

Total courses: forty-six.

Major requirements: thirty-four courses including 5 double weighted courses*, two of which are taken in Intersession: 63-170, 63-171, 63-172, 63-173, 63-174, 63-271, 63-272, 63-273, 63-274, 63-275, 63-277, 63-278, 63-321, 63-371, 63-372, 63-373, 63-374, 63-375, 63-377, 63-378, 63-379, 63-391, 63-471, 63-472, 63-473, 63-474, 63-475, 63-476, 63-477.

Other requirements: 12 courses including: 02-250 or 65-205, 46-115, 55-202, 55-204, 55-205, 55-237, 55-351, 59-191, 59-291, One Arts Option and Two Open Options.

** 2 course equivalent*

COURSE SEQUENCE

YEAR ONE

Fall

63-171. Introduction to Nursing I
63-172. Clinical Nursing Experience
46-115. Introduction to Psychology as a Behavioural Science
55-202. Human Anatomy
55-204. Human Physiology I

Winter

63-173. Introduction to Nursing II
63-174. Clinical Nursing Experience
63-170. Health Assessment
55-205. Human Physiology II
59-191. Organic and Biological Chemistry for Health Sciences

YEAR TWO

Fall

63-271. Family Health
63-272. Clinical Nursing Experience
63-273. Nursing Care of Clients with Episodic and Long-Term Health Needs
55-237. Introductory Microbiology
59-291. Pharmacology for Health Sciences

Winter

63-274. Clinical Nursing Experience
63-275. Family Health: Child Bearing and Child Rearing Families

63-277. Nursing Care of Children and Youth with Episodic and Long-Term Health Needs
55-351. Medical Microbiology
02-250. Basic Quantitative Methods in Social Science or
65-205. Statistics for the Sciences
Open option

Summer
63-278. Clinical Nursing Experience (4 weeks) (160 hours)

Note: Only sixteen 100-level courses are permitted.

YEAR THREE

Fall
63-371. Families Experiencing Crises
63-372. Clinical Nursing Experience
63-373. Nursing Care of Clients with Complex Health Problems I
63-377. Nursing Research
63-391. Basic Human Nutrition

Winter
63-321. Conceptual Models for Practice
63-374. Clinical Nursing Experience
63-375. Nursing Care of Clients with Complex Health Problems II
63-379. Teaching, Learning and Information Technology
Arts option
Open option(see Note above)

Summer
63-378. Clinical Nursing Experience (4 weeks) (160 hours)

YEAR FOUR

Fall
63-471. Community as a Client
63-472. Clinical Nursing Experience (5 weeks) (160 hours) *
63-473. Concepts of Leadership in Nursing Practice
63-475. Health Issues and Professional Accountability

Winter
63-474. Clinical Nursing Experience (5 weeks) (160 hours) *
63-476. Clinical Nursing Experience (5 weeks) (160 hours) *
63-477. Directed Study

11.4.2 POST-DIPLOMA B.Sc.N. PROGRAM

This program involves two years of full-time study and is designed for graduates of diploma nursing programs at colleges of applied arts and technology or of hospital-based or regional schools of nursing. It is offered to registered nurses whose goal is to add to their knowledge and skills in nursing, and to advance to baccalaureate preparation.

The curriculum is designed on the premise that professional nursing is multidisciplinary in nature, applying nursing, biological, and social sciences as well as the arts, to the care of individuals, families and communities. As inquiring, caring, competent practitioners, nurses serve the needs of society through health promotion, health maintenance, prevention of disease, and care of the sick and dying.

Upon successful completion of the program, students are eligible to pursue graduate studies.

Program for Community College Nursing Graduates

YEAR ONE

Fall
63-230. Health Assessment
63-231. Current Professional Nursing Roles
63-232. Clinical Nursing Experience
63-233. Conceptual Frameworks for Nursing Practice
55-237. Introductory Microbiology
One open option

Winter
63-331. Family Nursing
63-333. Nurse as counselor and Educator
63-334. Clinical Nursing Experience
55-351. Medical Microbiology
One open option

YEAR TWO

Fall
63-431. Community Nursing
63-432. Clinical Nursing Experience
63-433. Leadership and Management in Nursing

one of:
02-250. Basic Quantitative Methods in the Social Sciences
65-205. Statistics for the Sciences

and one of:
63-241. Health Issues and Care of Diverse Populations
63-243. Issues in Women's Health
63-245. Health Issues in Gerontology
63-247. Transcultural Health
63-249. Clinical Ethics for Health Professionals
63-351. The Human Meaning of Death

Winter
63-443. Nursing Research
63-445. Personal and Professional Empowerment
63-447. Directed Study
One Arts option
One open option

Program for Pre-1974 Graduates of Hospital-Based or Regional Schools

Registered Nurses in the Post Diploma B.Sc.N. program who graduated prior to 1974, in addition to the courses outlined for community college graduates, must successfully demonstrate knowledge and comprehen-

sion of physiology, sociology, and psychology. These requirements may be met by enrolling in 55-204 and 55-205. The requirements for Psychology may be met by enrolling in 46-115 and 48-101.

Note: At least ten of the courses for the Post Diploma B.Sc.N. must be taken at the University of Windsor. In the event that the applicant has completed equivalent courses elsewhere, other courses may be substituted with the consent of the Dean of the Faculty of Nursing.

11.4.3 ONTARIO PRIMARY HEALTH CARE NURSE PRACTITIONER PROGRAMS

This program prepares an advance practice nurse to diagnose and manage common health problems that occur throughout life. The nurse practitioner emphasizes holistic care, health promotion, and disease prevention through the application of advanced knowledge and skills. Graduates will be critical thinkers, self-directed learners, and reflective, collaborative practitioners who function independently and interdependently within an interdisciplinary team. They are responsible and accountable for their own practice.

REGULATIONS

A minimum grade of B- is required in each Primary Health Care Nurse Practitioner course. A candidate for either Primary Health Care Nurse Practitioner program who does not obtain credit in any course may repeat the course once only; furthermore, not more than one course may be repeated. There may be no more than a 3-year lapse between Nurse Practitioner courses. Application review will begin March 1st; applications should be made through the Ontario Universities' Application Centre (OUAC).

CERTIFICATE PROGRAM

This is a twelve-month program designed for nurses who already have a baccalaureate degree in nursing.

Fall

63-450. Pathophysiology for the Nurse Practitioner (3 credit hours, 2 terms)
63-452. Roles and Responsibilities of the Nurse Practitioner in Primary Health Care. (3 credit hours, 2 terms)
63-455. Advanced Health Assessment and Diagnosis I (4.5 credit hours)
63-461. Therapeutics in Primary Health Care I (4.5 credit hours)

Winter

63-450. Pathophysiology for the Nurse Practitioner (3 credit hours, 2 terms)
63-452. Roles of the Nurse Practitioner in Primary Health Care
63-456. Advanced Health Assessment and Diagnosis II (4.5 credit hours)
63-462. Therapeutics in Primary Health Care II (4.5 credit hours)

Summer

63-495. Integrative Practicum (12 credit hours)

11.5 Course Descriptions

Note: Only 63-241, 63-243, 63-245, 63-247, 63-249, 63-391, and 63-351 are open to non-Nursing students. These courses will not necessarily be offered each year.

63-170. Health Assessment
Students, through lectures, readings, and simulation in the laboratory, learn and practice performing a holistic health history and the techniques of inspection, percussion, palpation and ausculation for systematic health assessment of individuals across the life span. The course focuses on normal variations encountered in practice. (Prerequisites: Completion of all year 1 fall nursing and science courses.) (Corequisite: Registration in all courses required for winter semester.) (2 lecture hours and 2 tutorial hours a week.)

63-171. Introduction to Nursing
Professional nursing, its organization, structure, dimensions and responsibilities are explored with an emphasis on the role of the nurse and nursing competencies that facilitate maturation and adaptation of clients. Using critical thinking, students are introduced to the concepts of health, clinical decision-making, problem-solving including the nursing process, communication, caring teaching/learning, and management/ planned change. Students learn to identify the health needs of individuals. (Corequisites: 63-172, 55-202, 55-204.) (3 lecture hours a week.)

63-172. Clinical Nursing Experience
A clinical course designed to provide students with the opportunity to learn and practice patient care and care planning skills in simulated and clinical settings. To be taken concurrently with 63-171 in related clinical areas. (Corequisites: 63-171, 55-202, 55-204.) (Offered on a Pass/Non-Pass basis.) (8 hours a week.)

63-173. Introduction to Nursing II
Using critical thinking, students learn the nurse's role in health promotion and illness/injury prevention through the use of problem solving, the nursing process, communication, caring, and teaching/learning processes. Students will examine health promotion and illness/injury prevention strategies relative to healthy lifestyle. (Prerequisites: Completion of all year 1 fall nursing and science courses.) (Corequisites: Registration in all courses required for winter semester.) (3 lecture hours a week.)

63-174. Clinical Nursing Experience
This course provides students with the opportunity to learn and practice health assessment, intervention and evaluation skills for health promotion and disease prevention. Taken concurrently with 63-173 in the related clinical areas. (Prerequisites: Completion of all year 1 fall nursing and science courses.) (Corequisites: Registration in all courses required for winter semester.) (Offered on a Pass/Non-Pass basis.) (8 hours a week.)

63-230. Health Assessment
A self-directed course for registered nurses. Through specific readings, videotapes, and laboratory practice, students prepare to demonstrate competence in performing a systematic physical assessment and health

history. (Must be completed prior to Year 2.) (3 lecture hours a week equivalent.)

63-231. Current Professional Nursing Roles
An introduction to the theories and role behaviours that will facilitate the transition to baccalaureate nursing practice. Health, communication, caring, and problem-solving will be emphasized. (To be taken concurrently with 63-232.) (3 lecture hours a week.)

63-232. Clinical Nursing Experience
A guided clinical experience related to the optimal health of individuals. Focus will be on the application of theoretical knowledge and development of nursing practice. (To be taken concurrently with 63-231.) (Offered on a Pass/Non-Pass basis.) (8 hours a week.)

63-233. Conceptual Frameworks for Nursing Practice
An examination of selected nursing conceptual models and their application in practice. (3 lecture hours a week.)

63-241. Health Issues and Care of Diverse Populations
The examination of the relationship between marginalization and vulnerability in the health care of diverse populations. (Open to non-Nursing students and may be taken as an open option by B.Sc.N. students.) (3 lecture hours a week.)

63-243. Issues in Women's Health
An exploration of issues relevant to women as consumers and providers of health care. Pertinent topics to be discussed will include reproductive health, family health, mental health, abuse, and occupational health. (Open to non-Nursing students and may be taken as an open option by B.Sc.N. students.) (3 lecture hours a week.)

63-245. Health Issues in Gerontology
This course is designed to focus on health issues resulting from age-related changes in human functioning. It will include a study of the aging process, epidemiology of aging as well as health and social policies relevant to the aging population. Disease processes particularly prevalent in elderly persons and related therapeutic measures will also be discussed. (Open to non-Nursing students and may be taken as an open option by B.Sc.N. students.) (3 lecture hours a week.)

63-247. Transcultural Health
Exploration of theory and research related to health and illness beliefs and practices across the life cycle of diverse cultural populations in Canada. Topics will include transcultural concepts in mental health, family health, aspects of pain, and care of the elderly. (Open to non-Nursing students and may be taken as an open option by B.Sc.N. students.) (3 lecture hours a week.)

63-249. Clinical Ethics for Health Professionals
An exploration of moral issues and questions confronting health care professionals and consumers within the context of the health care system. Professional codes and guidelines form the framework for clinical case presentations. (Open to non-Nursing students and may be taken as an open option by B.Sc.N. students.) (3 lecture hours a week.)

63-271. Family Health
The first of a three sequence course in Family Nursing. The course provides an introduction to concepts, theories and models of family as the unit of care within the context of community. Family assessment, roles, coping styles and decision-making patterns are examined. Communication, caring and teaching/learning are emphasized to enable the student to assess families and facilitate health promotion and illness/injury prevention of family members. (Prerequisite: Completion of all year 1 science and nursing courses.) (Corequisites: Registration in all courses required in fall semester of year 2 of the program.)

63-272. Clinical Nursing Experience
This course is the fourth of a sequence of 12 clinical practice courses. It is designed to provide the student with the opportunity to learn and practice professional and technical skills including assessment, goal-oriented planning, interventions and evaluation of clinical outcomes for young adults, adults, and older adults experiencing acute and long term health needs within the context of family and community. (Prerequisite: Completion of all year 1 science and nursing courses.) (Corequisites: 63-271. Registration in all courses required in fall semester of year 2 of the program.) (Offered on a Pass/Non Pass basis.) (10 hrs/week.)

63-273. Nursing Care of Clients with Episodic and Long-Term Health Needs
This course is the first of a four-course sequence focusing on health, maturation and adaptation of individuals within the context of family and community. This course focuses on young adults, adults, and older adults with alterations in their health status. The course examines the interaction of growth and development, environment and nursing on the maturation and adaptation of individuals with episodic and long-term health needs with predictable outcomes. Using critical thinking, problem solving, decision-making, the nursing process, teaching/learning, caring, assessment, and intervention skills, students study the care of clients with select physiological, mental health, and psychosocial health needs. (Prerequisite: Completion of all year 1 science and nursing courses.) (Corequisites: Registration in all courses required in fall semester of year 2 of the program.)

63-274. Clinical Nursing Experience
This course is the fifth course in a sequence of 12 clinical practice courses. Emphasis is on the continued opportunity to learn and practice professional and technical skills within maternal -child and pediatric settings. (Offered on a Pass/Non Pass Basis.) (Prerequisites: Completion of all year 2 fall semester courses.) (Corequisites: Registration in all nursing and science courses in winter semester.) (10 lecture hrs/week.)

63-275. Family Health: Child Bearing and Child Rearing Families
This is the second course in a 3-course sequence focusing on the family as the unit of care within the context of community. The course explores child bearing and child rearing families and their development including reproduction, pregnancy, labor/delivery, child rearing as well as maturational and situational crises. Cultural, crisis, and risk assessment and intervention strategies to promote family health are stressed. (Prerequisites: Completion of all year 2 fall semester courses.) (Corequisites: Registration in all nursing and science courses in winter semester.)

63-277. Nursing Care of Children and Youth with Episodic and Long-Term Health Needs
This is the second course in a four-course sequence focusing on health, maturation and adaptation. The course examines the interaction of growth and development, environment and nursing on the maturation and adaptation of children and youth with episodic and long-term health needs with predictable outcomes. Critical thinking, the nursing process, communication, caring and teaching/learning along with assessment, intervention and evaluation skills are emphasized. (Prerequisites: Completion of all year 2 fall semester courses.) (Corequisites: Registration in all nursing and science courses in winter semester.)

63-278. Clinical Nursing Experience
This course is the sixth course in a sequence of 12 clinical practice courses. It is a period of continuous practice taken in intersession/ summer session or as determined by the School of Nursing. The focus is on assessment, goal-oriented interventions and client outcomes within the context of family and community in medical, surgical, maternal child and pediatric settings. (Offered on a Pass/Non Pass basis.) (Prerequisites: Completion of all year 2 nursing and science courses.) (40 hrs/wk for 4 weeks.)

63-321. Conceptual Models for Nursing Practice
An examination of nursing conceptual models as the basis for practice. Select theories, including theories of caring, their philosophical foundations and nursing processes will be examined. (Prerequisite: Completion of all year 3 fall semester courses.) (Corequisites: Registration in all year 3 winter semester nursing courses.) (3 lecture hours a week.)

63-331. Family Nursing
An introduction to family theories, models, and assessment tools that will assist the student to provide family-centered nursing care. (Prerequisites: 63-231, 63-232 and 63-233.) (3 lecture hours a week.)

63-333. Nurse as counselor and Educator
Concepts, theories, and research in counselling, teaching, and learning as they relate to the nursing roles of counselor and educator. (Prerequisites: 63-231 and 63-232.) (3 lecture hours a week.)

63-334. Clinical Nursing Experience
Guided clinical experience in which students apply the theoretical bases of family nursing, education, and counselling in the practice of family-centered nursing. (Prerequisites 63-231, 63-232, 63-233; Prerequisites or corequisites: 63-331 and 63-333.) (Offered on a Pass/Non-Pass basis.) (8 hours a week.)

63-351. The Human Meaning of Death
An examination of the human experience of death and dying, the meaning of human life, ethical and cultural aspects, euthanasia, and advanced directives. Lectures, readings, films, and discussions will explore a variety of significant thinkers and concepts concerning death. Through various exercises and shared experiences, students will be encouraged to examine their own feelings and attitudes toward death. (Open to non-Nursing students and may be taken as an Arts option by B.Sc.N. students.) (3 lecture hours a week.)

63-371. Family Nursing: Families Experiencing Crises
This is the third course in a three-course sequence in Family Nursing that examines the special needs of families of all ages experiencing crises including mental health crises. Cultural, crisis, and risk assessment as well as intervention strategies for families requiring acute, restorative and palliative care are stressed. (Prerequisite: 63-278.) (Corequisites: Registration in all year 3 fall semester courses.) (3 lecture hours a week.)

63-372. Clinical Nursing Experience
This course is the seventh course in a sequence of 12 clinical practice courses. Emphasis is on the practice of professional and technical skills in the care of children, teens, and young adults experiencing complex or multi-system health disruption within the context of family and community. (Prerequisite: 63-278.) (Corequisites: Registration in all year 3 fall semester courses.) (Offered on a Pass/Non Pass basis.)

63-373. Nursing Care of Clients with Complex Health Problems I
This is the third in a four-course sequence focusing on health, maturation and adaptation. The focus is on the continued exploration of health, maturation and adaptation in children, teens and young adults experiencing complex and/or a multi-system health disruption within the context of family and community. Environment, culture, critical thinking, communication, caring and teaching/learning along with assessment and intervention skills are emphasized. (Prerequisite: 63-278.) (Corequisites: Registration in all year 3 fall semester courses.) (3 lecture hours a week.)

63-374. Clinical Nursing Experience
This course is the eighth course in a sequence of 12 clinical practice courses. Emphasis is on the practice of professional and technical skills in the care of adults and older adults experiencing complex or multi-system health disruption within the context of family and community. (Prerequisites: Completion of all year 3 fall semester courses.) (Corequisites: Registration in all year 3 winter semester nursing courses.) (Offered on a Pass/Non Pass basis.)

63-375. Nursing Care of Clients with Complex Health Problems II
This is the fourth in a four-course sequence focusing on health, maturation and adaptation. The focus is on the continued exploration of health, maturation and adaptation of adults and older adults experiencing complex and/or multi-system health disruptions within the context of family and community. The nursing management of clients through the use of decision making, communication, caring, teaching/learning and assessment and intervention skills are emphasized. (Prerequisites: Completion of all year 3 fall semester courses.) (Corequisites: Registration in all year 3 winter semester nursing courses.) (3 lecture hours a week.)

63-377. Nursing Research
An introduction to the research process in nursing. The focus of the course is on enabling the student to appraise and utilize research findings as the basis for evidenced-based nursing practice. (Prerequisites: 63-278, and 02-250 or 65-205.) (Corequisites: Registration in all year 3 fall semester nursing courses.) (3 lecture hours a week.)

63-378. Clinical Nursing Experience
This course is the ninth course in a sequence of 12 clinical practice courses. The focus is on assessment, goal-oriented interventions and outcomes of clients with complex or multi-system health disruption within the context of family and community in medical, surgical, maternal child and pediatric settings. It is a period of continuous practice taken in intersession/summer session or as determined by the Faculty of Nursing. (Prerequisites: Completion of all year 3 winter semester nursing courses.) (Offered on a Pass/Non Pass basis.)

63-379. Teaching, Learning and Informational Technology
This course focuses on the educative role of the professional nurse. Emphasis is on theories and current research in learning, teaching and informatics. The role of information technology as a resource and a tool for patient education patient care, staff development, social marketing, and lifelong learning will be explored. (Prerequisites: Completion of all year 3 fall semester courses.) (Corequisites: Registration in all year 3 winter semester nursing courses.)

63-391. Basic Human Nutrition
A study of the basic principles of nutrition and their relationship to health promotion, disease prevention, health maintenance, and restorative care. The focus will be on the nutritional requirements of healthy individuals and individuals with health disruptions across the life span. (Prerequisites: 59-191, and one of 55-141, 55-204, 55-205.) (Open to non-Nursing Students.) (3 lecture hours a week.)

63-431. Community Nursing
Theory related to nursing care of communities, with emphasis on health promotion. An examination of the factors influencing the health of communities will be included. (Prerequisites: 63-231, 63-232, and 63-233, 63-331, 63-333, 63-334.) (3 lecture hours a week.)

63-432. Clinical Nursing Experience
Guided clinical experience in which students apply theories of leadership, management, and community organization and assessment in the provision of care to client groups. (Offered on a Pass/Non-Pass basis.) (Prerequisites 63-231, 63-232, 63-233, and 63-333 Prerequisites or corequisites: 63-431 and 63-433.) (8 hours a week.)

63-433. Leadership and Management in Nursing
Leadership, management, planned change, and organizational theories are examined as they relate to the role of nurse as leader/manager. (Prerequisites: 63-231, 63-232 and 63-233.) (3 lecture hours a week.)

63-443. Nursing Research
An introduction to the research process in nursing. The focus of the course is on enabling the student to critique and utilize research findings in practice. (Prerequisites: 63-231, 63-232 and 63-233 and one of 02-250 or 65-205.) (3 lecture hours a week.)

63-445. Professional Accountability in Nursing Practice
This course provides the student with an opportunity to explore the ethical, legal, political and professional issues as they relate to professional accountability. (Prerequisites 63-231, 63-232, and 63-333.) (3 hours a week.)

63-447. Directed Study
This course provides the student with an opportunity for an indepth study of a health issue in management, education, or practice. Theory and practice are included. (Prerequisites: 63-231, 63-232, and 63-233, 63-334, 63-431, 63-433.) (3 lecture hours a week.)

63-450. Pathophysiology for the Nurse Practitioner
A systems approach will be used to examine concepts in pathophysiology as a basis for advanced nursing practice. Common themes that interface with pathophysiological concepts will be integrated into each system, such as changes throughout the lifespan, stress, pain, and cellular proliferation. A case study approach will be incorporated in order to provide a comprehensive overview of the etiology, pathogenesis, and clinical manifestations of diseases in adults and children found in primary health care. (3 credit hours.)

63-452. Roles and Responsibilities of the Nurse Practitioner in Primary Health Care
Examination of the roles and responsibilities of the primary health care nurse practitioner in enhancing health and health services. Historical development , relationships with clients, legal and ethical considerations, scope of practice and relationships with other health providers, including functioning in interdisciplinary teams, primary health policy formation and political strategies, as well as role transformation, supports, and care of self are addressed. (3 credit hours a week.)

63-455. Advanced Health Assessment and Diagnosis I
This course introduces concepts and frameworks integral to advanced health assessment and diagnosis in nursing practice. It emphasizes comprehensive and focused health assessment, including history taking, physical assessment and diagnostic reasoning as well as laboratory and diagnostic test selection and interpretation for the adult client. This lays the foundation for clinical decision making from data collection to diagnostic plan of care. (Prerequisite or corequisite: 63-450.) (A 4.5 credit hour course.)

63-456. Advanced Health Assessment and Diagnosis II
This course builds on the knowledge and skill acquired in AHAD I and applies the frameworks, concepts and methods of health assessment and clinical decision making studied in AHAD I to specific populations across the lifespan, to families and to the community. In addition advanced practice skill pertaining to diagnostic test assessment is examined. (Prerequisite: 63-450, 63-455.) (A 4.5 credit hour course.)

63-461. Therapeutics in Primary Health Care I
This course introduces concepts integral to pharmacotherapy, advanced counseling, and complementary therapies predominantly related to common episodic conditions of clients across the lifespan. It emphasizes the therapeutic care plan approach which focuses on the following aspects: drug-related problems, goals of therapies, analysis of different therapeutic approaches, need for referral, monitoring parameters, acceptability to the client, and follow-up. (Prerequisite or corequisite: 63-450, 63-455.) (A 4.5 credit hour course.)

63-462. Therapeutics in Primary Health Care II
This course builds on the knowledge acquired in both Therapeutics I and

AHAD I and applies the frameworks and concepts of pharmacotherapy, advanced counseling, and complementary therapies predominantly to clients with chronic conditions and specific populations. (Prerequisites: 63-455 and 63-461.Prerequisite or corequisite: 63-456.) (A 4.5 credit hour course.)

63-471. Community as Client
An introduction to community theories, models and research, that will assist the student to promote the health of groups, aggregates and communities. Students will explore principles and strategies of assisting communities to build/shape their communities or to change factors, that may will increase healthy lifestyles, access to preventative services, decrease discrepancies in health status and outcomes for different populations including the marginalized, school children, and populations at risk for illness and premature death. The nursing tools of caring, communication, problem solving and teaching/learning are emphasized. (Prerequisite: 63-378.) (Corequisite: 63-472, 63-473, 63-475.) (16 hrs/week.)

63-472. Clinical Nursing Experience
This course is the tenth course in a sequence of 12 clinical practice courses A precepted clinical experience, which enables the student to synthesize theory, research, and professional and technical skills, in clinical nursing practice. The expected student outcome is a beginning skill level in the competencies identified by the College of Nurses of Ontario. (Prerequisite: 63-378.) (Corequisites: 63-471, 63-473, 63-475.) (Offered on a Pass/Non Pass basis.) (32 hrs/week for 5 weeks.)

63-473. Concepts of Leadership in Nursing Practice
This course focuses on the leadership and management roles of the nurse within the context of nurses' scope of practice as defined by current legislation and professional standards and expectations. The course is designed to assist nurses to become effective members of health care organizations both as employees, leaders and future managers. Content will address leadership and management theories, organizational structure, planned change, conflict resolution, organizational communication, problem solving, decision making, strategies for effective delegation, motivation, nursing care delivery approaches, and total quality management. (Prerequisite: 63-378.) (Corequisites: 63-471, 63-472, 63-475.)

63-474. Clinical Nursing Experience
This course is the eleventh course in a sequence of 12 clinical practice courses. A precepted clinical experience in the care of clients with complex or multi-system health disruptions which enables the student to synthesize theory, research and professional and technical skills in clinical nursing practice. The expected student outcome is a beginning skill level in the competencies identified by the College of Nurses of Ontario. (Prerequisites: Completion of all year 4 fall semester courses.) (Offered on a Pass/Non Pass basis.) (32 hrs/week for 5 weeks.)

63-475. Professional Accountability and Health Care Issues
This course focuses on current health care issues within the contexts of the ethical, professional, and legal accountability of the professional nurse. Emphasis will be on current health issues within the context of the CNO Standards of Practice, Explanation of Professional Misconduct, tort law, criminal law and current health related statutes. (Prerequisites: 63-378.) (Corequisites: 63-471, 63-472, 63-473.) (3 hours a week.)

63-476. Clinical Nursing Experience
This course is the twelfth course in a sequence of 12 clinical practice courses. A precepted clinical experience within the context of community as client which enables the student to synthesize theory, research and professional and technical skills in clinical nursing practice. The expected student outcome is a beginning skill level identified by the College of Nurses of Ontario. (Prerequisites: 63-474.) (Offered on a Pass/Non Pass basis.) (32 hrs/week for 5 weeks.)

63-477. Directed Study
An in-depth study of an area of interest within the students' clinical nursing experience. Students select a major health problem/issue for analysis and synthesis. (Prerequisites: 63-471, 63-472, 63-473, 63-475.) (Corequisites: 63-474 or 63-476.) (3 lecture hours a week.)

63-495. Integrative Practicum for the Nurse Practitioner
This course will provide clinical experiences in which the student will integrate the knowledge and skills presented in previous courses into primary health care settings. This course includes seminars and clinical practicum to be done concurrently. (This is the final course in the Nurse Practitioner program, to be taken after all other course work has been successfully completed.) (13 weeks, 40 hours a week.) (A 12.0 credit hour course.)

12 FACULTY OF GRADUATE STUDIES AND RESEARCH

Room 306, Chrysler Hall Tower-Ext. 2109

The Faculty of Graduate Studies and Research integrates graduate programs in all disciplines at the University of Windsor. The graduate faculty members are professors in individual areas of study who are involved in graduate education and research; they are listed in the Graduate Calendar (separately, by subject area). The Faculty of Graduate Studies and Research administers the admissions and awards processes. Information about graduate programs and admissions is available from the Office of the Registrar (Graduate Division), University of Windsor, Windsor, Ontario, Canada,. N9B 3P4 (gradadmit@uwindsor.ca). Information about graduate awards is available from the Office of Graduate Studies and Research, Room 306, Chrysler Hall Tower (gradst@uwindsor.ca).

12.1 Structure of the Faculty

OFFICERS OF ADMINISTRATION

Dean, Faculty of Graduate Studies and Research

Cameron, W. Sheila; R.S.C.N. (Scotland), Reg.N., B.A. (McMaster), M.A. Nurs. Educ. (Detroit), Ed.D. (Wayne State), F.A.A.M.R.-1976.

Associate Dean

Barron, Ronald M.; B.A., M.Sc. (Windsor), M.S. (Stanford), Ph.D. (Carleton)-1975.

Research Institutes and Directors

FLUID DYNAMICS RESEARCH INSTITUTE

Interim Director: Dr. Gary W. Rankin

GREAT LAKES INSTITUTE FOR ENVIRONMENTAL RESEARCH

Acting Director: Dr. Brian Fryer

HUMANITIES RESEARCH GROUP

Director: Dr. Kathleen McCrone

12.2 Degrees Offered

The Faculty of Graduate Studies and Research offers programs leading to the following degrees:

Master of Arts in Communication and Social Justice, Economics, English, History, Philosophy, Political Science, Psychology, Sociology;

Master of Science in Biological Sciences, Chemistry and Biochemistry, Computer Science, Earth Sciences, Mathematics, Nursing, Physics, Statistics;

Master of Applied Science in Civil Engineering, Electrical Engineering, Engineering Materials, Environmental Engineering, Industrial Engineering, Mechanical Engineering;

Master of Engineering in Civil Engineering, Engineering Materials, Electrical Engineering, Environmental Engineering, Industrial Engineering, Mechanical Engineering;

Master of Business Administration: M.B.A. (Co-operative Education), M.B.A. (Fast-track), M.B.A. for Managers and Professionals, Integrated M.B.A./LL.B.;

Master of Education;

Master of Fine Arts in Visual Arts;

Master of Human Kinetics;

Master of Nursing;

Master of Social Work;

Doctor of Philosophy in Biological Sciences, Chemistry and Biochemistry, Civil Engineering, Computer Science, Earth Sciences, Educational Studies, Electrical Engineering, Engineering Materials, Environmental Engineering, Mechanical Engineering, Physics, Psychology, Sociology, Statistics;

Postdoctoral Certificate in Adult Clinical Psychology.

12.3 Application Procedures

An application for admission may be obtained from the Office of the Registrar (Graduate Division), University of Windsor, Windsor, Ontario, Canada N9B 3P3 (gradadmit@uwindsor.ca), or at www.uwindsor.ca/registrar.

Applicants are advised to check subject area listings for deadlines. If an earlier deadline is not specified, applications, official transcripts, confidential reports, and the application fee should be submitted no later than July 1 for September admission; November 1 for January admission; and March 1 for May admission. However, applicants are advised that offers of admission will be made prior to these dates to qualified applicants, and that all available positions may be filled before the deadlines. Early applications are advised.

International applicants are required to obtain a student visa. This is the sole responsibility of the applicant. Applicants are advised that Canadian government processing of visa applications may take several months.

All documents received become the property of the University and will not be returned.

Admission to the Faculty of Graduate Studies and Research is by letter of offer from the Dean of Graduate Studies and Research.

A decision to admit or not admit is made by the Dean on the basis of a recommendation received from an academic unit, together with the documents required for admission.

A decision may be reconsidered upon the request of either the applicant or the academic unit if further information is offered.

Applicants who have not been admitted to the Faculty of Graduate Studies and Research may upgrade their qualifications and reapply. A subsequent decision would be made on the basis of a further recommendation from the academic unit and the upgraded file.

Action will be taken on an application for admission when all the documents listed below have been received:

1) The form "Application for Admission to the Faculty of Graduate Studies and Research" properly completed.

2) Two official transcripts of all undergraduate and graduate work from all colleges or universities attended.

3) Completed "Confidential Report" forms as provided in the application package.

4) *Graduate Record Examination (GRE):* Applicants whose academic credentials are difficult to assess may be required to write the Graduate Record Examination administered by the Educational Testing Service, Princeton, New Jersey, U.S.A. 08540. Information on the GRE may be obtained from the Office of Applicant Services.

5) *Graduate Management Admission Test (GMAT):* M.B.A. applicants are required to take the Graduate Management Admission Test prior to admission. Information on the GMAT may be obtained from the Office of Applicant Services.

6) For all applicants whose native language is not English, a satisfactory score on an English proficiency test administered by one of the following institutions:

(a) The Educational Testing Service, Test of English as a Foreign Language (TOEFL): For information on arranging for this test the applicant should write to Educational Testing Service, Princeton, New Jersey, U.S.A. 08540.

(b) The English Language Institute of the University of Michigan, Michigan English Language Assessment Battery (MELAB): The applicant is expected to make arrangements for taking this test in his or her own locale by contacting the regional centre or by writing to the English Language Institute of the University of Michigan, Testing and Certification, North University Building, Ann Arbor, Michigan, U.S.A. 48109.

(c) Canadian Academic English Learning (CAEL) Assessment. Contact the CAEL Assessment Testing Office at www.cael.ca.

(d) International English Language Testing System (IELTS). Contact www.ielts.org.

An applicant who is unable to take one of these tests must present satisfactory alternative evidence of English proficiency. Consideration of alternative evidence may be requested by writing to the Dean of Graduate Studies and Research and by presenting supporting documentation of English proficiency.

7) Offers of admission are made for a specific term and, with the approval of the program, acceptance may be deferred for one term only. Students wishing to be reconsidered for admission at a later date will normally be required to fill in a new application and to resubmit their documents.

8) *Postgraduate Awards:* While there is no guarantee of financial support for individual students, the University of Windsor is committed to supporting and encouraging graduate studies. We are proud of our record of funding for graduate study and, with the active effort of current and potential graduate students, we aim to sustain and enhance that record. Your host area of study and the Faculty of Graduate Studies and Research will be happy to assist you in the preparation of strong and complete applications for external awards.

All eligible students whose applications are complete by January 31 will be considered within their area of study for internal awards administered by the Faculty of Graduate Studies and Research.

The five main sources of funding for graduate students at the University of Windsor are:

(a) National (Canadian) and provincial (Ontario) scholarships;

(b) Internal scholarships and bursaries;

(c) Internal graduate teaching assistantships and research assistantships;

(d) Loans through OSAP (Ontario Student Assistance Program);

(e) Discipline-specific or designated awards (awarded by departments or external donors).

International students ("visa students") may also be eligible for scholarship and bursary support through programs based in or administered through the home country. We recommend that international students investigate potential sources of support prior to making an application to graduate school, noting that, in Ontario, tuition costs for international students are higher than those for Canadians and Canadian permanent residents (landed immigrants). For further information regarding graduate scholarships, bursaries and other awards, please see the Graduate Calendar.

Undergraduate students who are interested in exploring graduate research should contact their area of study to determine if summer research positions are available. Such positions are usually supported by research grants awarded to individual faculty.

12.4 Programs of Study

12.4.1 THE DEGREE OF DOCTOR OF PHILOSOPHY

ADMISSION REQUIREMENTS

Graduates of recognized universities may apply for admission. In general, admission to graduate study is granted only to those students who have good academic records and who are adequately prepared to undertake graduate work in their field of specialization. An applicant for admission to a graduate program leading to the degree of Doctor of Philosophy must have either a Master's degree or, in exceptional circumstances, a four-year Bachelor's degree or the equivalent; his or her academic standing should be unquestionably superior.

Possession of the minimum requirements does not ensure acceptance.

Applications will be received from students in their final undergraduate or Master's year, but acceptance will be conditional until a satisfactorily completed undergraduate record is submitted and added to the student's file.

Candidacy: Admission to graduate study does not imply admission to candidacy for a degree. Admission to candidacy for the degree of Doctor of Philosophy is granted by the Dean of Graduate Studies and Research, upon recommendation of the area of study concerned, when a student has satisfied the requirements for candidacy of the Faculty of Graduate Studies and Research and of the area of study, as these may be specified in subject area listings in the Graduate Calendar. Admission to candidacy is normally to be regarded as recognition that a student has given adequate evidence of superior capability and achievement in graduate study. A student may not be admitted to candidacy for the degree of Doctor of Philosophy before passing a comprehensive examination in the field of specialization.

PROGRAM REQUIREMENTS

Residence: Residence requirements are intended to provide for each student an adequate contact with the University, with the faculty in the field of specialization, and with the library, laboratories, and other facilities for graduate study and research. Every student in a program leading to the degree of Doctor of Philosophy must be registered in a full-time program of study for a minimum of three (normally consecutive) calendar years. Credit for one of these years may be given for time spent in a Master's degree program.

Credit for no more than one-half of the required courses for a program, taken at another university, may be given at the discretion of the Faculty of Graduate Studies and Research, upon recommendation of the program co-ordinator.

A full-time residence year indicates that a student is engaged in full-time study under the direction of a faculty member of the University of Windsor. Persons who lecture more than three hours a week or who demonstrate in laboratories to such an extent that the total time spent in preparation, demonstration and working exceeds ten hours a week cannot qualify for residence credit.

Time Limit: A student admitted to a Ph.D. program requiring full-time attendance for three years must complete all requirements for the Ph.D. within seven consecutive years.

A student admitted with one year's advanced standing (*e.g.*, holders of Master's degrees) must complete all requirements within six consecutive years.

A student who has reached the time limit must address a petition to the Dean of Graduate Studies and Research in order to continue, giving reasons for the request and plans for the completion of the work. A recommendation will be requested from the student's advisor. A student who exceeds the time limit may be required to take additional qualifying examinations or additional course work, or both.

Course of Study: Course requirements are specified in the subject area listings given in the Graduate Calendar. Planning and direction of the student's course of study are the responsibility of a designated advisor. A specific program of study should be worked out at the time of the student's first registration, in consultation with a designated advisor.

Since in several subject areas only a few of the courses listed will be offered each year, students are advised to inquire from a designated academic advisor as to which courses will be offered in any given year. Students are directed to obtain the approval of the program co-ordinator or designated advisor for changes in the program of study.

12.4.2 THE MASTER'S DEGREE

ADMISSION REQUIREMENTS

Graduates of recognized universities may be admitted to programs leading to the Master's degree. A student with a four-year Bachelor's degree or its equivalent, with standing in at least the B range overall in both the final year and in the major subject, may be admitted to a Master's program (M2). A student with a general Bachelor's degree, with standing in at least the B range in the final two years and in the major subject, may be admitted as a qualifying student (M1) with a recommendation for advancement to M2 level contingent upon completion of a prescribed set of qualifying courses. A student with a four-year Bachelor's degree in a related (but different) subject may sometimes be admitted to a Master's program as a transitional student, provided the student has sufficient related credits and meets all other requirements for admission. Transitional students are normally required to complete a program of no more than five specified undergraduate courses in addition to the graduate courses required of regular M2 students.

Applicants are urged to apply as early as possible to enable the area of study and the Faculty of Graduate Studies and Research to evaluate the student's qualifications, and for the area of study to work out a program.

Possession of the minimum requirements does not ensure acceptance.

Candidacy: A student in an M2 program is also a candidate for the Master's degree. Students who have been admitted to the M1 program are not admitted to candidacy until they have satisfactorily completed the M1 program. A positive recommendation from the area of study and approval of that recommendation are required for a student to proceed to the M2 program.

PROGRAM REQUIREMENTS

Residence: Residence requirements are intended to provide for each student an adequate contact with the University, with the faculty in the field of specialization, and with the library, laboratories, and other facilities for graduate study and research. It is expected, therefore, that every full-time student in a program leading to the Master's degree will undertake a full program of study at the M2 level for a minimum of one calendar year or its equivalent. Application and interpretation of the residence requirement is the responsibility of the Dean of Graduate Studies and Research. If a student does not expect to fulfill the residence requirement in the normal way, reasons for requesting a departure from the norm should be submitted in writing to the Dean and approval secured for the plan before beginning the graduate program. See also the section on "Duration of Study" below.

This requirement is not intended to apply to students admitted to graduate programs on a part-time basis.

Duration of Study: The minimum duration of study for the Master's degree is one calendar year beyond the four-year Bachelor's degree, or its equivalent. Credit for no more than one-half of the required courses for the program, taken at another university, may be given, at the discretion of the Faculty of Graduate Studies and Research, upon the recommendation of the program co-ordinator. Residency still applies.

Time Limit: Work on a Master's degree must be completed within three consecutive calendar years after the student's first registration, except for certain Master's programs available on a part-time basis. In these latter programs, the time limit will depend on the nature of the program, but will not normally exceed five consecutive years.

A student who has reached the time limit must address a petition to the Dean of Graduate Studies and Research in order to continue, giving reasons for the request and plans for the completion of the work. A recommendation will be requested from the student's area of study. A student who exceeds the time limit may be required to take additional qualifying examinations or additional course work or both.

Course of Study: Course requirements are specified in the subject area listings given in the Graduate Calendar. Planning and direction of the student's course of study are the responsibility of a designated advisor. A specific program of study should be worked out at the time of the student's first registration, in consultation with a designated advisor. Students are directed to obtain the approval of the program co-ordinator or designated advisor for changes in the program of study.

13 GLOSSARY

This glossary explains some terms which are used frequently throughout this Calendar. It is intended as a quick-reference guide and may not necessarily offer the complete, official definitions and explanations as they are apply to the University's programs and the administration of its regulations.

Antirequisite - A course or other level of attainment which, if already successfully completed, does not permit registration for credit in another course, and which cannot be taken for credit concurrently with that other course.

Attempt - Generally, any course for which a final grade has been assigned, including "WF" - Withdrew Failing. Failures which are repeated and for which credit is subsequently earned may or may not be considered as attempts, depending upon individual faculty regulations. If a student transfers from one program to another, not all previous attempts necessarily will be counted as attempts within the student's new program.

Bachelor's Degree (Baccalaureate) - The first university degree, for which a student follows a specific undergraduate program (*e.g.*, B.A.- Bachelor of Arts).

Certificate - At the undergraduate level, a program consisting of twelve one-term course equivalents in a specialized area(s) of study.

Corequisite - A course which must be taken concurrently with another course which lists it as a corequisite.

Course - A unit of study identified by a course title and a unique course number. Unless otherwise specified, the term "course" refers to a one-term, 3.0 credit course offering.

> **Two-Term Course** - A course taught over two terms, usually the Fall and Winter terms. A two-term course normally carries twice the credit value of a one-term course, or 6.0 credits.
>
> **Half Course** - A course having a value of 1.5 credits. Half courses may be offered for fewer contact hours per week over an entire term, or may be concentrated in either the first or the second half of a term.

Credit - A unit of academic value earned within a particular program. A credit value of 3.0 normally is assigned to a one-term (13-week) course. A two-term course, therefore, would have a credit value of 6.0; a half-course 1.5.

Other credit values may be assigned. Some courses may be taken for varying amounts of credit within a specific range (*e.g.* 2.0 to 9.0 credits); other courses may be offered for alternate credit values (*e.g.*, 3.0 or 6.0 credits).

Credit values are used in the calculation of averages for academic standing and in the determination of the student's year or level within a specific program. (See also "Weight").

Cross-Listed Courses - Courses which are listed under two different numbers in two different subject areas. Cross-listed courses may be taken in either subject area, but credit may be earned in only one course.

Cumulative Average - An average which is based upon all courses counted as attempts within a student's current program.

Diploma - At the undergraduate level, a program of study less extensive than a degree program, but requiring more courses than a certificate program.

Full-Time Student - A student who is registered in four or more undergraduate courses in a term. (See 2.4.1.)

Linked Courses - Credit may not be allocated to certain courses until a subsequent course is also successfully completed. Such "linking" of courses will be noted in the course descriptions.

Major - A formal, specific concentration of courses within a subject area as defined by its degree program(s).

Major Average - An average based upon courses attempted within the student's major as defined by the student's degree program.

Option - Generally, a non-major course not specifically required in a program, but for which credit may be earned towards the degree, certificate, or diploma offered in that program.

Specific restrictions may apply in some programs.

Part-Time Student - A student who is registered in less than four undergraduate courses in a term (*i.e.*, less than 12.0 credits). (See 2.4.1).

Prerequisite - A course for which credit must have been earned prior to registration in another course which lists it as a prerequisite. ("Consent of Instructor" may be listed as an alternative to, or in addition to a given course prerequisite.)

Program - A combination of courses in a subject area (or areas) which fulfills the requirements for a degree, certificate, or diploma.

Program Approval - For students in certain programs, consulting with and obtaining the signed approval of course selections by a faculty advisor may be required as part of the registration process.

Registration - The process of selecting courses, obtaining faculty approval for course selections where necessary, and making the appropriate arrangements with the University to pay the required fees.

Required Course - A course for which credit must be earned in a student's program.

Semester - Same as "Term" (see below).

Standing Required - Individual faculties and set out specific requirements which students must meet in order to continue in their programs. These requirements normally include the maintenance of specific minimum cumulative and major averages, and also place certain restrictions upon the number of courses a student is permitted to have failed. Progress is reviewed at the end of each term.

Term - An academic period of thirteen weeks' duration. The Fall term extends from September to December; the Winter term from January to April. Intersession, which extends for six weeks from mid-May through the end of June, and Summer Session, which extends from the beginning of July to mid-August are considered together as a single term.

Transcript - A document issued by the Office of the Registrar which records all aspects of a student's registrations and grades obtained at the University. An "official" transcript is one which bears the official seal of the University and which is sent directly to another institution or official of an organization. "Unofficial" transcripts also may be issued to the student.

Withdrawal - A formal procedure set out within the regulations of the University for withdrawing from an individual course(s), or from the University entirely.

Weight - For students registered in the Faculty of Engineering, the calculation of averages is based upon a weighting factor. The weight of an individual course is equal to the number of lecture hours per week, plus one-half of the number of laboratory and/or tutorial hours per week.

Year (or Semester) - Attaining a particular Year or Semester level depends upon earning credit for a specific number of courses. The number of courses normally taken in one term/semester determines the Semester level; the number of courses normally taken in a program over both the Fall and Winter terms of a "regular" academic year would determine the Year level. In some programs, the attainment of a specific level also may reflect the earning of credits in a particular group or sequence of courses.

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University of Windsor
Windsor, Ontario, Canada
N9B 3P4
www.uwindsor.ca